

AN EVOLUTIONARY ANALYSIS OF PARTNER PERCEPTIONS WITHIN
MATESHIPS: THE BEAUTY AND THE BEAST EFFECT, THE ROLE OF TRAIT
FACTORS, AND THE NATURE OF MATE SETTLING.

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ABSTRACT

Evolutionary psychology brings new interest and excitement to old topics. The study of human mating systems has always been on the academic landscape, but evolutionary theory has recently revived the study of mating strategies through the lens of adaptive qualities. Darwin first explained some traits of mating through the lens of sexual selection, and since his time researchers have sought to further explain the human mating strategy. The current work explores the tenets of evolutionary theory and their application to mate value. The concept of mate settling – a lack of equity within a pair bond is examined through mate value reports as well as mate value discrepancy within couples. The current work examined mate value through the use of the Mate Value Inventory (Kirsner, Figueredo, & Jacobs, 2003) as well as a subjective physical attractiveness item, and an objective physical attractiveness item. Mate value was shown to be affected by biological sex, mating intelligence, narcissism, life history strategy, and operational sex ratio.

Keywords: Mating Intelligence, Mate Settling, Mate Value, Mate Value Inventory, Narcissism, Life History Strategy, Operational Sex Ratio

INTRODUCTION

The evolutionary perspective has shed a great deal of light on the nature of human mating. In 1859, Charles Darwin famously published “On the Origin of Species” which changed the landscape of the academic world. Darwin sought to explain questions he had about the nature of species and their variability. He consequently proposed the theory of natural selection – the nonrandom process by which biological traits become more or less prevalent in subsequent generations based on their level of adaptation. This was one of the first major mechanisms of evolution that was accepted in the scientific community. Over a century later, Dawkins (1976) following Darwinian theory, proposed an influential theory of evolution: our genetic code is ultimately responsible for our actions – including our reproductive behavior. In a rearticulation of Darwin’s ideas, Dawkins claimed that our genes ultimately encourage reproduction. From this angle, many genes in an organism’s genome “want” to be replicated by way of reproduction; thus such genes code for mating desires and processes. Further, given that mating with individuals of high quality should lead to relatively high-quality offspring and increased long-term reproductive success, it is justified to assume that we (as organisms) should constantly and consistently aim for the highest quality mates. Following this idea, it stands to reason that it would be maladaptive to mate with individuals of low-quality genetics, and/or low fertility, because it would reduce reproductive success across generations.

Evolutionary psychologists have been exploring human mating systems for decades. Buss (1986, 2000, 2002, 2004, & 2008) has researched mating preferences consistently, and Geher and Miller (2008) have recently proposed the construct of *mating intelligence* – addressing the cognitive processes/intelligence that an individual retains in

terms of mating – which has quickly become a staple of much mating research. Another important component of the current research is *mate equity* – a “fair” pairing wherein neither member of a couple is receiving more than the other. This concept has been on the evolutionary landscape since the 1980s, when Traupmann, Peterson, Utne, and Hatfield (1981) linked social justice research to mating. Equity research has driven the current research to examine discrepancies in mate value within couples.

Another incredibly important variable in mating is Life History Strategy. Life History Strategy originated from the r/K selection theory, a biological/ecological theory that relates to the selection of traits in an organism that represent the trade-off between quantity and quality of offspring. The r/K selection theory was first coined by MacArthur and Wilson (1967) and was not within species, but between species. For example, cockroaches are an r selected species, they live entirely to reproduce and almost nothing else, whereas humans are a K selected species. Eventually, and quite controversially, life history strategy was used to examine strategies within the human species; high K meant a larger emphasis on somatic effort, while low K indicated a larger emphasis on reproductive effort. Rushton (1999) attempted to apply life history strategy to humans, sinisterly applying the theory to propose racial differences. Basically, what Rushton did, was make the assumption that certain races were more aptly described with a K strategy, while other races were more closely related to r selected species. Unsurprisingly, this did not go over well in the scientific community. However, according to Dr. A.J. Figueredo, who has studied LHS intensively, Rushton’s paper may have been taken out of context. Figueredo claims that 10% of the variance from Rushton’s findings can be explained by basic demographics that do not relate to race, but to socioeconomic status and the like.

Figueredo claims that Rushton's findings are applicable for predicting entire continents, but not for any individual outcomes (personal communication, 2011).

Figueredo (2004) introduced the "K factor" – a way to assess life history strategy in humans, which addresses an assortment of life history strategy indicators such as sexual, reproductive, and social behaviors. Figueredo's K factor has been used in a multitude of studies concerning evolutionary psychology and biology, and has often been seen as a valid predictor for mate value (Figueredo et al. 2005, 2006, 2009; Dillon et al. manuscript under review).

Buss (2002) put it best: "successful mating requires solutions of a number of formidable adaptive problems" (p. 47). Selecting a fertile mate, fighting in intra-sexual competitions... courting, copulating, and attaining a quality mate is difficult, so why is it that humans spend so much of their time pursuing mates? If a Darwinian perspective on life is correct, and we are but vehicles for our genes to reproduce, mating is *the most important aspect of life*.

The mate-value of a chosen partner is incredibly important, because choosing a low-quality partner can result in offspring with decreased chances of survival (Buss, 2002). Many researchers have tried to define significant features of mate-value in humans, from waist-to-hip ratio (an honest indicator of fitness and fertility (Gallup & Frederick, 2010; Jasienska, Ziomkiewicz, Ellison, Lipson & Thune, 2004)) to face symmetry (an indicator of a low mutation load (Gallup & Frederick, 2010)). Gallup and Frederick (2010) state that all factors we find attractive in a mate have adaptive origins. Researchers such as David Buss and Geoffrey Miller (to name two) have followed in Darwin's footsteps in questioning phenomena that apparently defy natural selection.

Darwin founded the theory of sexual selection as an answer to his questions about organisms with seemingly maladaptive traits. Darwin realized that selection pressures include sexual selection, which explains traits like a peacock's tail – something that could hinder survival, but enhance reproductive viability. In contrast, the current research attempts to understand a phenomenon that seemingly defies sexual selection: settling (the act of entering into a mateship with a partner of low, or lesser, quality than the individual).

The Current Research

The current research is designed to explore evolutionarily relevant factors of ratings of mate-value within couples, and how these predictors may predict discrepancies in mate-value within a couple. It is predicted that people high in *mating intelligence* – a set of cognitive capabilities related to mating – and people with a slow *life history strategy* – the dyadic relationship between somatic effort and reproductive effort – will be more likely to be mated with high-quality partners. Both mating intelligence and life history strategy have been found to correlate with mate value (Crosier, manuscript in progress), and, as such, are hypothesized predictors of both mate-value and equity. This research will operationally define mate value for both members of a couple to allow for measurement of equity/discrepancy within a relationship, as well as providing an assessment of predictors of mate-value.

Measuring Mate Value

Mate value has been operationally defined in various ways in past research. Buss (1989) assessed mate preferences across 37 countries – finding cross-cultural consistencies in what determines mate value. The optimal preference of each sex followed evolution-based predictions, indicating that high mate value in a male

corresponds to ambition, industriousness, and cues to resource acquisition (Buss, 1989). Females' mate-value was determined more by physical attractiveness and cues to fertility/good parenting (Buss, 1989). Another definition for mate value is the extent to which mating with an individual and retaining him/her as a partner would have increased an opposite-sex person's ancestral reproductive success (Sugiyama, 2005). In the current study, mate value was assessed in part by using a subset of a scale developed by Kirsner, Figueredo, and Jacobs (2003), which addresses ratings of physical, resource, social, and emotional value. Mate value was further assessed through additional measures referencing physical attractiveness on a 1-10 scale from the perspective of the individual (prompted to ignore social standards) and a hypothetical judge (prompted with images of "10's") were added to explore the differences between how participants see their partners, and how they feel society as a whole might see them.

Sex Differences in Predictors of High Mate Value

Sex-differentiated Mating

Buss (1989), in the aforementioned cross-cultural study, aimed to discover not only the differences among preferences for mates between the sexes, but also what qualities are sought in the human mating context as a whole. Two key superordinate factors relevant to the current research surfaced – each of which is derived from Trivers' (1972) theory of parental investment. This theory suggests that the sex which invests most in offspring would be more selective about picking mates. In humans (as well as other organisms with internal female fertilization), females have a greater minimum level of parental investment- nine months of gestating as well as several months of breast feeding. Due to the increased level of parental investment, females are more discriminating in

human mate selection than males. Not surprising to anyone who has ever been in a bar on a Saturday night. Therefore, females tend to have a preference for mates who show high levels of parental investment (e.g., willingness to invest in offspring) (Trivers, 1972). 2.) Age preferences across 37 cultures yielded consistent differences between the sexes: males prefer mates who are younger, consistent with hypotheses regarding male preferences for reproductively viable women, while females consistently preferred older males, which is consistent with hypotheses regarding female preferences for higher status mates (Buss, 1989). The greater female preferences for mates displaying high resource potential and the greater male preference for mates displaying youth cues and high reproductive capacity represent adaptations to sex-differentiated reproductive constraints in our evolutionary past (Buss, 1989).

Predictors of Having a Partner with High Mate Value

Mating intelligence

Mating intelligence, as defined by Geher and Miller (2008), is the combination of two major aspects of human psychology: 1.) psychological mechanisms designed for mating purposes - such as the ability to interpret cues from the opposite sex as well as the ability to achieve copulations with the opposite sex; and 2.) mental fitness indicators – aspects of human intelligence such as creativity and/or humor that may have evolved specifically for courtship-display purposes, much like the peacock's luminescent plumage (Geher & Miller, 2008). Mating intelligence is hypothesized to be a predictor for having a partner with high mate value. In a previous study, Dillon, Geher, Bercovici and Tooke (in press), found mating intelligence to be positively correlated with self perceived mating success- i.e., those high in mating intelligence are those who report engaging in

more copulatory acts and having more successful long-term mateships with relatively high-quality partners. Further, mating intelligence was found to be positively associated with self-mate-value as well as partner-mate-value (Dillon et al., manuscript in progress).

Life History Strategy

Past research has demonstrated that individuals vary in terms of their life history strategy – i.e. how much they tend to put effort into the survival of themselves and family versus how much effort they put into mating. Figueiredo, Vasquez, Brumbach and Schneider (2004) refer to individuals who put forth a lot of effort into mating as displaying a *fast* strategy, whereas those who delay mating and put more effort into survival (or *somatic effort*) display a *slow* life history strategy. Humans are inherently slow in life history strategy when compared to species that put *all* of their effort into mating (such as many species of insects or rodents). Someone with a *slow* life history strategy delays mating and puts more effort into offspring and survival. Thus the current work hypothesizes slow life history strategy as a predictor for high levels of partner mate-value.

Narcissism

Narcissism is a personality trait which includes egotism, selfishness, vulnerability, and vanity (American Psychiatric Association [DSM-IV-TR], 2000). Jonason, Kaufman and Geher (manuscript under review) found a positive correlation between narcissism and mating intelligence- indicating those higher in narcissism tend to have higher mating intelligence scores. This trend was also found in Dillon, Geher and Tooke (manuscript in progress) suggesting that the positive relationship between narcissism and mating intelligence. Narcissism, an element of "the Dark Triad" (see Jonason and Kavanagh,

2010), has been shown to be related to various aspects of mating; we predict that narcissism would correspond to over-inflations of self mate-value relative to partner mate value. These predictions are based on a previous study (Dillon, Geher, Bercovicci & Tooke, in press) which found a negative correlation between narcissism and partner mate value. The current work focuses on one of two distinct categories of narcissism. There is overt narcissism, which is narcissism defined by traits such as exhibition and grandiosity, and covert narcissism which is defined by traits like vulnerability and sensitivity (Hendin & Cheek, 1997). This latter form of narcissism was assessed in the current work.

Equity Theory and Mate-Value

In some sense, it seems that all mate-ships would consist of partners of equal mate value. However, equality is not always found in all relationships; there is often, instead, a tendency for one member of the couple to *settle*. Mate-settling relates to *equity theory*, a social-psychological theory dealing with the fairness between partners in interpersonal relationships (Traupmann, Peterson, Utne, & Hatfield, 1981). For example, Traupmann et al. (1981) proposed equity theory should be applicable to interpersonal intimate relationships. Similarly, Hatfield (1978) found evidence that in love relationships, equity matters. This yielded information on equitable versus inequitable mate-ships: those involved in equitable mate-ships were less likely to engage in extra-pair copulations, were more likely to be sexually active with each other, and finally, equitable relationships were consistently more stable than their inequitable counterparts. These tenets suggest that equity is a fundamental factor in a relationship.

