Exceptional Intelligence and Easygoingness May Hurt Your Prospects:
Threshold Effects for Rated Mate Characteristics

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Abstract

Prospective mate characteristics such as kindness, intelligence, easygoingness, and physical attraction are ranked consistently highly by both men and women. However, rank measurement does not allow for determinations of what level of a mate characteristic is rated most desirable. Based on a more informative percentile scale measurement approach, it was reported recently that mean desirability ratings of IQ in a prospective partner peaked at the 90th percentile, with a statistically significant reduction from the 90th to the 99th percentiles. The purpose of this investigation was to replicate the recently reported nonlinear desirability effect associated with IQ, in addition to the evaluation of three other valued mate characteristics: easygoing, kindness, and physical attraction. Based on a sample of 214 young adults, it was found that all four mate characteristics peaked at the 90th percentile. However, the IQ and easygoing mean desirability ratings evidenced statistically significant mean reductions across the 90th to the 99th percentiles, whereas kindness and physical attraction did not. Finally, the objectively and subjectively assessed intelligence of the participants was not found to be associated with the participants’ desirability ratings of IQ. We interpreted the results to be consistent with a broadly conceptualised threshold hypothesis, which states that the perceived benefits of valued mate characteristics may not extend beyond a certain point. However, mate characteristics such as intelligence and easygoing become somewhat less attractive at very elevated levels, at least based on preference ratings, for reasons that may be biological and/or psycho-social in nature.

Keywords: mate preferences, intelligence, attractiveness
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Threshold Effects for Rated Mate Characteristics

Recently, Gignac, Darbyshire, and Ooi (2018) noted that much of the research in the area of attraction/desirability and prospective mate characteristics relied upon rank-based and/or conventional Likert-based measurement approaches (e.g., Partner Preference Scale, Buss & Barnes, 1986). Although much has been learned from such research, Gignac et al. (2018) contended that such measurement approaches preclude the clear evaluation of what level of any particular characteristic, including intelligence, is the most attractive. Additionally, on the basis of their review of previous research in the area, Gignac et al. (2018) noted that there was a non-negligible amount of variance associated with the desirability of IQ in a prospective partner: thus, not everyone was attracted to intelligence as a mate characteristic to the same degree. However, little research had been conducted to identify predictors of such variability.

Consequently, to overcome the previously employed ranked-based and conventional Likert-based approaches to measurement, Gignac et al. (2018) administered a newly developed percentile-based questionnaire to a sample of 383 young adults (ages = 17 to 35 years; mixture of university students and general community participants). The newly developed questionnaire was administered in two forms: sexual attraction specifically and partner preference. The two forms of the questionnaire were administered to help distinguish between IQ as a sexually attractive characteristic specifically, suggesting more clearly fundamental biological benefits, and partner interest more generally (marriage, children, etc.), suggesting more ambiguously a combination of biological and psycho-social benefits.

With respect to the sexual attraction version of the questionnaire, the participants were asked to rate on a 6-point scale the degree to which they would find sexually attractive a person who, at first sight, interested them, and who they later learned had a level of intelligence that was greater than 1%, 10%, 25%, 50%, 75%, 90% and 99% of the population. Furthermore, the participants were asked to imagine that they were single, if they were not. By comparison, the
partner interest version of the questionnaire was nearly identical to the sexual attraction specifically version of the questionnaire, except that the participants were asked to rate the degree to which they would be interested in the person as a potential romantic partner (e.g., marriage, children) on a similar 6-point scale, if they later learned that the person’s intelligence level was greater than 1%, 10%, 25%, 50%, 75%, 90% and 99% of the population.

Gignac et al. (2018) found that the patterns of means associated with the sexual interest specifically and partner interest versions of the questionnaires were distinctly nonlinear across the seven percentiles of IQ. Specifically, there was a relatively moderate increase in the desirability rating means between the 1st to 25th IQ percentiles, followed by a relatively large increase in the desirability rating means between the 25th to 75th IQ percentiles. Finally, Gignac et al. (2018) reported a relatively small increase in desirability rating means from the 75th to the 90th IQ percentiles, followed by a small, but statistically significant, decrease in desirability rating means from the 90th percentile to the 99th percentile. Thus, the results were consistent with a statistically significant cubic function: two bends in the pattern of means. Gignac et al. (2018) interpreted the results to suggest that a relatively high level of intelligence (IQ ≈ 120), rather than a very high level of intelligence (IQ ≈ 135), was considered, on average, the most desirable level of intelligence from the perspective of both sexual attraction specifically and partner interest more generally.

Gignac et al. (2018) also administered a battery of four intelligence tests to the participants to test the hypothesis that individual differences in objective intelligence correlate with individual differences in the ratings of desirability of intelligence in a prospective mate. Theoretically, a positive correlation was expected, on the basis of the attraction-similarity hypothesis (Byrne, 1971; Hoyle, 1993; Morry, 2005). Gignac et al. (2018) found that general intelligence correlated negatively ($r \approx -0.20$ to $-0.25$) with the desirability ratings at the 25th and 50th IQ percentiles. However, no statistically significant correlations were observed for the IQ higher percentiles (i.e., 90th and 99th IQ percentiles). Consequently, Gignac et al. (2018) interpreted the
results to suggest that relatively more intelligent people were relatively unattracted to average and lower IQ levels. However, there was an absence of evidence to suggest that relatively more intelligent people were relatively more attracted to higher IQ levels. Thus, the attraction-similarity hypothesis was, at best, partly supported.

**Linear Versus Threshold Hypotheses**

With respect to the desirability of IQ in a prospective mate/partner, one may distinguish between the linear IQ hypothesis and the IQ threshold hypothesis (Gignac et al., 2018). The linear IQ hypothesis represents the notion that ratings of attractiveness/desirability should increase linearly with the prospective mate/partner’s IQ, as the biological benefits associated with mating with a person may be expected to increase linearly with the IQ of the mate/partner (Miller, 2000). Notably, large sample genetics-based research suggests that intelligence is associated progressively with several beneficial biological attributes, including a greater likelihood to possess genes that predispose a person to better physical health (e.g., Hagenaars et al., 2016). On this basis, progressively higher levels of perceived intelligence in a prospective mate should be regarded as progressively more attractive from sexual selection perspective (Miller, 2000).