Researchers have noted three conceptual outcomes for an individual involved in a relationship (in terms of equity) – as follows: 1.) under-benefited - the individual is

getting less out of the relationship than the other, 2.) equitable - both parties are getting the same out of the relationship, and 3.) over-benefited - one individual is receiving more from the relationship than the other. Traupmann et al. (1981) found that under-benefited women were less content than were their equitably treated counterparts. Equitably treated men were significantly more happy than their inequitably treated counterparts. In classic social justice literature, there is emphasis placed on “fairness” - people feel unhappy if they perceive a situation to be unfair against their favor (under-benefited), and people feel guilt if they perceive a situation to be unfair in their favor (over-benefited) (Hatfield et al. 2008). Individuals in under-benefited relationships are essentially settling.

Operational Sex Ratio

Ecological factors may affect partner choice, and Operational Sex Ratio is one of those factors. Operational Sex Ratio (OSR) is the ratio of males and females who are ready to mate in a population. Operational sex ratio is normally calculated by males/females – thus, lower ratios indicate more females, while higher numbers indicate more males (Kvarnemo & Ahnesjo, 1996). For example, in a mating market dominated by females, males have the advantage due to the large number of eligible partners. Mating intelligence is predicted to modulate sex ratio’s relationship with mate value. In other words, participants high in mating intelligence, in a disadvantaged mating market (more of their own sex, less mating opportunities), should report higher mate value for their partners (with the idea being that someone high in mating intelligence realizes that the ecology is working against him or her and is, thus, more ready to settle (as the alternative may be getting shut out – which would be evolutionarily disastrous).

Predicting Individual Mate-Value and Discrepancies

Several important dependent variables are included in the current work, including the discrepancy between one mate's value and his or her partner's mate-value. Before discrepancies can be examined, mate value must be computed – through the Mate Value Inventory (Kirsner, Figueredo, & Jacob, 2003) and the additional subjective and objective physical attractiveness variables. Discrepancy was then computed for each mate-value variable, by subtracting partner ratings from self-ratings. Consequentially, evolutionarily relevant predictors for mate value should predict relationship equity, or smaller intercouple mate value discrepancies. Further, high mating intelligence and slow life history strategy are posited to predict a lower likelihood of an individual reporting being an under-benefited partner in a relationship.

Intra-couple Concordance on Mate Value

Settling – being in a mate-ship with an individual of low mate value relative to oneself – is of particular interest due to the nature of settling - it is, in some ways, defying sexual selection as we know it. Settling defies sexual selection, in that entering a mate-ship with a suboptimal mate would decrease survival across subsequent generations. Mate-settling is a fluid, complex phenomenon. In order to properly investigate it, the dyadic relationship of subjective versus objective forms of settling must be addressed. Two indices of physical mate-value were evaluated: a subjective item, as well as a vignette-style item prompting subjects to rate their mate's physical attractiveness through the eyes of judges of a beauty contest (See Appendix F). Once mate values for each member of a couple can be determined, the degree to which members of the couple match – or are discordant – on mate value can be examined.

Mate settling in the current work is being operationally defined in terms of the mate

value discrepancy. Discrepancy variables in the current work are comprised of an equation by subtracting partner ratings from self-ratings, the higher (or more positive) a number, the more one is settling. For example, if a participant rated his or herself a 10 on the subjective scale of physical attractiveness, and his or her partner an 8, the subjective discrepancy would be 2 – indicating settling. An example of the opposite situation would be where a participant rated his or herself an 8, and his or her partner a 10, the discrepancy score would then be -2, indicating that the partner is settling for the participant. The current work will hopefully be a stepping stone for future mate-value research, as well as an intermediate project that ties previous works together. No where in the literature does mate-settling come up as anything more than a side-note. Equity research has made baby steps toward explaining settling, but no one has examined evolutionarily relevant predictors with the tendency to settle. Five hypotheses are tested in the hopes of predicting mate value from evolutionarily relevant factors. This data set is the first to be designed in such a way as to measure mate settling.

The Current Study

Hypotheses:

1. I hypothesize that mating intelligence will have a significant positive correlation with mate value – for both self reports and reports of partner. This hypothesis is postulated to exist across all mate-value variables. We propose that those high in mating intelligence will have higher self mate-value as well as higher reports of partner mate-value. Further, those high in mating intelligence should then show smaller (or non-existent) discrepancies in mate value within their pair-bond.
2. A slow life history strategy is hypothesized to correspond to high mate value. Because

slow life history strategy focuses on quality over quantity, those with a slow life history strategy are predicted to have higher mate value themselves, as well as report high mate value for their partners. In other words, those with a slow life history strategy are hypothesized to display *less* tendencies toward mate-settling (i.e., smaller discrepancies).

3. Biological sex is hypothesized to predict mate value – females are predicted to have significantly higher mate values than males, across all mate-value variables. Previous work by the current authors found a trend indicating higher mate value in females, driving the current hypothesis. In other words, females are predicted to have consistently higher mate values than their male partners, and as a result, show higher discrepancies in mate value.
4. Narcissism is hypothesized to correspond to both high self mate-value, and low ratings of partner mate-value. Because narcissism is often seen with an inflated sense of self worth, we predict those high in narcissism will be more likely to inflate their own mate-value while decreasing their partner's. In terms of equity/settling, narcissism is hypothesized to predict reporting being under-benefited in relationships.
5. I hypothesize that operational sex ratio (OSR) will correspond to mate-value; in other words, those in a disadvantaged OSR would be more likely to rate their mates highly than those with numerous mating opportunities, in other words, an advantaged mating market. Further, we hypothesize that those high in mating intelligence in disadvantaged mating markets would be less likely to settle than those in a more equal, or advantaged mating market, and more likely to inflate their mate's value due to the low number of mating alternatives.

METHOD

Participants

Subjects were recruited using both the SUNY New Paltz subject pool as well as the social networking site Facebook™. A total of 1,208 participants took the study, and 616 completed it. All sexual orientations were invited to participate, though for the purposes of the current work, non-heterosexuals were excluded, as were all individuals who provided unfinished or incomplete surveys. Of the surveys used, 79.1% (435) were female, and 20.7% (114) were male, between the ages of 18 and 50 ($M=22.30$, $SD=4.42$). A code was presented at the end of the survey allowing students with participating professors or students in the SUNY New Paltz subject pool to receive credit.

Materials

Materials included the use of <http://www.qualtrics.com>, a provider of survey software. The online survey consisted of demographic questions (See appendix G) and ratings of physical attractiveness (See appendix F), as well as multiple psychological surveys.

To measure mating intelligence, The Mating Intelligence Scale (Geher & Kaufman, 2007) which measures self-reported cognitive abilities in the mating domain was used. This scale specifically taps the facets of cross-sex mind reading – for males, an example item is: “I am pretty good at knowing when a female is attracted to me.” For females, items such as “I am usually right on the money about a man’s intentions toward me” were included. The scale also taps into creativity – for example, “I am definitely more creative than most people.” The scale specifically taps into resource related items for females; “My current beau spends a lot of money on material items for me (such as jewelry)”

along with other facets investigating cognitive processes related to mating (See appendix A).

To measure self perceived mating success, we used the Mating Success Scale (Camargo, manuscript in progress) which taps the facets of *intimacy* – ex. items “Made you feel like you two were a team” & “Enjoyed sex with you,” *devotion* – “Saw a movie that you wanted to see, but he/she didn’t want to” and “ Gave in to a serious demand of yours,” *positive mate attributes* – “Made you laugh,” as well as other items that comprise a self perception of mating success (See appendix B).

To investigate the life history strategy of the individuals participating in the study, we employed the Arizona Life History Battery (Figueredo et al., 2006) which addresses the level of somatic effort an individual puts into his/her life – ex. items – “I often make plans in advance” and “While growing up I had a warm relationship with my biological mother” along with other facets measuring somatic effort versus reproductive effort (See appendix C).

To address mate-value, I used the Mate Value Inventory (Kirsner, Figueredo, & Jacobs, 2003) which assesses mate-value through facets such as attractiveness, resources, and parental capabilities (See appendix D). In addition to the MVI, two 1-10 scale items measuring physical attractiveness were included. The first physical attractiveness item is designed to address *subjective* perceptions of mate-value. Participants were prompted to “disregard social standards and norms” and rate their mate, and then themselves, on how attractive they personally find their partner (and themselves) to be. The second physical attractiveness item was designed to address *objective* examinations of mate value. Participants were primed with images of attractive celebrities (See Appendix I for

images) and then were given a vignette prompting the participant to rate their mate (and themselves) through the eyes of hypothetical judges in a beauty pageant who had previously rated the primed images as “10s” (See Appendix F).

To measure narcissism, the Hypersensitive Hendin and Cheek (1997) Narcissism Scale was used – ex. item- “I dislike being with a group unless I know that I am appreciated by at least one of those present.” The scale specifically addresses narcissism through items pertaining to vulnerability and egotism (See appendix E). This scale gauges levels of hypersensitive narcissism - which is narcissism with an anxious side, as well as a tendency to place emphasis on social situations.

To examine relationship equity, the Hatfield et al. 2008 equity measure was used. The measure consists of a single question: “considering what you put into your relationship and what your partner puts into your relationship, how does your relationship rate? (See appendix H). Possible answers ranged from “My partner is getting a better deal than I,” (suggesting the individual feels under-benefited in the relationship) to “I am getting a better deal than my partner,” (suggesting the individual feels over-benefited in the relationship).

Mating intelligence as a construct comprised of two specific distinctions: fitness indicators, and cognitive mating mechanisms. While the scale was initially (Geher & Kaufman, in press) created for a lay audience, faculty members and graduate students of the Binghamton University’s Evolutionary Studies program became interested enough in the scale to perform reliability and validity tests on it. O’Brien, Geher, Gallup, Garcia and Kaufman (2010) psychometrically examined the mating intelligence scale – a reliability test on the full scale demonstrated strong internal reliability.

The Mate-Value Inventory was re-examined by its authors in 2009 (the original inventory was published in 2003) using a structural equation model. Their work indicated that the MVI is a valid measure of subjective perceptions of mate-value. Alphas determined by the authors were previously mentioned, a reliability scale run in the current study suggests that for the self sub-scale, $\alpha = .755$, and for the partner sub-scale, $\alpha = .73$.

The mini-k (the life history strategy measure used in the current work) was developed at the University of Arizona by A.J. Figueredo. Figueredo and colleagues examined the psychometrics of the k-factor, relating it to various aspects of the human life. Their research suggests the mini-k is a valid measurement of life history strategy within humans. Reliability tests indicate strength within the scale, showing a Cronbach's α of .761.

Hendin and Cheek (1993)'s narcissism scale was derived from H. A. Murray's (1938) Narcism Scale with an MMPI-based composite measure of covert narcissism (Hendin & Cheek, 1993) – these scales have previously been determined to be reliable and valid, and thus the compilation of the two should, through transitive properties, be valid. Additionally, the composite of two valid scales should add extra dimensions to the narcissism scale, allowing for multiple forms of narcissistic tendencies. Further, a reliability test was performed on the raw data of the narcissism scale, finding Cronbach's $\alpha = .657$.

Procedure

Participants completed the survey online. The process generally took between 10 and 20 minutes to complete. A code was provided at the end of the survey for students to

get credit from the SUNY New Paltz subject pool.

Reliability of Measures

Variable reliability is an important aspect of a given study. To ensure the mate-value variables were reliable, an inter-variable correlation matrix was examined (See Table 7). All the mate-value variables correlated with one another at a p value of at least 0.05. This may suggest that the measures are reliable, due to their inter-correlation with one another. Further, the MVI (Kirsner, Figueredo, & Jacobs, 2003) has been found to be reliable in prior research (Kirsner, Figueredo, & Jacobs, 2009), which, due to the inter-correlations among all of the mate-value variables, suggests a pattern in which all of the outcome variables are measuring mate-value similarly.

RESULTS

Analyses excluded all uncompleted surveys, non-heterosexual participants' data, and one participant who reported being in high school (for legal and ethical reasons).

Analyses were conducted on SPSS v. 18.

Operational Sex Ratio was collected by way of examining university affiliation- i.e. participants were asked to list the university where they were currently enrolled; the percentage of female students (<http://www.collegeboard.com>) was then translated from a percentage into ratio terms. For example, if x university had 50% males and females, according to OSR computations (males/females) the ratio would be 1. If x university had 65% males and 35% females, the OSR would be 1.86, etc.

Independent variables included sex, mating intelligence, life history strategy, narcissism, mating success, and operational sex ratio (for range and explanations for what high and low scores indicate, see Table 2).

Dependent variables all measured mate value or the discrepancy of reported mate value of members within a given couple. Averaged mate-value variables were computed by averaging the subjective and objective scores for both self and partner.

Discrepancy variables were computed by subtracting partner value from self for each of the following categories: MVI, subjective, objective, and averaged (with *averaged* meaning that an average was taken of the ratings of self for objective and subjective to provide the averaged score for self, and an average was taken of the ratings of partner for objective and subjective to provide an averaged score for partner). To further explore how these variables were determined; please see Appendices D and F.