In contrast to the linear hypothesis, the IQ threshold hypothesis represents the notion that the benefits of intelligence cease after a certain point, implying a non-linear association between intelligence and socially valuable attributes. For example, Li, Bailey, Kenrick and Linsenmeier (2002) suggested that an average level of intelligence in a prospective partner may be sufficient for most people, as only an average level of intelligence is required to carry out day-to-day activities, successfully. Gignac et al. (2018) labelled such a position the IQ 100 threshold hypothesis. Additionally, others have contended that the benefits of intelligence cease at approximately an IQ of 120, with respect to various socially valuable characteristics such as creativity and academic achievement (e.g., Getzels & Jackson, 1962). Gignac et al. (2018) labelled such a position the IQ 120 threshold hypothesis. In addition to the linear hypothesis and
the two threshold IQ hypotheses, Gignac et al. (2018) also described the possibility of a positive exponential effect, such that the value of intelligence increases nonlinearly and positively at the upper-end of the IQ spectrum (e.g., SAT scores and income; Roberts, Smeets, Lubinski and Benbow, 2012).

As described above, the results of Gignac et al (2018) were essentially consistent with the IQ 120 threshold hypothesis, as the mean ratings of attractiveness did not continue to increase beyond the 90th percentile. Instead, the mean ratings decreased to a small degree from the 90th to the 99th IQ percentiles. Why a very high level of intelligence (99th percentile) was rated, on average, less desirable than a high level of intelligence (90th percentile) remains to be determined. Gignac et al. (2018) suggested that the effect should, first, be replicated, as nonlinear effects are often unreplicated (McClelland & Judd, 1993). Furthermore, Gignac et al. (2018) suggested that intelligence may not be unique with respect to rated attractiveness and the threshold effect. Instead, several desirable mate characteristics may exhibit a similar nonlinear trend in the means, including a reduction in desirability from the 90th to the 99th percentiles.

For example, with respect to kindness and easygoingness, much of the attractiveness research to-date has assumed that greater and greater levels of these characteristics are progressively more attractive (e.g., Jensen-Campbell, Graziano & West, 1995; Urbaniak & Kilmann, 2003). However, it is possible that very high levels of kindness and/or easygoingness in a prospective partner may not be viewed as, on average, the most desirable. Such a hypothesis is supported on the basis that very high levels of kindness and/or easygoingness may be viewed as an indication of a lack of confidence, ambition and/or dominance (Caird, 1991), all of which are detractors to attractiveness (Bryan, Webster, & Mahaffey, 2011; Feingold, 1992). Thus, as per ‘intelligent’, the consistently observed high ranking of ‘kindness’ as a mate characteristic (Buss, Shackelford, Kirkpatrick, & Larsen 2001) does not necessarily
imply that an exceptionally high level of kindness would be viewed, on average, as the most desirable in a mate.

Additionally, on the one hand, the association between physical attraction and degree of desirability in a partner may be predicted to be linear, as there is evidence to suggest that physically attractive faces and bodies are indicators of good health, fertility, and genes (Rhodes, Chan, Zebrowitz & Simmons 2003; Soler et al., 2003). Conversely, however, very high levels of physical attractiveness are associated with some socially regarded negative qualities, including an increased incidence of divorce (Ma-Kellams, Wang & Cardiel, 2017). Additionally, extreme levels of physical appeal in a prospective partner may incite feelings of insecurity and dissimilarity in others (Buss, 2003), which may be expected to reduce ratings of desirability at very elevated levels. Consequently, it was considered useful to determine whether mate characteristics other than intelligence were associated with desirability threshold effects, and possibly even desirability rating reductions from the 90th to the 99th percentiles.

**Predictors of IQ Desirability Ratings: Objective and Subjective Intelligence**

Although a substantial amount of research has established intelligence as a relatively highly ranked/rated characteristic in a mate, there are non-negligible individual differences in the rated value of intelligence. For example, the results reported by Regan (1998) suggest that around 2.5% of her sample rated minimally acceptable IQ expectations in partner as low as the 10th percentile. Finally, based on the Intelligence Percentile Attraction/Interest Scale employed by Gignac et al. (2018), the standard deviation associated with the 90th IQ percentile was reported at 1.06 (coefficient of variation = .23).

Predictors of individual differences in the rated desirability of intelligence in a partner remains a relatively unexamined question. An obvious possibility is that the level of intelligence of a person influences the level of intelligence they desire in a prospective mate/partner. Such a position is aligned with the attraction-similarity hypothesis (Byrne, 1971; Hoyle, 1993; Morry, 2005), which states that people are attracted to each other, at least in part, to the degree that
they are similar. Correspondingly, a positive correlation has been reported between the intelligence scores of spouses measured objectively with IQ tests (r = .30 to .40; Van Leeuwen, Van Den Berg, & Boomsma, 2008; Watson et al., 2004). Furthermore, there is evidence to suggest that the similarity in partners’ IQ scores occurs at selection, rather than evolves over the course of the relationship (Mascie-Taylor, 1989). The phenomenon is known as assortative mating for intelligence (Jensen, 1967). The small correlations reported by Gignac et al. (2018) between objectively measured IQ and ratings of IQ desirability lends some support to the assortative-mating for IQ phenomenon. However, as reviewed above, the correlations were not sufficiently consistent to be considered compelling evidence.

Although there is ample theoretical and empirical evidence to support the notion that actual similarity may influence rated attraction (Clore & Byrne, 1974; Montaya, Horton, & Kirchner, 2008), it has been suggested that the similarity-attraction association may occur, at least in part, due to perceived similarity, rather than actual similarity, especially at the beginning of an acquaintanceship (Berg & Clark, 1986; Sunnafrank & Ramirez, 2004; Condon & Crano, 1988). Furthermore, there is empirical evidence to support the notion that perceived similarity plays a broad role in attraction to prospective mates/partners. For example, Montoya et al. (2008) reported a meta-analytic correlation of .49 between perceived similarity (between newly acquainted strangers) and degree of attraction (Montoya et al., 2008). However, little research has focussed on the dimension of perceived similarity of IQ and rated attraction.