See Table 2 for variable definitions and calculations. For descriptive statistics of the

predictor variables see Table 3, for descriptive statistics of outcome variables, see Table 4.

The Relationship between Mating Intelligence and Mate-Value

Hypothesis 1 proposed that mating intelligence would have a significant positive correlation with mate value – for both reports of self and partner. Several variables assessing mate value were used, requiring separate analyses to be performed for each mate-value variable.

Simple linear regression analyses were performed on each mate value variable using mating intelligence as the independent variable. For *partner* Mate Value Inventory scores, mating intelligence showed no significance in predicting mate value. However, a simple linear regression of mating intelligence on *self* MVI reports yielded significant mating intelligence effects for both males and females (males: $\beta = .28$, $t(111) = 3.04$, $p = .003$, females: $\beta = .11$, $t(432) = 2.35$, $p = .02$). Mating intelligence thus only appears to relate to the MVI scores in terms of *self*-mate-value.

Further, high mating intelligence corresponded to higher ratings of averaged physical attractiveness of *self*. In other words, ratings of averaged subjective and objective scores showed a positive relationship with mating intelligence (See Table 2 for explanation of how averaged variables were computed). A simple linear regression was run; $\beta = .27$ $t(545) = 6.57$, $p < .001$, indicating that higher mating intelligence predicted higher averaged ratings of one's physical attractiveness. Similar results emerged from a regression of mating intelligence on averaged physical attractiveness (recall the averaged physical attractiveness is computed by adding the ratings of objective and subjective and then divided by two) of *partner*, $\beta = .11$ $t(545) = 2.58$, $p = .01$ (for correlations, see Table

5).

Interestingly, mating intelligence was *not* a significant predictor of subjective ratings of *partner* mate-value, but *was* significant in predicting subjective ratings of attractiveness of *self*; ($\beta = .25$ $t(545) = 6.02$, $p < .001$). Further, high mating intelligence corresponded to higher ratings of objective *partner* attractiveness ($\beta = .15$ $t(545) = 3.48$, $p = .01$) as well as higher ratings of objective attractiveness of *self* ($\beta = .24$ $t(545) = 5.87$, $p < .001$).

The Relationship Between Life History Strategy and Mate-Value

Correlations between life history strategy and mate-value variables were performed indicating significant positive relationships among life history and mate value. In other words, a slower life history strategy corresponds to high ratings of mate value for both self and partner. For instance, life history strategy positively correlates with subjective ratings physical attractiveness, partner: $r = .24$, $p < .01$, self: $r = .19$, $p < .01$. This suggests that a slow life history strategy predicts higher ratings of physical attractiveness (recall that higher scores on the LHS scale indicate a slow strategy whereas lower scores indicate a fast strategy). Life history strategy also positively correlates with objective reports of physical attractiveness, partner: $r = .11$, $p < .01$, self: $r = .09$, $p < .05$. Life history strategy also positively correlates with the MVI scores, partner: $r = .32$, $p < .01$, self: $r = .49$, $p < .01$ (See Table 5). A proclivity toward a slow life history strategy correlates with high mate value for each mate-value variable included in the current work, for reports of both self- as well as partner-mate-value; a trend not seen consistently across all independent variables.

Interestingly, as life history strategy increased (which indicates a slow strategy),

narcissism decreased (see Table 8, Figure 1). That is to say, those who put more into somatic effort than into reproductive effort may be less narcissistic than those who put the majority of their efforts into reproductive effort.



Figure 1

Figure 1 Low Life History Strategy scores indicate a fast strategy, whereas high LHS scores indicate a slow strategy. Narcissism increases as scores increase. As demonstrated by the above graph, as life history strategy and narcissism are negatively correlated. In other words, as life history strategy increases (i.e., the strategy becomes slower) narcissism decreases.

A categorical version of life history strategy was created using the bottom 33% as “fast” and the top 33% as “slow.” Fast and slow life history strategy significantly related to ratings of mate-value across almost all mate-value variables. Being in the *slow* LHS category consistently corresponded to having higher ratings of mate value, across subjective and objective scales and reports of self and partner. See Table 8 for results from independent samples *t*-tests. These findings are consistent with the hypotheses.

The Relationship between Biological Sex and Mate-Value Discrepancies

Biological sex was hypothesized to predict direction of mate value discrepancy- females were predicted to have a positive discrepancy between themselves and their partner, whereas males are predicted to have a negative discrepancy. A positive discrepancy indicates settling – the mate value of the individual is larger than the mate value of the partner. In other words, females were predicted to do more settling than males. Previous work indicated a trend showing higher mate value in females (Dillon, Geher, & Tooke, in progress). Michael Mills (2011) examined this phenomenon – finding more evidence that women are more attractive (or at least rated as such) than are men.

In the current study, a one-way analysis of variance was performed using biological sex as the factor variable, and all of the mate-value and mate-value-discrepancy variables as dependent variables. Several dependent variables emerged as significant between the sexes: Subjective ratings of physical attractiveness of self: $F(1, 545) = 4.52, p = .04$, males: $M = 7.00, SD = 1.40$, females: $M = 7.35, SD = 1.60$, indicating a higher mean rating of self-physical-attractiveness among females, compared to males, supporting the hypothesis. Ratings of partner-mate-value through the objective eyes of beauty pageant judges yielded a significant difference between males and females ($F(1, 545) = 11.36, p = .001$, males: $M = 6.54, SD = 2.02$, females: $M = 5.83, SD = 1.99$). Males rated their partners objectively higher than females in the objective measure. Further, as only heterosexual data were included in the analyses, this follows the results of the previous analyses. The physical-attractiveness variable created by averaging the “subjective” and “objective” measures of partner attractiveness also showed a sex difference $F(1,545) = 3.97, p = .05$, males: $M = 7.46, SD = 1.44$, females: $M = 4.16, SD = 1.46$. For this

averaged variable, the male mean for partner rating was significantly higher than that of the female, again supporting our hypothesis. The mate-value inventory (Kirsner, Figueredo, & Jacobs, 2003) showed significant differences between the sexes for partner mate-value, but not self-mate-value – males rated their partners significantly higher than females rated their partners.

Unlike results from physical attractiveness variables, in terms of the Mate Value Inventory, females were rating their partners higher in mate value than did males: $F(1,545) = 9.22, p = .003$, males: $M = 96.92, SD = 10.89$, females: $M = 100.46, SD = 11.09$. The means given here represent the mean rating of the subject's partner, not of him or herself. Note that for physical-attractiveness-relevant variables, a different pattern emerged than for the multi-faceted Mate Value Inventory.

In terms of discrepancy between ratings of self and partner, an independent samples t -test was used to determine whether males or females were “settling” by the difference between the ratings of themselves, and their partners. This was performed across all mate value variables. The discrepancy for the Mate Value Inventory emerged as significant, with male discrepancies smaller and more positive than female discrepancies. This trend was not in the direction I hypothesized; $t(544) = 1.97, p < .05$, male: $M = .21, SD = 10.61$, female: $M = -1.90, SD = 9.90$). These results indicate that, for the mate value inventory scores (i.e. the only mate value variable in the current work comprised of more than physical attractiveness), *males* have higher mate-value than females. This reversal may be due to a slight bias in the survey toward males (i.e. there were items regarding resources which would increase the mate value for males, but may not affect the mate value of females). The statistics indicate that both males and females report themselves

being settled for (i.e. negative discrepancy scores, suggesting that participants reported higher mate values for their partners than for themselves).

For objective attractiveness discrepancies, male discrepancy was computed, with results indicating that males show a tendency to inflate their mates' value in comparison to their own value: $t(544) = -4.20, p < .001$. Male: $M = -1.34$ $SD = 2.35$, female: $M = -.43$ $SD = 1.98$. For averaged attractiveness, the same trend became apparent; neither sex was settling, but females showed a smaller discrepancy; $t(544) = -3.01, p < .01$. Male: $M = -1.37$ $SD = 1.94$, female: $M = -.78$ $SD = 1.76$ – implying that males had lower mate-value reports for themselves than females. Subjective discrepancies showed no significant difference among the sexes. See Table 9 for means of self and partner for each mate-value-variable as well as discrepancy scores.

The Relationship Between Narcissism and Mate-Value

High levels of narcissism were hypothesized to correspond to both high self mate-value as well as low ratings of partner mate value. Further, those high in narcissism were hypothesized to report being under-benefited in relationships, in terms of equity. A correlation between narcissism and equity yielded no significant results (See Table 4). A simple linear regression regressed narcissism on mate value of partner (from the MVI), finding a significant *negative* relationship between narcissism and partner-mate-value $\beta = -.23, t(545) = -5.57, p < .001$; in other words, as hypersensitive narcissism increases, partner ratings decrease (see Figure 2). These results are directly in line with my prediction: as levels of narcissism increase, reported partner mate-value decreases. Correlations were run on all mate-value related outcome variables with narcissism (see

Table 10), showing that all correlations between narcissism and *partner* mate-value related variables were in line with our predictions.

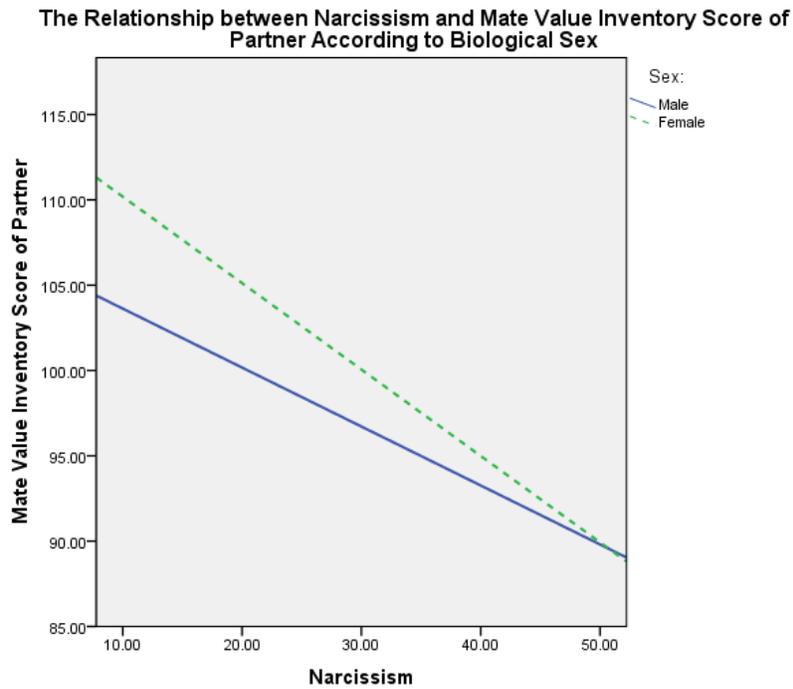


Figure 2

Figure 2 demonstrates the relationship between level of narcissism and partner Mate Value Inventory score. As seen above, as narcissism increases, partner score decreases. Thus, those with less hypersensitive narcissistic tendencies tend to rate their partners higher than those with narcissistic tendencies.

However, contrary to the proposed hypothesis, a trend emerged demonstrating a similar negative relationship between narcissism and self-mate-value variables (Figure 3).

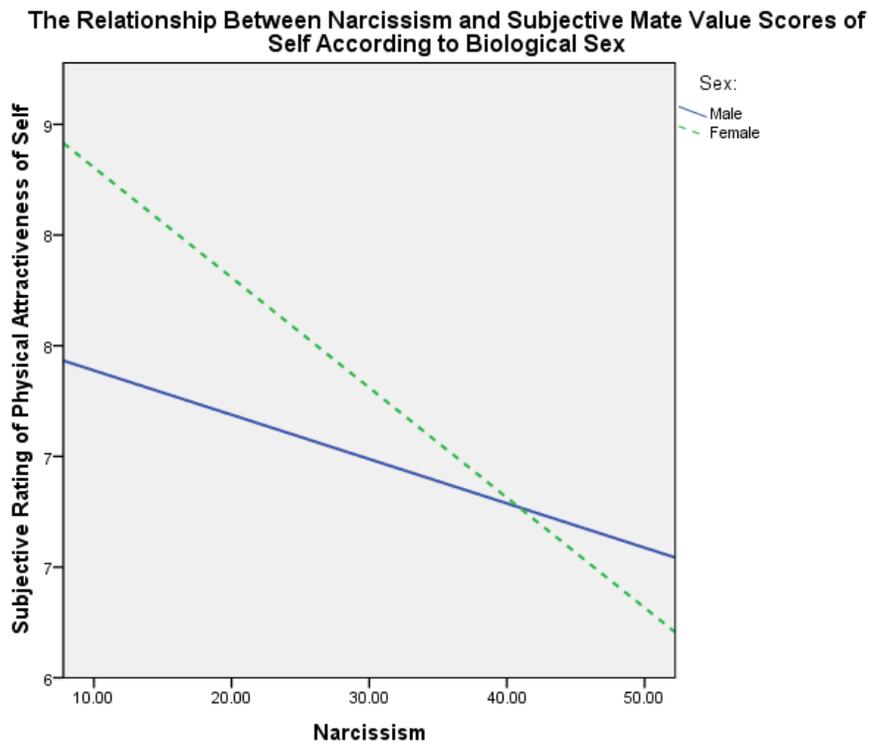


Figure 3

Figure 3 demonstrates the relationship between narcissism and subjective reports of self attractiveness. Those higher in hypersensitive narcissism tended to rate themselves lower in attractiveness than did those lower in narcissism. There was not a significant interaction between narcissism and biological sex.