Importantly, self-assessed intelligence and objectively assessed intelligence share only approximately 10% of their variance (Freund & Kasten, 2012; Gignac, Stough & Loukomitis, 2004; Zajenkowski, Stolarski, Maciantowicz, Malesza & Witowska, 2016). Furthermore, self-assessed intelligence may be considered more akin to a personality dimension, rather than a proxy for task-based IQ scores (Chamorro-Premuzic & Furnham, 2004). Consequently, given the distinction between objectively measured intelligence and subjectively measured intelligence, it may be the self-reported subjective impressions of a person’s own IQ and the
same person’s impressions of a prospective partner’s IQ that helps determine, in part, the
degree to which that person is attracted to a prospective partner (Byrne, 1971; Montoya et al.,
2008). In summary, given the perceived similarity and attraction hypothesis, the theoretical and
empirical distinction between self-assessed intelligence and task-based intelligence, and the
relatively weak and inconsistent correlations reported by Gignac et al. (2018) with objectively
measured intelligence, self-assessed intelligence may be a more substantial and consistent
predictor of individual differences in desirability IQ ratings for a prospective partner.

In perhaps the only relevant investigation, to-date, Tidwell, Eastwick, and Finkel (2013)
recruited volunteers to engage in a series of opposite sex speed dates. The volunteers
completed an intake questionnaire that consisted of 14 self-rated mate characteristics, one of
which was ‘smart’. The difference in ratings between the respective daters’ responses to the
‘smart’ item may be considered a measure of perceived intelligence similarity. Based on a
multiple regression analysis, Tidwell et al. (2013) failed to find a statistically significant unique
effect between perceived intelligence similarity (no previous interaction) and romantic liking of
the other person (β = -.02). Arguably, a limitation associated with Tidwell et al. (2013) is that
perceived intelligence was measured with a single-item. Additionally, the regression analysis
was based on scores derived from each person’s subjective ratings of their own intelligence,
which would have involved two sources of measurement invalidity. A more rigorous approach
would exclude one source of possible measurement invalidity, by not relying upon subjective
impressions for both people. Consequently, it was considered useful to test the perceived
similarity-attraction hypothesis with self-reported intelligence scores from a multi-item inventory
and degree of rated attraction to a prospective partner, based on the prospective partner’s
specified IQ (i.e., no second source of measurement invalidity).

Summary & Purpose

Gignac et al. (2018) found that the association between rated attraction and IQ
percentile levels of a prospective partner was distinctly nonlinear, with a sharp statistically
significant increase in rated attraction from the 25th to the 75th percentiles and a small, but statistically significant, reduction in rated attraction from the 90th to the 99th percentiles. However, it remains to be determined whether other desirable traits (e.g., kindness, easygoing, physically attractive) evidence similar threshold effects. Furthermore, Gignac et al. (2018) found only modest and inconsistent associations between objective intelligence and rated attraction to a prospective partner across various IQ percentiles. Based on the perceived attraction-similarity hypothesis, it was considered plausible that perceived intelligence (i.e., self-reported intelligence) may be a more substantial predictor of rated attraction to IQ in a prospective partner. Consequently, the purpose of this investigation was to have participants rate along a percentile continuum four typically considered desirable attributes: intelligence, kindness, easygoing, and physically attractive. Additionally, intelligence was measured objectively and subjectively to compare them as predictors of rated attraction to IQ. Although Gignac et al. (2018) did not find any gender differences, we also explored the possibility that gender may evidence main and/or interaction effects.

Method

Sample

The original sample consisted of 220 participants. However, because six of the participants reported their ages as above 35 years, we omitted them to help ensure comparability with Gignac et al. (2018). Consequently, the final sample consisted of 214 first year psychology students recruited through a large Australian university’s online research participation system (70.6% female, $M_{age} = 19.32$ years, $SD = 2.87$). Partial course credit was granted in exchange for participation. All participants spoke English as their first language. Information on ethnicity was not obtained, however, the University is populated by a primarily white, European student body. Written consent was provided prior to participation, in accordance with ethics approval granted by the university’s research ethics committee.
Measures

**Partner Preference Scale.** To compare our results with previous studies, the Partner Preference Scale was administered (Buss & Barnes, 1986). The ranking scale consists of 13 partner characteristics: kind and understanding, religious, exciting personality, creative and artistic, good housekeeper, intelligent, good earning capacity, wants children, easy going, good heredity, college graduate, physically attractive, healthy.

**Percentile Attraction/Interest Scales.** Scales designed to assess the degree to which a person finds desirable various characteristics in a potential mate along a percentage continuum (1%, 10%, 25%, 50%, 75%, 90%, and 99%; see Supplementary Materials, Appendix A). The scales exist in two forms: one form is relevant to sexual attraction specifically, and the other form is relevant to a potential romantic partnership (marriage, children). The sexual attraction specifically form poses the following question: “How sexually attracted to the person would you be, if you later learned that their [trait] level was such that they were…” The partner interest form poses the following question: “How interested would you be in the person as a potential partner (e.g., marriage, children), if you later learned that their [trait] level was such that they were…” For the sexual attraction form, the 6-point response scale was: extremely unattracted = 1; very unattracted = 2; unattracted = 3; attracted = 4; very attracted = 5; and extremely attracted = 6. Finally, for the partner interest form, the six-point response scale was: extremely uninterested = 1; very uninterested = 2; uninterested = 3; interested = 4; very interested = 5; and extremely interested = 6. The two forms were administered across four mate characteristics: intelligence, kindness, physical attractiveness, and easygoing (in that order; not counter-balanced). To reduce the possibility of the participants making trade-offs across the mate characteristics, all eight of the percentile attraction items were presented individually, without any possibility of returning to a previous response. Additionally, the participants were not informed about how many mate characteristics they were going to rate.
**Intelligence.** Task-based assessed intelligence (TBAI) was measured with four cognitive abilities tests. Fluid intelligence was measured with the Advanced Progressive Matrices (Raven, 1966). The APM consists of 36 items, however, due to time constraints, only the odd-numbered items were administered in this investigation. Working memory capacity was measured with a slightly adapted version of the Letter-Number Sequence subtest from the WAIS-IV (Wechsler, 2008). Processing speed was measured with all four forms of the Connections test (Salthouse et al., 2000). Speed component scores were generated from a principal components analysis of the four Connections tests (i.e., speed component). Crystallised intelligence was measured with the Advanced Vocabulary Test (Gignac, Shankaralingam, Walker, Kilpatrick, 2016). The AVT consists of 21 multiple-choice items with five response alternatives (see supplementary Materials, Appendix B). In this sample, the descriptive statistics and internal consistency reliabilities (coefficient alpha) were as follows: APM $\alpha = .66$ ($M = 10.23$; $SD = 2.87$); Letter-Number Sequencing $\alpha = .79$ ($M = 9.54$; $SD = 2.68$) Connections $\alpha = .71$ ($M = 96.85$; $SD = 19.15$); and AVT $\alpha = .59$ ($M = 10.41$; $SD = 3.24$).