As narcissism increases a trend showing the *opposite* of settling emerged. Instead of narcissists settling, it appears narcissists are rating their mates higher than themselves, indicating an over-benefited relationship. This is likely due to the specific narcissism scale used in the current work, which assesses *hypersensitive narcissism*. See Discussion section for more information.

To examine whether narcissists rated themselves and their partners significantly differently among the three mate-value scales (MVI, subjective, objective), only participants with a narcissism score equal to or above one standard deviation above the mean (Narcissism > 34.65, N = 86) were selected for a paired samples t-test. Results indicated that not only did narcissists score themselves and their partners differently on

all three mate-value variables, but that they consistently rated their partner higher than they did themselves (See Table 11). For the difference between scores of partner and self on the MVI, subjective, and objective mate-value measures, a paired samples t-test showed a significant difference in the rating between each pair (See Table 11).

These statistics indicate that narcissists did rate themselves differently from their partners, however, they rated their partners higher than themselves, a trend not supporting the original hypothesis. However, interestingly, the same trend emerged for non-narcissists (Narcissism < 23.81, N = 72). This trend may simply emerge due to the tendency to idealize one's mate (Geher et al., 2005).

A categorical version of the narcissism variable was created using the bottom 33% as "low narcissism" and the top 33% as "high narcissism." A very interesting trend emerged between the least narcissistic and the most narcissistic of the sample. For every mate-value variable (for both self and partner), those low in narcissism had significantly higher ratings than those high in narcissism. While this does not support the preliminary hypothesis, a post hoc examination of the scale determined that the type of narcissism was hypersensitive, which would explain with lower ratings, due to the traits which typically define hypersensitive narcissism.

Narcissism, contrary to our hypothesis, was not significantly correlated with equity. In other words, given how equity was operationally defined by the level of "benefit" individuals felt they were, or were not, getting, narcissism played no role in predicting whether a subject would report feeling over- or under- benefitted in his or her relationship. However, in terms of settling (i.e., discrepancy), narcissism was significantly (negatively) correlated with discrepancy within the Mate Value Inventory

scores $r = -.095, p < .05$. This suggests that narcissists may actually be less likely than their counterparts to report high levels of settling. Further, the negative aspect of the correlation suggests that narcissists are reporting the opposite of settling: they are reporting that their mates are settling. This is consistent with previously mentioned results on narcissism and mate value.

Finally, narcissism was predicted to positively correlate with mating intelligence. Through a simple correlation analysis, this finding was not replicated. However, narcissism was positively correlated with mating success ($r = .09, p < .05$). This finding may be due to a tendency for narcissists to inflate reports to seem confident. Those higher in narcissism were more likely to report higher mating success, thus flaunting their confidence, a trait commonly seen in narcissism, especially hypersensitive narcissism (Hendin & Cheek, 1997).

The Relationship between Operational Sex Ratio and Perceived Mate Value of Partner

Those in a disadvantaged mating market (e.g., heterosexuals in a population dominated by their own sex) were hypothesized to report higher ratings of their partner-mate-value. The rationale behind this hypothesis stems from the idea that individuals with little to no prospects for mating would increase the ratings of their partner, because there would be few mating opportunities if the couple were to break up. High operational sex ratio (OSR) scores indicate a mating market with males in the majority, while low OSR scores indicate a mating market with many females. A simple linear regression was run on a sex-split-file partner MVI, with OSR as the independent variable, supporting the hypothesis for females, $\beta = -.10, t(385) = -2.03, p < .05$. These results indicate that, for

females in a female-dominated mating market, perceptions of partners' mate value are increased (Figure 5). OSR did not correlate with any of the other mate-value variables in a significant manner. In other words, the skew toward or against an individual in their mating population did not affect the majority of mate value ratings. Interestingly, when OSR did correlate with mate-value variables, it was found to be a significant correlation only for females.

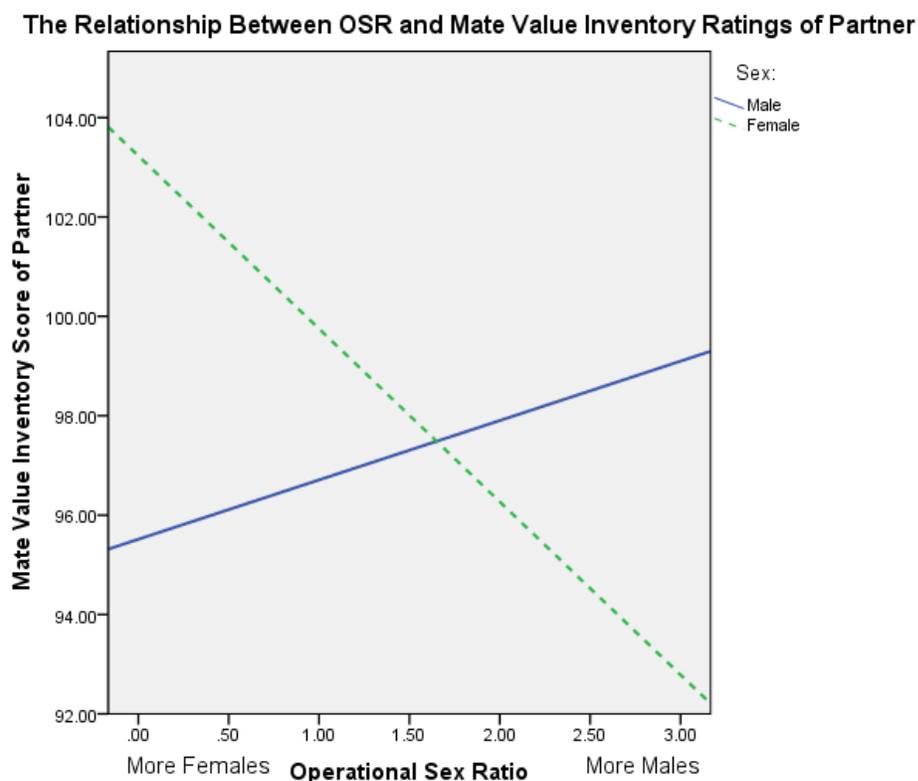


Figure 5

Figure 5 shows the relationship between operational sex ratio and partner mate-value inventory scores for males and females. For females, as the ratio increased (indicated a male-dominated mating pool) ratings of partner mate-value decreased. This relationship is significant at a p value of .05. This indicates that females in a female-dominated mating pool rate their mates higher than do females in a male-dominated mating pool, which could be due to the fact that a female-dominant mating pool offers less mating opportunities for females (more intrasexual competition) whereas a male-dominant mating pool offers more mating opportunities, so females in a male-dominant mating pool may rate their mates lower due to the knowledge that if they were to end their current pair-bond they would have many opportunities for mating.

A significant interaction emerged (for females) between mating intelligence and operational sex ratio. A hierarchical multiple regression was run on the discrepancy

within the MVI scores, with z-score (centered) versions of MI and OSR in the first step, and an interaction term of MIxOSR in the second step. The interaction between mating intelligence and operational sex ratio was significant above and beyond mating intelligence and operational sex ratio as a predictor for discrepancy within MVI scores $\beta = .11, t(383) = 2.12, p = .04$ (See Table 6, Figure 6).

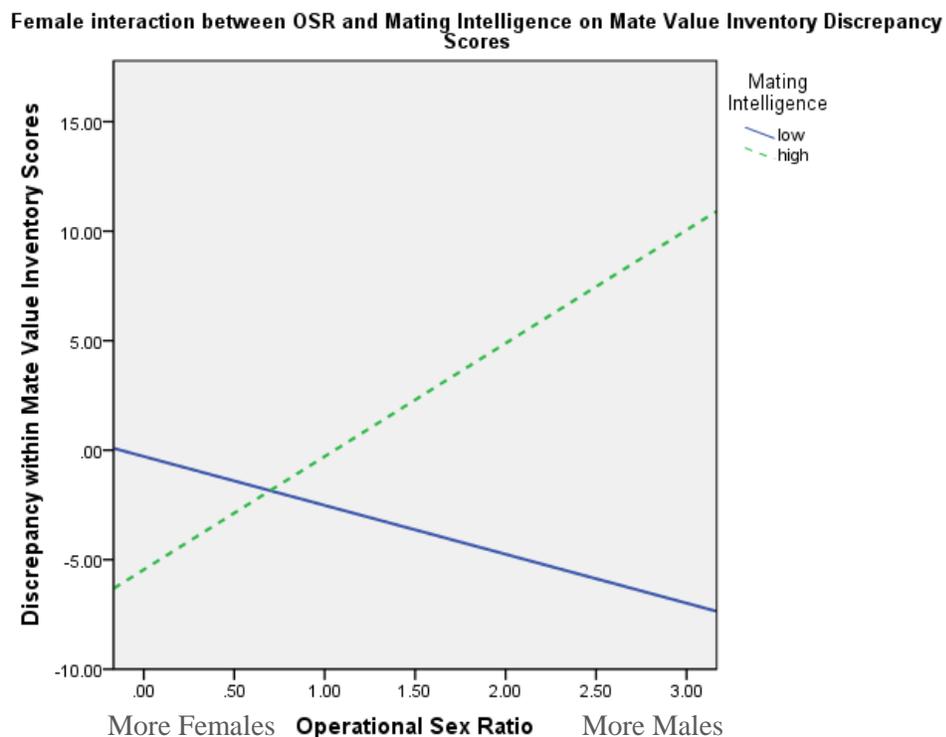


Figure 6

Figure 6 demonstrates the relationship between operational sex ratio and mating intelligence for *females* on the dependent variable of MVI discrepancy. This interaction suggests that, for females, those high in mating intelligence report higher discrepancies than females with low mating intelligence. Remember that discrepancy scores are calculated by subtracting partner mate value from self.

Females showed a significant trend toward higher discrepancy ratings when in an advantaged mating market. This does not follow the hypothesis that those high in mating intelligence would report smaller discrepancies; rather, it may suggest that females in a mating pool with many opportunities may report feeling under-benefited (thus rating herself higher than her partner) because there are so many more males available. This

result was only significant for the Mate Value Inventory (MVI) discrepancies. The MVI addresses variables contributing to mate value above and beyond physical attractiveness. Thus, it seems that mating intelligence does not interact with operational sex ratio when it comes to physical attractiveness. For males the interaction was not significant.

An interesting relationship between Operational Sex Ratio (OSR) and Mating Success emerged. Males reported higher ratings of mating success when they were in a male-dominated mating pool $t(156) = 5.10, p < .001$, male: $M = 50.21, SD = 5.50$, female $M = 45.91, SD = 4.23$ (Figure 7), in other words, it seems males in a male-dominated mating pool are reporting high mating success in comparison to their non-pair-bonded peers. We must keep in mind that all participants in this study were pair-bonded, and thus males might feel more accomplished in mating when they are in a situation with few mating opportunities for others, but are consistently engaged in a successful mate-ship themselves.