**Self-Assessed Intelligence** (SAI) was measured with the Self-Report Intelligence Questionnaire (SRIQ; Gignac, Stough, & Loukomitis, 2004). The SRIQ is a 9-item questionnaire (5-point Likert scale; strongly disagree to strongly agree). Three of the items are keyed negatively. Each item is roughly representative of one of the subtests within the Wechsler Adult Intelligence Scales (e.g., ‘I know a lot of worldly facts’; ‘I am poor at solving logical problems’). The ninth item is a general indicator (‘I am intelligent’). Internal consistency reliability was estimated at .72.

**Procedure**

The testing battery was administered as a part of a multi-portion study relevant to intelligence and test-taking motivation ($\approx 50$ minutes). After providing informed consent, and completing demographic questions, the participants completed the self-report measures on a computer (online Qualtrics) in a testing laboratory. Next, they completed the cognitive ability
tests in the following order: Advanced Vocabulary Test, Advanced Progressive Matrices, Letter-Number Sequencing (L-NS), and Connections. The AVT and APM were administered on a computer (Qualtrics) in a testing laboratory. The L-NS and Connections tests were administered face-to-face by an experimenter who was in the testing room continuously.

**Results**

All analyses were conducted with IBM SPSS Statistics (version 25). No outliers were identified based on the outlier inter-quartile range rule with a 3.0 multiplier (Hoaglin & Iglewicz, 1987). Furthermore, the data were considered sufficiently normally distributed (skew < 2.0) for the purposes of parametric analyses (Bishara & Hittner, 2012).

**Ranked Mate Characteristics**

As can be seen in Figure 1, kindness ($M = 1.80; SD = 1.32$) was the most highly ranked mate characteristic, based on Partner Preference Scale. The exciting personality ($M = 3.43; SD = 2.21$) and intelligent ($M = 3.88; SD = 1.82$) mate characteristics were the second and third most highly ranked characteristics. Furthermore, based on the Games-Howell single-step multiple comparison procedure (bootstrapped 1000 re-samples), their means were statistically significant different from each other, $\Delta M_{\text{rank}} = -0.45$, 95%CI: -0.84/-0.10. Next, easygoing ($M = 5.25; SD = 2.62$), healthy ($M = 5.40; SD = 2.33$) and physically attractive ($M = 5.57; SD = 2.70$) were the next highest ranked mate characteristics and were not statistically significantly different from each other (e.g., easy going vs. physically attractive, $\Delta M_{\text{rank}} = -0.32$, 95%CI: -0.81/0.26). Finally, the Pearson correlation between the mean mate characteristic ranks obtained in this investigation and those reported in Buss and Barnes (1986) was estimated at $r = .98$, which lends support to the validity of the data.

**Percentile Rated Mate Characteristics**

As can be seen in Table 1, none of the attraction type main effects (i.e., sexual attraction specifically versus partner interest) were significant statistically for any of the four Likert-
percentile rated characteristics. Thus, the analyses failed to uncover main effects due to attraction type (sexual attraction specifically versus partner interest), as per Gignac et al. (2018).

By contrast, based on a series of repeated measures contrast analyses (a.k.a., trend analyses; Lomax & Hahs-Vaughn, 2012), all four mate characteristics were associated with statistically significant one-way within-subjects cubic effects (see Table 1), which implied two bends in the pattern of means. The first bend in the IQ mate characteristic means was consistent with a nonlinear increase in rated desirability for IQ from the 1st to the 50th percentile (see Figure 2, Panel A). By contrast, the second bend was consistent with an inverted U-shaped effect from the 50th to the 99th percentile. Furthermore, a statistically significant decrease in mean rated desirability for IQ was observed across the 90th and 99th percentiles for the sexual attraction specifically (Hedge’s $g = .19$, $p < .001$) and partner desirability conditions (Hedge’s $g = .12$, $p = .010$). Although a statistically significant reduction was observed at the group-level, it should be acknowledged that the effect size was small in magnitude and that the majority of the participants rated the 90th and 99th percentiles as equally sexually attractive specifically and desirable in a partner (59.8% and 62.1%, respectively). Overall, the results were essentially consistent with the threshold IQ 120 hypothesis, with a slight reduction in desirability from the 90th to the 99th IQ percentiles (see supplementary Table S1 for the means and SDs; see supplementary Table S2 for full $t$-test results).

The easygoing mate characteristic evidenced a pattern of means similar to intelligence (see Figure 2, Panel B). Furthermore, a statistically significant decrease in mean rated desirability for the easygoing characteristic was observed across the 90th and 99th percentiles for the sexual attraction specifically (Hedge’s $g = .13$, $p < .001$) and the partner desirability conditions (Hedge’s $g = .15$, $p < .001$; see supplementary Tables S1 and S2 for full results). Again, as per IQ, although it may be suggested that there was a statistically significant reduction at the group-level, it should be acknowledged that the majority of the participants rated the 90th
and 99th easygoing percentiles as equally attractive across both sexually attractive specifically and partner conditions (72.9% and 69.6%, respectively).