Relationship between Operational Sex Ratio and Mating Success according to Sex

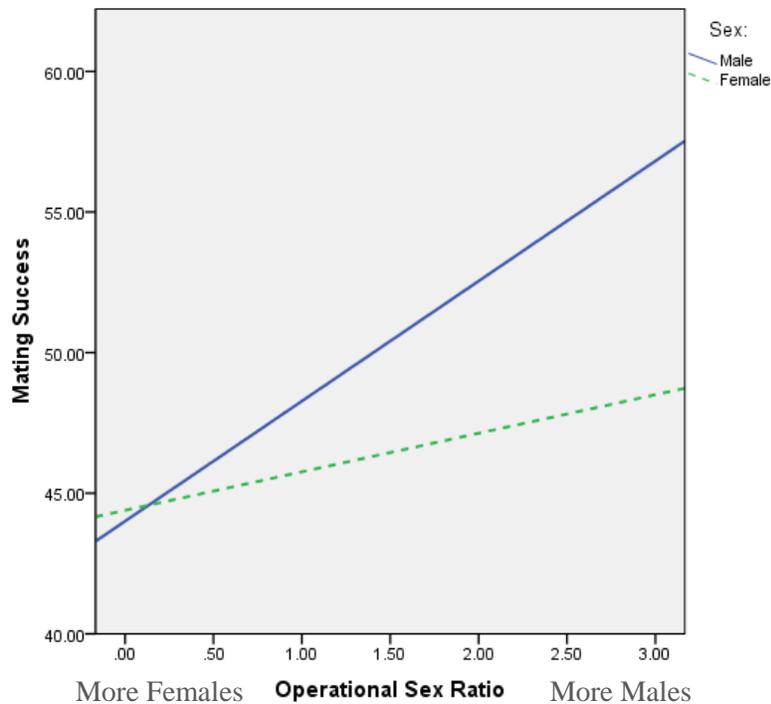


Figure 7

Figure 7 demonstrates the relationship between operational sex ratio and mating success. Because higher OSR is equivalent to a male-prevalent mating pool, it is interesting to note that males in a male dominated pool (i.e. more intrasexual competition, less mating opportunities for males) report higher indicies of mating success. Because the sample is all pair-bonded individuals, it stands to reason that those males who got through the intrasexual competition and lack of mates would be more likely to report higher mating success.

Further, the subjective and objective measures of physical attractiveness were central in the current work- I wanted to ensure that pure subjectivity would not confound the results, but still wanted to allow participants to give their *personal* opinion of their mate, as well as an objective measure. This was implemented to examine whether participants were able to pull away from their individual perceptions of beauty and relate themselves and their mates to a more standardized, cultural aspect of attractiveness. To determine whether this measure was reliable, a paired-samples t-test analysis examining the differences between two pairs: subjective rating of partner and objective rating of partner, and subjective rating of self and objective rating of self, was employed. Results

indicated that subjective and objective ratings of both self and other were significantly different (for partner: $t(546) = 33.41, p < .001$, subjective: $M = 8.48, SD = 1.32$ objective: $M = 5.98, SD = 2.01$, for self: $t(546) = 28.25, p < .01$, subjective: $M = 7.28, SD = 1.56$, objective: $M = 5.36, SD = 2.06$). These results indicate that for partner ratings, the subjective and objective ratings were significantly different, with subjective ratings being higher than objective ratings. The same trend emerged for self-ratings.

For inter-correlations among predictor variables, see Table 7. For inter-correlations among outcome variables, see Table 13.

DISCUSSION

The current work was designed to address the correlates of mate value. I hypothesized that mating intelligence would positively correlate with mate value – for both self-reports and reports of partner. Further, a slow life history strategy was hypothesized to correspond to high mate value. Those with a slow life history strategy were predicted to have higher mate value, as well as have partners with high mate value. Biological sex was hypothesized to predict direction of mate value discrepancy- females were predicted to have a positive discrepancy in mate value between themselves and their partner, whereas males were predicted to have a negative discrepancy. In other words, females were predicted to have higher mate value scores than males. Narcissism was hypothesized to predict both high self-mate-value, and low ratings of partner mate-value. Because narcissism is often seen with an inflated sense of self-worth, I predicted that those high in narcissism would be more likely to inflate their own mate-value while decreasing their partners'. I hypothesized that OSR would predict mate-value: i.e. those in a disadvantaged OSR would be more likely to rate their mates highly than those with more mating opportunities.

Beauty and the Beast Effect

Due to previous research, the current work proposed biological sex would correspond to direction of equity. In other words, based on past results of a pilot study performed by the authors, females were predicted to report less indices of mate settling, due to their higher mate value as reported by Dillon, Geher, Bercovici and Tooke (in press). This same trend was demonstrated in Michael Mills (2011) showing an increase in female attractiveness in comparison to male attractiveness. Significant sex differences

emerged among the mean ratings of the subjective physical attractiveness of partner and self-measures, the objective physical attractiveness of partner measure, and the mate value inventory. In line with predictions based on the previous work, females rated themselves higher in subjective ratings of their own physical attractiveness, while males rated their (female) partners higher in objective physical attractiveness and averaged physical attractiveness (through the use of subjective and objective reports). Only one variable contradicted the hypothesis, in terms of the mate-value inventory, females rated their mates significantly higher than did males – i.e. the males were receiving higher scores. Overall, the hypothesis was supported.

Because the mate-value inventory is the only mate value measure that focuses on traits beyond the realm of physical attractiveness, it appears that the trend of females having higher mate-value may stay within the limits of *looks*. On the MVI, females rated their male partners lower than males rated their female partners. Further, in both “objective partner” and “subjective self” females, had significantly higher ratings of attractiveness. In many species, one sex is largely more attractive than the other (e.g., peafowl, the males are brightly colored while the females are rather dull). In humans, it seems as though females are the more attractive sex. Females (at least in most societies) spend more time on their appearance than males, more plastic surgery, more make-up, more hair styling, etc. (Gallup & Frederick, 2010). However, in some sense, females may be objectively better looking in an absolute sense – this may actually serve as a proximate mechanism underlying higher bisexuality in heterosexual females than of heterosexual males¹.

¹ According to data from the 2006-2008 National Survey of Family Growth, the percentage reporting their sexual identity as bisexual is between 1% and 3% of males, and 2% to 5% of females.

Females consistently received higher ratings from their male partners in terms of physical attractiveness when compared to the male in the relationship. In terms of pair-bonded individuals in heterosexual relationships, females are the beauty of the relationship, leaving males to be the beast. Because this research focused only on pair-bonded subjects, I am left to assume that the most physically attractive males are keeping themselves out of the long-term mating pool, instead focusing on short term mating strategies for the simple reason that *they can*. Thus, the most attractive females are left to enter mate-ships with slightly less physically attractive males.

One important thing to keep in mind about the Beauty and the Beast Effect, is that the effect was found not by female reports, but reports from males. While females seem modest in reporting the difference between themselves and their mate in terms of physical appearance, males are quicker to report higher levels of beauty of their mate than their own handsomeness.

It is possible, that for humans, females are simply the more attractive sex. If one had the ability to communicate with peacocks, I believe both the males and the females would readily admit that the male of the species holds the beauty. It is possible that through male-based sexual selection, females are simply more attractive. Because there is a greater emphasis on female physical attractiveness, only the most attractive females may have been selected for through male sexual selection, thus creating an uneven beauty market. It would be interesting to determine whether the most attractive female is more attractive than the most attractive male, or if, as previously mentioned, the most attractive males are simply not in the long term mating market.

It is important to note that the so-called Beauty and the Beast effect was not found

in terms of a more multifaceted approach to mate value – in other words, females in these mateships may be more fun to look at than their mates, but no more interesting to spend time with. That is to say, the Beauty and the Beast effect is only applicable to pure physical attractiveness, not the overall value of an individual.

Mating Intelligence

As outlined previously, mating intelligence, life history strategy, narcissism and operational sex ratio were hypothesized to predict mate values of oneself and partner. Mating intelligence was shown to have a significant positive correlation with several of the mate-value dependent variables. Specifically, mating intelligence positively correlated with the following variables: Subjective physical attractiveness of self, objective physical attractiveness of both self and partner, equity, mate-value inventory score of self, averaged physical attractiveness of both self and partner (the average of subjective and objective reports), and finally, operational sex ratio (which was separated by sex, due to the continuum nature of the scale). Again, high scores in operational sex ratio correspond to more males, while lower scores indicate mating markets with more females. Of these significant correlations (see Table 4), several sex differences emerged among the dependent variables. For example, in terms of the objective rating of partner's physical attractiveness, females, but not males, showed a significant correlation with mating intelligence. That is to say, males' mating intelligence did not predict their scores for their objectively rated partner's mate-value. Equity also showed an interesting sex difference; again, mating intelligence and equity were significantly inter-correlated, but only among females. For females, higher mating intelligence actually seemed to correspond to being under-benefited (low equity) in relationships. The averaged physical

attractiveness rating for partner also showed a sex difference wherein females with high mating intelligence were more likely to rate their partner higher. This must be due to an offshoot of the difference seen within objective physical attractiveness, because the subjective measure (which is used to calculate the averaged score) did not emerge as significant.

Disregarding the sex differences among the correlations between mating intelligence and the mate-value dependent variables, our results were generally in line with the hypotheses. Six of eight mate-value variables were significantly correlated with mating intelligence – all in the positive direction as proposed. Thus, mating intelligence appears to be a valid predictor of mate-value.

Life History Strategy

Proclivity toward a slow life history strategy, as predicted, correlated positively with all eight mate-value variables. Slow life history strategy (as mentioned in the introduction) is a focus on somatic effort, rather than reproductive effort. In other words, those high in k , or slow in life history, focus more on attaining a life wherein they can survive and procreate for an extended period of time. Rather than focusing energy on reproducing, slow life history strategists spend time on long-term mating strategies, and the offspring that they have, to better ensure their genetic code in subsequent generations. Because of this increased somatic effort, a positive correlation between life history strategy and mate-value variables was postulated. Those with a slow life history tend to have less offspring, but put more attention on acquiring a high-quality mate with whom to procreate. Therefore, it makes sense that slow life history strategies would correspond to high mate value of self and other; those with slow life history put more effort into

making themselves the best mate they can be, as well as attain the best mate they can. These results were parallel to my predictions.

Specifically, results indicated that life history strategy is a significant predictor of subjective, objective, and MVI ratings of partner and self. In other words, a slow life history strategy predicts higher ratings of mate value for both self and other, regardless of the mate-value measure employed. It is interesting to note that life history strategy (LHS) positively correlates with both physical attractiveness mate-value variables and the MVI, which encompasses a greater array of traits relevant to mating. Some of the other predictor variables in this work correlated with either physical attractiveness mate-value variables OR the mate-value inventory, the fact that life history strategy correlates with both aspects of mate value may suggest that life history strategy is a better all-over indicator of mate value, or that life history strategy is a more all-encompassing factor in determining a mate. In other words, those with slow life history strategy focus on both physical attractiveness (which has been correlated with health and fitness, see Gallup and Frederick, 2010) and traits such as parental investment indicators, resource acquisition, and personality variables.

Narcissism and Mate Value

Narcissism proved to be one of the most thought-provoking variables in the current work. Supporting the hypothesis, those high in narcissism were significantly more likely to “down-rate” their partners (i.e., the partner mate-value ratings of narcissists were significantly lower than the partner ratings of non-narcissists). However, narcissists did *not* inflate their own mate value, contrary to our hypothesis. Instead, narcissists showed the same trend in reporting their own mate value that they did in reporting their partners-

a significant *negative* correlation. This is most likely due to the specific narcissism scale that was used in the current work. The Hendin and Cheek (1993) narcissism scale addresses *hypersensitive narcissism* which involves a focus on other peoples' opinions.

Because this type of narcissism places a large emphasis on the relation of the narcissist to loved ones, as well as an emphasis on being accepted and appreciated, this tendency for narcissists to rate themselves lower than non-narcissists is more understandable.

Narcissism and Life History Strategy

Life history strategy negatively correlates with narcissism – slow strategists showed less tendencies toward narcissism than their fast strategy peers. This may suggest that narcissists are more likely to have a fast life history strategy or that those slow in life history strategy tend to be less narcissistic. In the current work, narcissism was measured through a hypersensitive scale – which conceptualizes this personality variable as covert narcissism, or, vulnerable-sensitive narcissism. A postulation for the correlation between LHS and narcissism could be that those with a slow life history strategy cannot show high narcissism ratings because they directly interfere with the traits that contribute to a slow life history strategy (i.e. close ties to family, having (and admitting to having) support of friends and family, etc.).

Operational Sex Ratio

Operational sex ratio (OSR) was a major variable in the proposal of the current work. The hypothesis that those in a disadvantaged mating market would report having higher quality mates than those in disadvantaged mating markets came to fruition as a possible theory as to what may cause mate settling.

Correlations, after splitting the analysis by biological sex, showed a very interesting result: females in low sex ratios (i.e. when they over represented sex in the market) were more likely to increase their partner's mate value than females in a male-dominated mating market. This result aligns with common assumptions about mates, in that when an individual has fewer mating opportunities, he or she should be more likely to increase their mate's value. Those in a disadvantaged mating market consistently reported higher mate-values of their partners. Possible reasoning for why this increase occurs may be due to a lack of mating alternatives, those without many options may be more likely to think highly of their mate via comparison. An important thing to note here is that all participants in this study are pair-bonded (i.e., currently in a relationship) – results are likely implying something different than would be found for single individuals.

Females reported lower levels of physical attractiveness for their male partners when in a male-dominated mating market. This could be due to the discontent one might feel when there are many mating opportunities available, or it could simply be a matter of numbers, when there are more males, statistically speaking, there is a higher likelihood of more attractive males. This increased amount of attractive (or more attractive) males may be the factor that is decreasing male mate value as reported by females in a male dominated mating market.

Pennebaker et al. (1979) did a country/western analysis of psychology, i.e. they compared lyrics of old country music songs to psychological theory. The title of their article, and coincidentally what is useful for the current work, "Do girls get prettier at closing time" is an interesting commentary on operational sex ratio. Granted, the OSR in question for a situation like "closing time" is albeit much at a much smaller scale than in

most studies, the commentary is still relevant. Interestingly, the current work did not find that girls get prettier during closing time, but in fact boys do. Only females were found to have significant relationships between OSR and partner mate value.

One interesting finding that emerged was the connection between OSR and whether participants' partners attended the same university as they did. While the attendance question was included primarily as a control, a chi square was run to examine the relation between OSR and whether participants' partners' attended the same institution. Significance was found only for females; $\chi^2(32, N = 387) = 54.47, p < .001$. These results indicate that when the OSR is in favor of females (i.e. there are more males) females are more likely to be in a relationship with someone at their same university than when the OSR is not in their favor. Further, this suggests that those in a disadvantaged mating market should be seeking mates outside of the realm of the university's mate pool. The implications for this finding are vast; first, in order to fully understand this relationship, it would be necessary to acquire the OSR of the ENTIRE school, as well as the surrounding area. However, compared with previous research on OSR, the operational definition of OSR used here may represent an improvement. Schmitt (2005) in a seminal study of cross-cultural socio-sexuality, used Pedersen's (1991) method for gathering sex ratio information – through the use of the U.S. Census Bureau. The data provided from the census breaks down information by the state, thus the ratio is determined using all reproductively viable adults, rather than broken down by mating markets. By determining sex ratio through university demographic information, I believe I have successfully targeted specific mating markets rather than state ratio information. It is possible for ratios in specific mating markets to differ from the sex ratio of the state –

small towns may have specific differences, sub cultures might create their own mating markets, skewing the data, etc, which is accounted for in my method for collecting OSR.

Subjective and Objective Ratings

In determining whether there was a significant difference between subjective and objective ratings of attractiveness, I am essentially determining whether a.) a participant can actually rate his or her mate through the eyes of society, and b.) determine whether an individual may be settling in his or her own eyes, or settling in the eyes of society. The positive relationship between objective and subjective ratings of self and partner indicates that participants are able to judge themselves and their partners through the eyes of another.

The distinction between perceptions of mate value via self or partner perceptions also suggests that mate value research needs to think carefully about how mate value is operationally defined. Several findings that emerged for self-relevant mate value were different than findings that emerged for partner-perceived mate value. Future research should explore the distinction between these different conceptions of mate value.

Strengths and Limitations

Findings of the current work should be considered in the light of the study's strengths and limitations.

Strengths:

The pilot study for the current work was primarily based on self-reported data, save for the paired reports within couples. The current study did not require subjects to participate with their partner, so the issue of subjectivity arose to prominence here. The current work included an objective measure of physical attractiveness, in addition to a

subjective measure. As mentioned previously, the ratings of subjective v. objective physical attractiveness were significantly different, which, when combined with our averaged variable of the two, could possibly rid the study of subjectivity as a confound. Subjectivity as a confound is a major problem within survey research as a whole, and developing a measure which seems to alleviate the problem is not only imperative for the current work, but may in fact change the landscape of survey research.

The reliability and validity of the scales used in the current work strengthen the results, in that arbitrary properties have been removed. Further, while set to a limited sample, the reliability and validity of the scales should help future projects encompassing a broader array of subjects.

Another strength in the current study was population size. Considering the criteria for participating (must a.) currently be in a relationship, b.) be enrolled in college, and c.) be over the age of 18) the available number of participants decreases. Further, for the purposes of the current study, only heterosexual participants' data were included, further decreasing the N. Finally, incomplete surveys were excluded for the sake of analysis ease. After all of these limitations, to still have an N of over 500 is rather powerful.

Limitations:

First and foremost, as with many studies in the realm of the social sciences, there were vastly more female than male participants. 79% of the respondents for data used in the current work were female.

In future follow up work, other facets of narcissism will be measured and used as predictions. While the hypersensitive narcissism scale showed interesting and intriguing results, I would like to examine how more traditional narcissism relates to mate value.

A limitation that may have confounded some results was the order in which the mate-value variables were given. Within the survey, each MV variable was presented first for the participant to rate his or her partner, and then for the participant to rate him or herself. Colleagues brought to the attention of the researcher that a tendency to rate oneself similarly to the ratings participants had just given their partners may have arisen. It is possible, that if the mate value variables were dispersed among one another as well as other scales such that the partner rating and self-rating of the same MV variable were not successive, the ratings of self might be more valid.

The population of participants, despite previously mentioned strengths may have also played a part in limitations. First, because the study was limited to college students, the majority of subjects were between the ages of 18-27 (range 18-50, $M = 22.31$, $SD = 4.43$) which is a relatively small percentage of the American parameters. Adolescents (and their lack of fully developed frontal cortexes) may exhibit different mating behaviors than adults (Ortiz, 2004). Second, because collegeboard.com did not have listings for colleges overseas, all European participants' data were deleted. In line with the "American only" limitation, the universities that were reported were mostly located on the east coast of the United States, and while there is no evidence to suggest that this would make a significant difference in the results, it is still limiting to not have data from subjects in the more western end of the country. Third, relationships of students may be different from relationships among those not in school, and excluding non-college students from the survey would hinder results on the greater population of those not enrolled in a university.

Social desirability may have served as a confound in the current work due to an

increased likelihood for subjects to rate themselves and their partners higher on scales that indicate desirability. For example, a male might increase his female mate's value because it is more socially desirable to have an attractive partner. Follow up studies will benefit from including a social desirability scale.

Future Directions and Implications

Further analyses will include data from homosexual and bisexual participants, but for the initial analyses for the current work, such individuals were excluded. Future directions may include a more diverse sample across more ages and sexual orientations. It would be interesting to examine whether the beauty part of the beauty and the beast effect transferred over to lesbian couples. Analyses concerning relationship length and satisfaction would be helpful in follow up studies. An inclusion of a Big Five measure (with the overt type of narcissism) would provide a deeper understanding of the predictors of discrepancies. Having an evolutionary connection between personality variables and mate value variables would provide credibility to some aspects of evolutionary theory and personality which have largely been un-discussed.

The findings regarding Life History Strategy may lead to further studies regarding the implications of LHS in daily life – that is, does a slow life history strategy guarantee better mating due to the increased likelihood of having a mate of high value? Does it predict relationship satisfaction as well as value?

Conclusions

The current work addressed mate value through both the simple; physical attractiveness, and the more in-depth; physical attractiveness, resource acquisition, personality variables and compatibility. While originally, I wanted to examine the

relationship between evolutionarily relevant factors and mate-value through the lens of “settling” – sex differences emerged in such an interesting way that settling has been pushed to the side. The mere notion that in pair-bonded individuals females are consistently rated higher in terms of physical attractiveness is huge. The Beauty and the Beast effect has the propensity to affect mating research as a whole. The Beauty and the Beast effect (in addition to other implications) suggests that members of couples are not actually equitable in terms of looks. Often, in research, it is easy to assume that there is a level playing field, but this finding suggests that females are significantly more attractive (or at least seen that way) than males, obliterating the idea of a balanced and even start.

I hypothesized that mating intelligence would positively relate to mate value – the data supported this hypothesis. Slow life history strategy was hypothesized to predict higher mate value – this was also supported by the data, across all mate-value variables. Biological sex was hypothesized to predict the direction of mate-value discrepancies – females were predicted to report larger positive discrepancies – this was also supported by the data, snowballing into the newly coined Beauty and the Beast effect. Narcissism was hypothesized to correspond to decreased partner attractiveness, a prediction that was corroborated by the data. However, due to the hypersensitivity aspect of this particular narcissism scale, this trend also emerged for reports of self-attractiveness. Operational Sex Ratio did in fact seem to affect the ratings of partner attractiveness, but only for female participants. Overall, the hypotheses were generally supported, and several points about the psychology of human mating have been illuminated. Future research will surely benefit from understanding the roles of such important dispositional variables as narcissism, life history strategy, and mating intelligence on the nature of perceptions

within the confines of intimate relationships.

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TABLES

Table 1: Cronbach's Alpha for predictor variables (in the current work).

Scale	# of Items	Format	α
Mating Intelligence	24	T or F	Male $\alpha = .70$ Female $\alpha = .77$
Mating Success	40	T or F	$\alpha = .82$
Narcissism	10	5 point Likert Scale	$\alpha = .67$
Life History Strategy	20	7 point Likert Scale	$\alpha = .76$
Mate Value Inventory	17	Low to high (-3 to 3)	Self $\alpha = .71$ Partner $\alpha = .73$

Note that physical attractiveness variables were not included in this analysis due to their singular item format.

Table 2. Key for variables

<p>Predictor Variables:</p> <p>Sex: Sex was entered such that 1=male and 2=female</p> <p>Mating Intelligence: high scores correspond with high mating intelligence. Range: 2-19</p> <p>Narcissism: high scores correspond with high narcissism. Range: 10-46</p> <p>Mating Success: high scores correspond with high mating success. Range: 39-62</p> <p>Life History Strategy: high scores correspond to individuals endorsing a slow life history strategy and low scores correspond to individuals endorsing a fast life history strategy. Range: 54-133</p> <p>Operational Sex Ratio: high scores correspond with more men in the population, a disadvantaged mating market for males, while low scores correspond with more females. Range: 0-2.47</p> <p>Outcome Variables:</p> <p>Subjective Physical Attractiveness* (both self and partner): high scores correspond with "very attractive" low scores correspond with "very unattractive." Range: 1-10</p> <p>Objective Physical Attractiveness** (both self and partner): high scores correspond with "very attractive" low scores correspond with "very unattractive." Range: 1-10</p> <p>Averaged Physical Attractiveness (both self and partner): high scores correspond with "very attractive" low scores correspond with "very unattractive." Range: 1-10</p> <p>Mate Value Inventory: high scores indicate high mate value, low scores indicate low mate value. Range: 56-119.</p> <p>Discrepancy for Mate Value Inventory: high scores indicate more settling (positive discrepancy) low scores indicate being settled for (negative discrepancy). Range: -47 – 49</p> <p>Discrepancy for Subjective Physical Attractiveness: high scores indicate more settling (positive discrepancy) low scores indicate being settled for (negative discrepancy). Range: -9 – 5</p> <p>Discrepancy for Objective Physical Attractiveness: high scores indicate more settling (positive discrepancy) low scores indicate being settled for (negative discrepancy). Range: -9 – 6</p> <p>Discrepancy for Averaged Physical Attractiveness: high scores indicate more settling (positive discrepancy) low scores indicate being settled for (negative discrepancy). Range: -8.50 – 4.50</p> <p>Equity: high values correspond with ratings suggesting the individual is getting a better deal than their partner, low scores suggest the individual is settling for their partner. Range 1-5</p> <p>* Subjective scores obtained through measure requiring participants to rate their partner's physical attractiveness after disregarding social standards/norms.</p> <p>**Objective scores obtained through measure requiring participants to rate their partner's physical attractiveness through the eyes of a hypothetical beauty pageant judge after viewing the judges "10s."</p>

Table 3: Descriptive Statistics for Predictor Variables

Variable		Minimum Value	Maximum Value	Mean	SD	Estimate of Cohen's d
Mating Intelligence	Total	2	19	8.99	2.55	.25
	Males	2	19	9.58***	3.58	
	Females	2	16	8.85	2.18	
Narcissism	Total	10	46	29.24	5.41	.07
	Males	13	46	29.39	5.55	
	Females	10	43	29.02	5.38	
Mating Success	Total	39	62	45.89	4.29	.56
	Males	40	62	47.88*	4.89	
	Females	39	60	45.38	3.96	
Life History Strategy	Total	54	133	101.54	12.98	.52
	Males	64	122	96.37	12.31	
	Females	54	133	102.89	12.83	

* Means significantly different at the 0.05 level (2-tailed).

** Means significantly different at the 0.01 level (2-tailed).

*** Means significantly different at the 0.001 level (2-tailed).

Table 3 shows the predictor variables broken down by sex. Mating Intelligence is shown to be significantly different for males and females, the mean for males being significantly higher than that of females. Narcissism did not exhibit a significant difference between the sexes, while Mating Success showed a significantly higher mean for males than for females. Further, life history strategy showed no difference between the sexes.