In contrast to the intelligence and easygoing mate characteristics, the kind and physically attractive mate characteristics did not evidence a statistically significant decrease in rated desirability from the 90th to the 99th percentiles (see Figure 2, Panels C and D; see also supplementary Tables S1 and S2). Instead, the most substantial mean level of desirability was achieved by the 90th percentile and remained essentially the same at the 99th percentile.

Finally, as can be seen in Figure 2 (Panels B, C, and D), the easygoing, kindness, and physical attractiveness characteristics exhibited very similar patterns of desirability means across the percentiles for both attraction types (sexual attraction specifically and partner interest), which was consistent with the non-significant and/or small interaction partial eta squared estimates (see Table 1). By contrast, there was some meaningful degree of percentile by attraction type interaction associated with the intelligence characteristic (partial $\eta^2 = .162, p < .001$). The nature of the interaction was disordinal (see Figure 2, Panel A). Specifically, higher desirability means were observed for the sexual attraction specifically condition, in comparison to the partner condition, at lower levels of IQ; an effect that was reversed at elevated levels of IQ.

**Gender Effects**

Across all four characteristics, the gender main effect was not found to be significant statistically (see Table 1). Thus, collapsed across all seven percentile conditions and attraction conditions (specifically sexual and partner interest), no difference in the main effect male and female rated desirability means was found. However, it would be misleading to suggest that males and females responded to the ratings in an entirely similar manner, as there were two two-way interactions that were significant statistically. Specifically, as can be seen in Table 1, there was a significant interaction between gender and percentile for the rated intelligence characteristic (partial $\eta^2 = .027, p = .005$) and the rated kindness characteristic (partial $\eta^2 = .023,$
As can be seen in Figure 3 (Panels A and C), the magnitude of the increasing shift in desirability for intelligence and kindness was larger for females than for males, from lower to higher rated IQ/kindness percentiles. Statistically significant two-way interaction effects were not observed for the easygoing and physically attractive characteristics. Finally, in light of the sample size, three-way interactions were not considered interpretable and were, therefore, not reported in this investigation.

**Latent Variable Modeling**

First, we factor analysed (principal axis factoring; promax rotation) the Percentile Attraction Scale items to determine whether the seven items (sexual attraction specifically) for each of the four mate characteristics were associated with one or more dimensions. Across all four mate characteristics, the four factor analyses revealed two sexual attraction factors: low percentiles (1st, 10th, and 25th) and high percentiles (75th, 90th, and 99th). Because the 25th and 90th sexual attraction percentile items loaded .90+ on the respective low IQ and high IQ sexual attraction factors, they were used as the dependent variables in the modeling. The 50th percentile item cross-loaded onto the low IQ and high IQ percentile factors (see supplementary Tables S3 and S4). Furthermore, an additional factor analysis of the four 50th percentile sexual attraction items (intelligent, easygoing, kind, and physically attractive) yielded a single-factor (see Table S5), which we interpreted as a general sexual attraction/interest method factor. Stated alternatively, the 50th percentile item factor captured individual differences in how highly people rated sexual attraction across all four mate characteristics.

All latent variable modeling was conducted with Amos (version 24). In order to represent self-assessed intelligence (SAI) as a latent variable, we created three item parcels out of the nine SRIQ items (parcel 1: sum of items 1, 2, 3; parcel 2: sum of items 4, 5, 6; parcel 3: sum of items 7, 8, and 9). Additionally, in order to represent task-based assessed intelligence (TBAI), a latent variable defined by the four intelligence tests was specified. It was hypothesized that SAI and/or TBAI would relate negatively to the 25th percentile sexual attraction item and positively
with the 90\textsuperscript{th} percentile sexual attraction item, controlling for the effects of the 50\textsuperscript{th} percentile sexual attraction method factor.

The model depicted in Figure 4 was associated with acceptable levels of model close-fit, $\chi^2(59) = 85.26, p = .014$, SRMR = .058, RMSEA = .046, CFI = .950, TLI = .934. Furthermore, SAI and TBAI inter-correlated positively, $r = .26$, $p = .017$, 95\%CI: .09/.41, although only 6.8\% of the variance was shared, as expected. No other hypothesized effects were significant statistically, however. Specifically, neither SAI nor TBAI were found to relate to either low IQ (SAI: $\beta = .00$, $p = .956$, 95\%CI: -.11/.13; TBAI: $\beta = -.05$, $p = .522$, 95\%CI: -.20/.11) or high IQ sexual attraction ratings (SAI: $\beta = .07$, $p = .398$, 95\%CI: -.09/.23; TBAI: $\beta = -.01$, $p = .921$, 95\%CI: -.21/.18). The null/alternative Bayes factor was estimated at 105.36 for the .00 beta weights reported in Figure 4.\textsuperscript{1} Thus, the null model was approximately 100 times more likely than the alternative model with an effect between SAI and rated desirability of IQ in a prospective partner. Very similar results were obtained for the IQ partner interest ratings (see supplementary Figure S2). Although the structural coefficients depicted in Figure 4 are unique effects, it should be noted that none of the zero-order correlations between the SAI or TBAI latent variables and the 25\textsuperscript{th} and 90\textsuperscript{th} IQ percentile sexual attraction ratings, or any other IQ percentile ratings (e.g., partner interest), were significant (see Supplementary Table S6).

\textbf{Discussion}

\textbf{Percentile Levels}

The pattern of means associated with the desirability of IQ levels across the sexual attraction specifically and prospective partner conditions replicated closely the results reported by Gignac et al. (2018). In particular, when measured along a percentile continuum, the 90\textsuperscript{th} percentile was rated, on average, the most desirable (especially for females). Thus, although

\textsuperscript{1} The Bayes Factor Package within \textit{R} (version 0.9.8; Morey & Rouder, 2015) with Jeffrey-Zellner-Siow mixture of g-priors was used (Liang, Paulo, Molina, Clyde, & Berger, 2008).
‘intelligent’ has been found to be the second or third most highly ranked characteristic in a partner (Buss et al., 1990; Buss et al., 2001; Goodwin & Tinker, 2002; Perilloux, Fleischman, & Buss, 2011), investigations based on ranks have failed to suggest that a very high level of intelligence (99th percentile; IQ ≈ 135) is, on average, regarded as somewhat less attractive than a high (90th percentile; IQ ≈ 120) level of intelligence.