Table 4: Descriptive Statistics for Dependent Variables

Variable		Minimum	Maximum	Mean	SD	Estimate of Cohen's d
Subjective Physical Attractiveness	Male	4.00	10.00	8.40*	1.25	.07
Rating of Partner	Female	3.00	10.00	8.50	1.34	
Subjective Physical Attractiveness	Male	2.00	10.00	7.00**	1.40	.23
Rating of Self	Female	1.00	10.00	7.35	1.60	
Objective Physical Attractiveness	Male	2.00	10.00	6.54***	2.02	.35
Rating of Partner	Female	1.00	10.00	5.83	1.99	
Objective Physical Attractiveness	Male	1.00	10.00	5.19	1.94	.10
Rating of Self	Female	1.00	10.00	5.40	2.09	
Mate Value Inventory Score of Partner	Male	70.00	118.00	96.92***	10.89	.32
Rating of Self	Female	56.00	119.00	100.46	11.04	
Mate Value Inventory Score of Self	Male	61.00	115.00	96.82	10.52	.17
Averaged score of Subjective and Objective scores for Partner	Female	61.00	119.00	98.57	10.33	
Averaged score of Subjective and Objective scores for Partner	Male	3.50	10.00	7.47*	1.44	.21
Rating of Self	Female	2.00	10.00	7.16	1.46	
Averaged score of Subjective and Objective scores for Self	Male	2.00	10.00	6.09	1.53	.17
	Female	1.00	10.00	6.37	1.67	

Table 4 is comprised of the means for the dependent variables, demarcated by sex. Only two outcome variables had significant differences between the sexes. Both subjective physical attractiveness and short-term versus long-term relationship were found to be significant. In other words, sex differences among ratings of subjective physical attractiveness and length of relationship showed to be significantly different. The significance column represents significance from t-tests determining whether the sex differences were statistically significant.

* Means significantly different at the 0.05 level (2-tailed).

** Means significantly different at the 0.01 level (2-tailed).

*** Means significantly different at the 0.001 level (2-tailed).

Table 5: Correlations between Predictor and Outcome Variables

		Mating Intelligence	Narcissism	Mating Success	Life History Strategy	Sex
Subjective Physical Attractiveness Rating of Partner	Total	.02	-.22**	-.19**	.24**	.03
	Male	-.03	-.10	-.26**	.05	
	Female	.05	-.25**	-.16**	.28**	
Subjective Physical Attractiveness Rating of Self	Total	.25**	-.15**	-.13**	.19**	.09*
	Male	.40**	-.08	-.11	.08	
	Female	.23**	-.17	-.12*	.19**	
Objective Physical Attractiveness Rating of Partner	Total	.15**	-.20**	-.10*	.11*	-.14**
	Male	.13	-.12	-.21*	.01	
	Female	.14**	-.23**	-.11	.17**	
Objective Physical Attractiveness Rating of Self	Total	.24**	-.12**	-.08	.09*	.04
	Male	.35**	-.30**	.02	-.02	
	Female	.22**	-.07	-.09	.11*	
Equity ¹	Total	-.09*	-.02	-.18**	-.01	-.02
	Male	.01	.00	-.09	-.09	
	Female	-.14**	-.03	-.22**	-.02	
Mate Value Inventory Score of Partner	Total	.03	-.23**	-.41**	.32**	.13**
	Male	.04	-.18	-.33**	.30**	
	Female	.04	-.25**	-.42**	.30**	
Mate Value Inventory Score of Self	Total	.15**	-.33**	-.24**	.49**	.07
	Male	.28**	-.28**	-.21*	.44**	
	Female	.11*	-.35**	-.23**	.50**	
Averaged score of Subjective and Objective scores for Self	Total	.27**	-.15**	-.11*	.15**	.07
	Male	.41**	-.30*	-.04	.09	
	Female	.25**	-.13**	-.11*	.16**	
Averaged score of Subjective and Objective scores for Partner	Total	.11*	-.24**	-.15**	.18**	-.09*
	Male	.08	-.13	-.26	.03	
	Female	.12*	-.27**	-.15**	.24**	

Table 5 shows the correlations between evolutionarily relevant variables (i.e. the predictor variables) with the outcome mate value variables. Mating Intelligence correlated with all out come variables *except* the subjective rating of partner. Narcissism and Life History Strategy correlated with all outcome variables *except* equity. Mating Success correlated with all out come variables *except* objective rating of self. Biological Sex correlated with subjective rating of self, objective rating of partner, MVI of partner, and finally the averaged physical attractiveness variable. See Table 3 for means and standard deviations.

¹ Low scores of equity indicate that the individual feels that their partner is getting a better deal, or getting more out of the relationship, while high scores on equity correspond to feelings of equality in his/her relationship or even that he/she is getting a better deal than their partner.

* correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2-tailed).

*** correlation is significant at the 0.001 level (2-tailed).

Table 6: Mate-Value Variables according to High or Low Mating Intelligence Broken Down according to Self, Partner, and Discrepancy.

Variable	MI	Self	Partner	Discrepancy (Self-Partner)
Objective Physical Attractiveness	Low Mating Intelligence	4.93	5.75	-.83*** ¹
	High Mating Intelligence	5.88	6.18	-.30**
Subjective Physical Attractiveness	Low Mating Intelligence	6.88	8.44	-1.56***
	High Mating Intelligence	7.72	8.53	-.82***
Averaged Physical Attractiveness	Low Mating Intelligence	5.90	7.09	-1.19***
	High Mating Intelligence	6.77	7.36	-.56***
Mate Value Inventory	Low Mating Intelligence	96.75	98.81	-1.92***
	High Mating Intelligence	99.60	100.57	-1.00

Table 6 shows the means of self, partner, and discrepancy for all four mate-value variables broken up according to level of mating intelligence. All discrepancy means came out negative, which is in concordance with the fact that all the self-ratings were lower than partner ratings.

¹ Significance of discrepancy demonstrates significance from paired sample t-tests on self and partner ratings.

* Means significantly different at the 0.05 level (2-tailed).

** Means significantly different at the 0.01 level (2-tailed).

*** Means significantly different at the 0.001 level (2-tailed).

Table 7: Inter-correlations among predictor variables.

	1	2	3	4	5	6
1 Sex ¹	-					
2 Age	-.11*	-				
3 Mating Intelligence	-.12**	-.04	-			
4 Narcissism	-.01	-.01	.00	-		
5 Mating Success	-.24**	-.02	-.06	.09*	-	
6 Life History Strategy	.20**	-.17**	.02	-.24**	-.24**	-
7 Operational Sex Ratio (OSR)	-.17**	.05	-.14**	.01	.22**	-.00

¹ Sex was coded such that 1 = male and 2 = female

Table 7 demonstrates the correlations among the predictor variables with themselves. As shown, sex is significantly correlated with mating intelligence, age, mating success, life history strategy, and operational sex ratio. The fact that sex is correlated with operational sex ratio means nothing, because the operational sex ratio is a continuum of how many males or females are in a given mating pool. Mating success was found to not only be significantly correlated to sex, but also to narcissism. Life history strategy is not only significantly correlated to sex, but also to age, narcissism, and mating success. Finally, operational sex ratio is significantly correlated with sex, mating intelligence, and mating success.

* correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2-tailed).

*** correlation is significant at the 0.001 level (2-tailed).

Table 8: Independent t-test Results for Mate-Value Variables and Life History Strategy

Variable	LHS	Mean	Standard Deviation	<i>t</i>	Significance
Subjective (Self)				-4.87	.00
	Fast	6.96	1.57		
	Slow	7.69	1.35		
Subjective (Partner)				-4.61	.00
	Fast	8.15	1.32		
	Slow	8.75	1.24		
Objective (Self)				-2.56	.00
	Fast	5.15	1.97		
	Slow	5.67	2.04		
(Objective (Partner)				-1.32	.18
	Fast	5.85	2.16		
	Slow	6.12	1.89		
Mate Value Inventory (Self)				-11.93	.00
	Fast	92.39	9.80		
	Slow	103.66	8.69		
Mate Value Inventory (Partner)				-7.43	.00
	Fast	95.64	10.76		
	Slow	103.72	10.53		

Table 8 indicates that a slow life history strategy had higher ratings across all mate-value variables (except for objective-partner, which did not result in significance).

Table 9: Mate-Value variables broken down according to sex

Variable	Sex	Self	Partner ¹	Discrepancy
Subjective	Male	7.00*	8.40	-1.40
	Female	7.35	8.50	-1.15
Objective	Male	5.19	6.54**	-1.35***
	Female	5.40	5.83	-.43
Mate Value Inventory	Male	96.82	96.93**	.21*
	Female	98.56	100.46	-1.90
Averaged	Male	6.10	7.46*	-1.37**
	Female	6.37	7.16	-.79

Table 9 demonstrates the sex differences among mate value variables, broken down by self, partner, and the discrepancy between self and partner. Male's rated females higher than females rated themselves among all mate-value variables except for the Mate Value Inventory. This may suggest that the trend of males reporting their partners having higher mate value may be attributable only to mate-value variables based on physical attractiveness. Further, across all mate-value variables, females rated themselves higher than males rated themselves. These results do not necessarily speak to settling, but do paint an interesting picture wherein both males and females assume that females are more attractive. *t*-tests across all variables for both self, partner and discrepancy were run, indicating sex differences for subjective self ratings, objective partner ratings, objective discrepancy ratings, MVI partner ratings, MVI partner discrepancy ratings, and averaged partner and discrepancy ratings.

¹ These numbers are the ratings individuals gave their partner for each mate value variable. In other words, for subjective physical attractiveness, males rate their partners on an average of 8.40, while females rate their partners 8.50.

* Means significantly different at the 0.05 level (2-tailed).

** Means significantly different at the 0.01 level (2-tailed).

*** Means significantly different at the 0.001 level (2-tailed).

Table 10. Pearson Correlations – Narcissism and Mate Value Variables

Variable		Narcissism
Subjective Physical Attractiveness Rating of Partner	Total	-.22**
	Male	-.10
	Female	-.25**
Subjective Physical Attractiveness Rating of Self	Total	-.15**
	Male	-.08
	Female	-.17
Objective Physical Attractiveness Rating of Partner	Total	-.20**
	Male	-.12
	Female	-.23**
Objective Physical Attractiveness Rating of Self	Total	-.12**
	Male	-.30**
	Female	-.07
Mate Value Inventory Score of Partner	Total	-.23**
	Male	-.18
	Female	-.25**
Mate Value Inventory Score of Self	Total	-.33**
	Male	-.28**
	Female	-.35**
Averaged score of Subjective and Objective scores for Self	Total	-.15**
	Male	-.23*
	Female	-.13**
Averaged score of Subjective and Objective scores for Partner	Total	-.24**
	Male	-.13
	Female	-.27**

Table 10 demonstrates the correlates of narcissism and the outcome mate-value variables broken down by sex. As shown above, narcissism is negatively correlated with all the mate value variables. Interestingly, for many of the mate value variables, once correlations were split according to biological sex, the correlation was only significant for once sex. In fact, the only variables where both sexes continued to show a significant correlation with narcissism once split, were the MVI of self and the averaged report of self. In other words, the averaged variable for physical attractiveness of oneself as well as the mate value inventory score of self, were significantly correlated with narcissism for both males and females.

* correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2-tailed).

Table 11: Paired Samples *t*-test Results on Each Mate Value Variable

Variable	Narcissism	Self	Partner	<i>t</i> ¹
Subjective	High	6.94	8.34	5.63**
	Low	7.34	8.50	-13.67***
Objective	High	4.87	5.50	2.59*
	Low	5.45	6.07	-6.43***
Mate Value	High	93.12	96.53	-2.98**
	Low	99.15	100.33	-2.51*
Averaged	High	5.91	6.92	-4.53**
	Low	6.39	7.28	-10.85***

Table 11 exhibits the results of paired samples *t*-tests for each mate-value variable. These results indicate that for the mate value inventory, the self and partner ratings are significantly different, with the partner value being higher. In fact, all pairs emerged significant for hypersensitive narcissists and non-narcissists, with partner-mate-value consistently higher than self-mate-value.

¹ *t*-tests show the difference between self and partner ratings for each level of narcissism.

* Means significantly different at the 0.05 level (2-tailed).