Theoretically, the nonlinear effects may be regarded as more consistent with the threshold hypothesis (Getzels & Jackson, 1962; Torrance, 1962), rather than the linear (biological fitness) hypothesis (Miller, 2000; Prokosch, Yeo, & Miller, 2005). Thus, at least superficially, the view that intelligence should be regarded as a behavioral indicator of good genes (linear hypothesis) does not appear to extend to the very high range of IQ.

Correspondingly, we note that a recent investigation found a nonlinear relationship between objective IQ in managers and the perceived leadership capacity of those managers (by their subordinates/peers), such that, beyond an IQ of 120, perceived leadership capacity decreased steadily (Antonakis, House, Simonton, & Robert, 2017).

As per Gignac et al. (2018), it remains to be determined why, at the group level, people view an IQ level at the 99th percentile as less attractive than the 90th percentile. It may be speculated that the typical person believes that very elevated levels of IQ are associated with negative characteristics (e.g., social competence difficulties; Neihart, 1999). Recently, based on an unrepresentative, self-selected sample, Mensa members were shown to be several times more likely to be diagnosed with a variety of disorders (e.g., obsessive compulsive disorder, Asperger’s, asthma; Karpinski, Kolb, Tetreault & Borowski, 2017). By contrast, studies with more representative samples have tended to find very intellectually abled people to be well-adjusted and healthy (Bergold, Wirthwein, Rost, & Steinmayr, 2015; Zeidner & Shani-Zinovich, 2011). If elevated IQ levels are, in fact, associated with negative biological and/or psycho-social characteristics, then it is possible that, as a group, the participants in this investigation were influenced by such considerations. Alternatively, the participants may have appealed to
stereotypes relevant to those with very elevated levels of intelligence (Baudson & Preckel, 2013; Preckel, Baudson, Krolak-Schwerdt & Glock, 2015).

The easygoing prospective mate characteristic also evidenced a statistically significant reduction in mean desirability from the 90th to the 99th percentiles. Although the effect was not large in effect size terms ($d \approx .15$), some people appear to entertain one or more slightly negative attitudes toward very elevated levels of easygoingness. It remains to be determined what those attitudes are. Some research suggests that the negative attitudes may be related to perceptions of a lack of confidence, ambition and/or dominance (Caird, 1991). Further research based on asking participants why they provided lower ratings to the 99th percentile (if they did so) is encouraged.

In contrast to IQ and easygoingness, kindness and physical attraction did not evidence a reduction in mean rated desirability from the 90th to the 99th percentiles. However, it must be acknowledged that these two typically valued mate characteristics were also consistent with a threshold hypothesis (Getzels & Jackson, 1962), rather than a linear hypothesis. That is, there were no statistically significant increases in mean desirability across the 90th and 99th percentiles. Instead, a high level (90th percentile) of kindness and physical attraction was rated essentially as desirable as the 99th percentile. Until recently, the IQ threshold hypothesis had been discussed almost exclusively in the context of predicting creativity and academic achievement (Getzels & Jackson, 1962; Torrance, 1962; Muller et al., 2005). Interestingly, the balance of the empirical evidence suggests that the IQ 120 (90th percentile) threshold hypothesis is not supported in those areas (Kuncel & Hezlett, 2010; Wai, Lubinski, & Benbow, 2005). By contrast, in the context of rated sexual appeal, rated partner desirability, and rated leadership capacity, the 90th percentile threshold hypothesis appears to be supported. Other researchers have speculated upon rated desirability threshold effects between attraction and intelligence (Li, Bailey, Kenrick, & Linsenmeier, 2002; Lee, Dubbs, Von Hippel, Brooks, & Zietsch, 2014). Thus, continued consideration for nonlinear threshold effects is encouraged in
future research to help understand more insightfully the precise nature and meaning of elevated desirability ratings commonly observed in the mate selection literature.

**Attraction Type**

Two types of attraction were evaluated in this investigation: sexual attraction specifically and partner interest more generally. Closely consistent with Gignac et al. (2018), a statistically significant interaction was observed across the 25\textsuperscript{th} to 90\textsuperscript{th} IQ percentiles across the sexual attraction specifically and partner interest conditions. In simple terms, the statistically significant interaction depicted in Figure 2 (panel A) suggests that progressively higher levels of IQ were rated progressively (albeit slightly) more favourably for a partner in a high-investment relationship context, in comparison to evaluations restricted to sexual attraction. Thus, these results are consistent with the previous investigations that have found males and females to require progressively higher levels of intelligence (and other valued characteristics) across increasingly greater relationship investments (from one date to marriage; Kenrick, Groth, Trost & Sadalla, 1993; Regan, 1998).

In absolute terms, however, it should be acknowledged that the differences across the two attraction type conditions were remarkably small for the IQ percentile ratings, and virtually non-existent for the other three mate characteristics (as depicted in Figure 2). A similar pattern of results was reported in Gignac et al. (2018). On the one hand, it may be suggested that the participants viewed all four mate characteristics at the 90\textsuperscript{th} percentile as sexually attractive, as all of the sexually attracted specifically condition means were 4.3 and above (between ‘attracted’ and ‘very attracted’). However, it also possible that the typical person was not necessarily thinking purely in sexual terms, despite the clear specification to do so. Unfortunately, we may need to consider that responders to survey type items “are not literalists” (McCrae & Costa, 2003, p. 45). Further research to determine whether participants truly view intelligence, or any other characteristic, as sexually attractive (i.e., sexually arousing) may need to be conducted. Of some relevance, Gignac et al. (2018) administered a nine-item self-report
sapiosexuality questionnaire (e.g., ‘Listening to someone speak very intelligently arouses me sexually.’) to a mixture of two samples of relatively young adults (university students and general community members less than 40 years old) and found that only between 1% and 8% of people reported elevated levels of intelligence in another person to be sexually arousing.

**Effects of Gender**

The only notable effects due to gender were the small interactions with relationship type across the IQ and kindness mate characteristics. Given the nature of the percentile scales, however, the interactions in this case simply imply that females value IQ and kindness in a prospective partner somewhat more than males. That is, at relatively low levels of IQ and kindness, females rate the desirability of the prospective partner lower than males, and at relatively high levels of IQ and kindness, the females rate the desirability of the prospective partner higher than males. Gignac et al. (2018) failed to identify any statistically significant gender effects, based on a sample which included a mixture of university students and members of the broader community. Notwithstanding the possibility that small gender differences may have large consequences (Buss, 2013), the results of this investigation, in combination with those of Gignac et al. (2018), may be considered at odds with the parental investment theory of sexual selection (Trivers, 1972) and the modified parental investment theory of sexual selection (Kenrick et al., 1990). Instead, the results of this investigation suggest that males and females are essentially similar with respect to their ratings of desirability for a prospective mate, at least with respect to intelligence, physical attraction, easygoingness and kindness. In contrast to the parental investment theory, it may be suggested that the results of this investigation are consistent with the mutual mate choice (MMC) model of mate selection, which posits that both males and females participate substantively in the mate sexual selection process, rather than the males-compete/females-choose (MCFC) model of sexual selection (see Stewart-Williams & Thomas, 2013). It should be emphasized, however, that this
investigation only measured ratings of desirability, rather than actual decisions to engage in a relationship with another person.

**Objective and Subjective Intelligence**

This investigation failed to observe any statistically significant effects between TBAI and desirability ratings of IQ in a prospective partner, essentially consistent with Gignac et al. (2018). Thus, the results failed to support the similarity-attraction hypothesis (Clore & Byrne, 1974). The results also failed to support the perceived similarity-attraction hypothesis (Berg & Clark, 1986), as the association between SAI and desirability ratings of IQ in a prospective partner was not found to be significant. Although the results of this investigation are at odds with the meta-analytically estimated correlation of .49 between perceived similarity (no previous interaction) and inter-personal attraction (Montoya et al., 2008), we note that the majority of the studies conducted, to-date, pertain to attitudes/values, not intelligence. Although further research is encouraged, the absence of effect between objective/subjective intelligence and ratings of attractiveness of various levels of IQ may question a simple account for how the assortative mating for IQ arises.

For example, people are more likely to mate/partner with people in relatively close proximity to themselves (residential propinquity; Katz & Hill, 1958; Haandrikman, van Wissen & Harmsen, 2011). Correspondingly, young adults can be expected to meet prospective mates/partners in college/university (Ganguli, Hausmann & Viarengo, 2014), which is populated by people with relatively higher IQs. Thus, akin to the third variable problem, assortative mating for education may account, wholly or in part, for the moderate positive correlation between the IQ scores of spouses (Vandenberg, 1972). Thus, in practice, assortative mating for IQ may arise for reasons not directly related to how intelligent people are or consider themselves to be.

**Limitations**

Although the sample size used in this investigation was reasonably large (power = .84 to detect \( r = .20 \) effect size as significant statistically), it was composed entirely of first year
undergraduate students enrolled in a first-year psychology unit. Such sample homogeneity likely restricted the objectively measured intelligence variance to some degree, which would have reduced the chances of detecting statistically significant effects for the self-reported IQ and objectively measured IQ variables. Although we acknowledge this limitation, we note the key effects reported in Figure 4 were estimated at .00; thus, it is unlikely that the availability of the full range of IQ scores would have altered the results in any meaningful way. However, it is possible that the association between rater objective intelligence and ratings of desirability of IQ is larger in the portion of the population with an objectively measured IQ between 70 and 90 (i.e., nonlinear). Further research with people at the low to very low end of the IQ distribution (IQ < 85) is encouraged.

Additionally, it should also be noted that some ceiling effects were observed for the kindness mate characteristic. Specifically, with respect to the 90th and 99th percentiles, the rated means (partner interest) were 5.01 and 5.13, respectively (theoretical maximum = 6.0). Thus, it is possible that a more extensive and refined Likert scale (e.g., 10 point scale) may facilitate the observation of statistically significant increases in mean rated desirability for the kindness mate characteristic.

Finally, it should be acknowledged that a typical person may not be able to appreciate the distinction between levels of intelligence that are greater than 90% versus 99% of the population. Furthermore, some participants may not have had many occasions to interact meaningfully with people with very elevated levels of intelligence (or physical attraction). We also acknowledge that the ratings of preferences may have been influenced, to some degree, by socially desirable responding (e.g., impression management and/or self-deceptive enhancement; Paulhus, 2002), which may have affected the validity of the responses. Thus, the results of this investigation should be interpreted cautiously, as there was likely some degree of disconnection between what raters may have been thinking and what was implied by their
responses to the questionnaire. All things considered, the results should be regarded as a relatively preliminary.

**Conclusion**

Many mate characteristics have been established to be valued highly in a prospective partner. However, based on more continuous measurement, it is becoming increasingly established that several mate characteristics are associated with a threshold effect. However, individual difference predictors of rated preferences in a prospective mate remain largely unknown.
References


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### Table 1

**Main and Interaction Effects Associated with the Mixed-Design Factorial ANOVAs**

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<thead>
<tr>
<th></th>
<th>Intelligence</th>
<th>Agreeable</th>
<th>Kindness</th>
<th>Physical</th>
</tr>
</thead>
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<tr>
<td></td>
<td>$F$  $p$</td>
<td>$\eta^2$</td>
<td>$F$  $p$</td>
<td>$\eta^2$</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentile</td>
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<td>&lt;.001</td>
<td>.411</td>
<td>135.41</td>
</tr>
<tr>
<td>Attraction Type</td>
<td>3.28</td>
<td>.071</td>
<td>.015</td>
<td>0.16</td>
</tr>
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<td>Gender</td>
<td>0.09</td>
<td>.764</td>
<td>.000</td>
<td>0.27</td>
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<tr>
<td><strong>Interaction Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentile*Attraction Type</td>
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<td>&lt;.001</td>
<td>.162</td>
<td>7.09</td>
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<tr>
<td>Percentile*Gender</td>
<td>5.83</td>
<td>.005</td>
<td>.027</td>
<td>1.70</td>
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<tr>
<td>Attraction Type*Gender</td>
<td>2.10</td>
<td>.149</td>
<td>.010</td>
<td>0.99</td>
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<tr>
<td><strong>Cubic Effects</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentile – Sexual</td>
<td>66.52</td>
<td>&lt;.001</td>
<td>.238</td>
<td>90.07</td>
</tr>
<tr>
<td>Percentile – Partner</td>
<td>132.17</td>
<td>&lt;.001</td>
<td>.383</td>
<td>120.22</td>
</tr>
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</table>