** Means significantly different at the 0.01 level (2-tailed).

*** Means significantly different at the 0.001 level (2-tailed).

Table 12: Heirarchical Mulitple Linear Regression (Outcome variable: MVI Discrepancy)

	β	Sig
Step One:		
Mating Intelligence	.09	.10
Operational Sex Ratio	.05	.29
Step Two:		
MIxOSR	.11	.04

Table 13: Inter-correlations among outcome variables

			1	2	3	4	5	6	7	8	9
1	Subjective Physical Attractiveness Rating of Partner	Total	-								
		Male									
		Female									
2	Subjective Physical Attractiveness Rating of Self	Total	.14**	-							
		Male	-.04								
		Female	.172*								
			*								
3	Objective Physical Attractiveness Rating of Partner	Total	.52**	.14**	-						
		Male	.53**	.06							
		Female	.53**	.21**							
4	Objective Physical Attractiveness Rating of Self	Total	.14**	.65**	.47**	-					
		Male	.00	.66**	.30**						
		Female	.17**	.64**	.53**						
5	Equity	Total	.11**	-.03	.08	-.05	-				
		Male	.15	-.06	.06	-.04					
		Female	.10*	-.02	.09	-.05					
6	Mate Value Inventory Score of Partner	Total	.39**	.20**	.28**	.12**	.26**	-			
		Male	.46**	.15	.32**	.05	.11				
		Female	.37**	.20**	.30**	.13**	.31**				
7	Mate Value Inventory Score of Self	Total	.31**	.34**	.18**	.25**	-.03	.55**	-		
		Male	.20*	.27**	.12	.16	-.16	.47**			
		Female	.34**	.35**	.21**	.24**	.01	.57**			
8	Averaged score of Subjective and Objective scores for Self	Total	.15**	.88**	.37**	.93**	-.05	.17**	.30**	-	
		Male	-.02	.88**	.22*	.94**	-.05	.05	.27*		
		Female	.19**	.88**	.43**	.93**	-.04	.18**	.32**		
9	Averaged score of Subjective and Objective scores for Partner	Total	.81**	.18**	.92**	.39**	.11*	.37**	.26**	.33**	-
		Male	.80**	.03	.93**	.21*	.10	.42**	.17	.15	
		Female	.82**	.22**	.92**	.44**	.11*	.37**	.30**	.38**	
10	Operational Sex Ratio	Total	-.04	-.07	.04	-.02	-.02	-.09	-.08	-.04	.01
		Male	.06	-.00	.02	-.15	.02	-.05	-.10	-.12	.04
		Female	-.06	-.05	.00	.03	-.04	-.10*	-.07	-.00	-.03

Table 13 displays the inter-correlations among outcome variables. The vast significance seen suggests that the outcome variables are all inter-correlated and thus measure the same thing: mate value.

* correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2-tailed).

*** correlation is significant at the 0.001 level (2-tailed).

APPENDICES

Appendix A

Mating Intelligence Scale- Men

Please answer true or false for each of the following 24 items.

1. I think most women just like me as a friend.
2. I have slept with many beautiful women.
3. I'm pretty good at knowing if a woman is attracted to me.
4. I'm definitely not the best at taking care of kids.
5. I'm good at saying the right things to women I flirt with.
6. I haven't had as many sexual partners compared with other guys I know (who are my age).
7. I have a difficult time expressing complex ideas to others.
8. I am good at picking up signals of interest from women.
9. I'm definitely near the top of the status totem pole in my social circles.
10. I doubt that I'll ever be a huge financial success.
11. If I wanted to, I could convince a women that I'm really a prince from some little-known European country.
12. Honestly, I don't get women at all.
13. Women tend to flirt with me pretty regularly.
14. If a women doesn't seem interested in me, I figure she doesn't know what she's missing.
15. Women definitely find me attractive.
16. I've dated many intelligent women.
17. People tell me that I have a great sense of humor.
18. When I lie to women, I always get caught.
19. I am usually wrong about who is interested in me romantically.
20. It's hard for me to get women to see my virtues.
21. At parties, I tend to tell stories that catch the attention of women.
22. I'm not very talented in the arts.
23. I can attract women, but they rarely end up interested in me sexually.
24. When a woman smiles at me, I assume she's just being friendly.

Mating Intelligence Scale- Women

Please answer true or false for each of the following 24 items.

1. I can tell when a man is being genuine and sincere in his affections toward me.
2. I doubt I could ever pull off cheating on my beau.
3. I look younger than most women my age.
4. When a guy doesn't seem interested in me, I take it personally and assume something is wrong with me.
5. Good looking guys never seem into me.
6. I have a sense of style and wear clothes that make me look sexy.

7. I attract many wealthy, successful men.
8. Honestly, I don't think that I understand men at all.
9. With me, a guy gets what he sees- no pretenses here.
10. If I wanted to make my current guy jealous, I could easily get the attention of other guys.
11. Men don't tend to be interested in my mind.
12. I'm definitely more creative than most people.
13. I hardly ever know when a guy likes me romantically.
14. I laugh a lot at men's jokes.
15. If a guy doesn't want to date me, I figure he doesn't know what he's missing.
16. I am not very artistic.
17. My current beau spends a lot of money on material items for me (such as jewelry).
18. I am usually right on the money about a man's intentions toward me.
19. I really don't have a great body compared with other women I know.
20. Intelligent guys never seem interested in dating me.
21. I believe that most men are actually more interested in long-term relationships than they're given credit for.
22. Most guys who are nice to me are just trying to get into my pants.
23. When it comes down to it, I think most men want to get married and have children.
24. If I have sex with a man too soon, I know he will leave me.

Appendix B

Please indicate whether the person in your current relationship has ever done any of the following:

1. Let you in on a secret not many other people knew
2. Made you feel like you two were a team
3. Initiated sex with you
4. Enjoyed sex with you
5. Did what you wanted him/her to do in bed
6. Fulfilled your sexual desires
7. Cooked for you
8. Listened to the music you wanted to, but he/she didn't want to
9. Saw a movie that you wanted to see, but he/she didn't want to
10. Went somewhere with you that he/she really didn't want to go
11. Took care of you when you were sick, hurt, etc.
12. Hit you
13. Insulted you
14. Made you laugh
15. Gave in to a serious demand of yours
16. Saved you when you were in a jam
17. Gave you his/her undivided attention for a significant length of time
18. Gave you advice about a serious problem
19. Hung out with you and your friends
20. Left you to be with his/her friends
21. Left his/her friends to be with you
22. Spontaneously called, IMed or text messaged you
23. Told you he/she loved you almost everyday
24. Wrote you "Love notes"
25. Traveled long distances to see you
26. Taken you to meet his/her mother
27. Taken you to meet his/her father
28. Introduced you to his/her best-friend(s)
29. Lied to you
30. Was able to empathize with you
31. Showed you that he/she cared about you
32. Took you out to eat at a fancy restaurant
33. Spent a lot of money on you
34. Spent more than \$100 on a luxury item for you
35. Bought you a gift "just because"
36. Treated you specially when you two were alone
37. Gave you his/her sweater if you were cold
38. Tipped well at a restaurant
39. Fought to "defend your honor"
40. Protected you when you were in trouble

Appendix C

Life History Measure- Arizona Life History Battery

Please indicate how strongly you agree or disagree with the following statements. For any item that does not apply to you, please choose "0".

Mini-K

1. I can often tell how things will turn out.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Don't Know/ Not Applicable	Agree Slightly	Agree Somewhat	Agree Strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-3	-2	-1	0	1	2	3

2. I try to understand how I got into a situation to figure out how to handle it.

3. I often find the bright side to a bad situation.

4. I don't give up until I solve my problems.

5. I often make plans in advance.

6. I avoid taking risks.

7. While growing up, I had a close and warm relationship with my biological mother.

8. While growing up, I had a close and warm relationship with my biological father.

9. I have a close and warm relationship with my own children.

10. I have a close and warm relationship with my sexual partner.

11. I would rather have one than several sexual relationships.

12. I have to be closely attached to someone before I am comfortable having sex with them.

13. I am often in social contact with my blood relatives.

14. I often get emotional support and practical help from my blood relatives.

15. I often give emotional support and practical help to my blood relatives.

16. I am often in social contact with my friends.

17. I often get emotional support and practical help from my friends.

18. I often give emotional support and practical help to my friends.

19. I am closely connected to and involved in my community.

20. I am closely connected to and involved in my religion.

Appendix D

Think about a person you are currently seeing

Being as honest as possible, please rate the person you are or were seeing on the characteristics listed below. Please indicate how this person compares or compared to your peers on these characteristics, using the scale below:

-3 Extremely Low High on this characteristic on this characteristic	-2	-1	0	1	2	3 Extremely
	Don't Care/					
	Average on this characteristic					

Ambitious	-3	-2	-1	0	1	2	3
Aggressive	-3	-2	-1	0	1	2	3
Attractive face	-3	-2	-1	0	1	2	3
Desires children	-3	-2	-1	0	1	2	3
Controlling	-3	-2	-1	0	1	2	3
Shares my values	-3	-2	-1	0	1	2	3
Emotionally stable	-3	-2	-1	0	1	2	3
Enthusiastic about sex	-3	-2	-1	0	1	2	3
Faithful to partners	-3	-2	-1	0	1	2	3
Financially secure	-3	-2	-1	0	1	2	3
Jealous	-3	-2	-1	0	1	2	3
Attractive body	-3	-2	-1	0	1	2	3
Shares my interests	-3	-2	-1	0	1	2	3
Generous	-3	-2	-1	0	1	2	3
Good sense of humor	-3	-2	-1	0	1	2	3
Possessive	-3	-2	-1	0	1	2	3
Healthy	-3	-2	-1	0	1	2	3
Independent	-3	-2	-1	0	1	2	3
Intelligent	-3	-2	-1	0	1	2	3
Sociable	-3	-2	-1	0	1	2	3
Kind and understanding	-3	-2	-1	0	1	2	3
Loyal	-3	-2	-1	0	1	2	3
Manipulative	-3	-2	-1	0	1	2	3
Responsible	-3	-2	-1	0	1	2	3

Self

Think about yourself at this point in time.

Being as honest as possible, please rate yourself on the characteristics listed below. Please indicate how you compare to your peers on these characteristics, using the scale below:

-3	-2	-1	0	1	2	3
Extremely Low			Don't Care/			Extremely
High			Average on this characteristic			
on this characteristic						on this characteristic

Jealous	-3	-2	-1	0	1	2	3
Attractive face	-3	-2	-1	0	1	2	3
Responsible	-3	-2	-1	0	1	2	3
Desires children	-3	-2	-1	0	1	2	3
Controlling	-3	-2	-1	0	1	2	3
Emotionally stable	-3	-2	-1	0	1	2	3
Faithful to partners	-3	-2	-1	0	1	2	3
Aggressive	-3	-2	-1	0	1	2	3
Financially secure	-3	-2	-1	0	1	2	3
Loyal	-3	-2	-1	0	1	2	3
Generous	-3	-2	-1	0	1	2	3
Good sense of humor	-3	-2	-1	0	1	2	3
Possessive	-3	-2	-1	0	1	2	3
Healthy	-3	-2	-1	0	1	2	3
Independent	-3	-2	-1	0	1	2	3
Enthusiastic about sex	-3	-2	-1	0	1	2	3
Intelligent	-3	-2	-1	0	1	2	3
Attractive body	-3	-2	-1	0	1	2	3
Sociable	-3	-2	-1	0	1	2	3
Manipulative	-3	-2	-1	0	1	2	3
Kind and understanding	-3	-2	-1	0	1	2	3
Ambitious	-3	-2	-1	0	1	2	3

Appendix E

Narcissism scale, Hendin & Cheek, (1997)

Please rate each item according to the scale below.

1 = very uncharacteristic or untrue, strongly disagree
2 = uncharacteristic
3 = neutral
4 = characteristic
5 = very characteristic or true, strongly agree

1. I can become entirely absorbed in thinking about my personal affairs, my health, my cares or my relations to others.
2. My feelings are easily hurt by ridicule or the slighting remarks of others.
3. When I enter a room I often become self-conscious and feel that the eyes of others are upon me.
4. I dislike sharing the credit of an achievement with others.
5. I feel that I have enough on my hands without worrying about other people's troubles.
6. I feel that I am temperamentally different from most people.
7. I often interpret the remarks of others in a personal way.
8. I easily become wrapped up in my own interests and forget the existence of others.
9. I dislike being with a group unless I know that I am appreciated by at least one of those present.
10. I am secretly "put out" or annoyed when other people come to me with their troubles, asking me for my time and sympathy.

Appendix F

Disregarding social standards, please rate your mate on physical attractiveness in terms of how attractive you find him/her

1 2 3 4 5 6 7 8 9 10

Disregarding social standards, please rate yourself on physical attractiveness in terms of how attractive you find yourself to be

1 2 3 4 5 6 7 8 9 10

You and your partner are walking together when you pass a unisex beauty contest. Just for kicks, you both enter. Judges have previously given these women 10s (insert Angelina jolie, etc) and these men 10s (insert male celebrities). If these same judges were rating your mate on his/her attractiveness, how do you think they would rate him/her

1 2 3 4 5 6 7 8 9 10

These same judges are now rating you. What do you think you would rate according to their standards

1 2 3 4 5 6 7 8 9 10

Appendix G

Sex:

Sexual Orientation: (Homosexual-male, Homosexual-female, Heterosexual)

I have been dating my partner for _____years and/or _____months

What university do you currently attend? _____ Does your partner attend the same institution?

Appendix H

Mate Equity Assessment

Considering what you put into your relationship and what your partner puts into your relationship, how does your relationship stack up?

-My partner is getting a better deal than me

-

-My partner and I are getting equally good/bad deals

-

-I am getting a better deal than my partner

Appendix I