*Notes. N = 214; for analyses with more than two levels, the df have been Huynh-Feldt adjusted; $\eta^2$ = partial eta-squared.*
Table 2

*Correlations between Intelligence Latent Variables (SAI and TBAI) and Percentile Attraction/Interest Scale Items – Intelligent*

<table>
<thead>
<tr>
<th>IQ Percentile</th>
<th>Sexual Attraction</th>
<th>Partner Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>1</td>
<td>2.60</td>
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<td>10</td>
<td>2.90</td>
<td>1.15</td>
</tr>
<tr>
<td>25</td>
<td>3.31</td>
<td>.96</td>
</tr>
<tr>
<td>50</td>
<td>3.85</td>
<td>.75</td>
</tr>
<tr>
<td>75</td>
<td>4.26</td>
<td>.77</td>
</tr>
<tr>
<td>90</td>
<td>4.44</td>
<td>1.01</td>
</tr>
<tr>
<td>99</td>
<td>4.22</td>
<td>1.25</td>
</tr>
</tbody>
</table>

*Note. N = 214; TBAI = Task-Based Assessed Intelligence (latent variable); SAI = Self-Assessed Intelligence (latent variable); all correlations non-significant statistically (p > .05).*
Figure 1. Mean ranks (■) and 95% confidence intervals (whiskers) associated with the 13 mate characteristics (N = 214).
Figure 2. Plot of means depicting the two-way interactions between percentile level and attraction type across four rated traits: IQ, Easygoing, Kindness and Physical; error bars represent 95% confidence intervals.
Figure 3. Plot of means depicting the two-way interactions between rated desirability means (sexual attraction specifically and partner attraction combined) percentile level and gender: IQ, Easygoing, Kindness and Physical; error bars represent 95% confidence intervals.
Figure 4. Latent variable model depicting the unique effects of SAI and TBAI as predictors of sexual attraction to the IQ 25th (low) and IQ 90th (high) percentiles (all coefficients are completely standardized); SAI = Self-Assessed Intelligence; TBAI = Task-Based Assessed Intelligence; SAIp1 = item parcel 1 (sum of SRIQ items 1, 2, and 3); Speed = Connections Test; LNS = Letter-Number Sequencing; APM = Advanced Progressive Matrices; AVT = Advanced Vocabulary Test; General Attraction = general sexual attraction method variance factor; all coefficients greater than |.15| were significant statistically ($p < .05$).
Exceptional Intelligence and Easygoingness May Hurt Your Prospects:
Threshold Effects for Rated Mate Characteristics

Supplementary Results

Table S1

Descriptive Statistics Associated with the Four Mate Characteristics Across Both Attraction Type Conditions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
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<td>2.60</td>
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<td>2.71</td>
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<td>2.22</td>
<td>2.06</td>
<td>2.62</td>
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<tr>
<td></td>
<td>(1.26)</td>
<td>(1.38)</td>
<td>(1.32)</td>
<td>(1.24)</td>
<td>(1.27)</td>
<td>(1.40)</td>
<td>(1.23)</td>
<td>(1.25)</td>
</tr>
<tr>
<td>10</td>
<td>2.90</td>
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<td>2.98</td>
<td>2.68</td>
<td>2.50</td>
<td>2.31</td>
<td>2.85</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>(1.15)</td>
<td>(1.38)</td>
<td>(1.21)</td>
<td>(1.20)</td>
<td>(1.25)</td>
<td>(1.36)</td>
<td>(1.16)</td>
<td>(1.25)</td>
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<tr>
<td>25</td>
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<td>2.86</td>
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<td>3.01</td>
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<tr>
<td></td>
<td>(0.96)</td>
<td>(1.25)</td>
<td>(1.03)</td>
<td>(1.08)</td>
<td>(1.22)</td>
<td>(1.27)</td>
<td>(1.03)</td>
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<td>50</td>
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<td>3.68</td>
<td>3.93</td>
<td>3.81</td>
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<tr>
<td></td>
<td>(0.75)</td>
<td>(1.08)</td>
<td>(0.79)</td>
<td>(0.88)</td>
<td>(1.06)</td>
<td>(1.09)</td>
<td>(0.86)</td>
<td>(0.94)</td>
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<tr>
<td>75</td>
<td>4.26</td>
<td>4.50</td>
<td>4.51</td>
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<td>4.49</td>
<td>4.58</td>
<td>4.48</td>
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<td></td>
<td>(0.77)</td>
<td>(0.95)</td>
<td>(0.83)</td>
<td>(0.85)</td>
<td>(0.82)</td>
<td>(0.90)</td>
<td>(0.89)</td>
<td>(0.85)</td>
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<td>5.13</td>
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<td>4.22</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(1.26)</td>
<td>(1.32)</td>
<td>(1.36)</td>
<td>(1.29)</td>
<td>(1.25)</td>
<td>(1.18)</td>
<td>(1.39)</td>
</tr>
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Note. N = 214; IQ = Intelligence; Kind. = Kindness; Easy = Easygoing; Phys. = Physical Attraction.
Table S2

*Key Mean Comparisons Relevant to the Threshold Hypothesis: Hedge’s g (p-Value in Parentheses)*

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Sexual Attraction Specifically</th>
<th>Partner Interest</th>
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</thead>
<tbody>
<tr>
<td>75 vs. 90</td>
<td>-.20</td>
<td>-.50</td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.001)</td>
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<tr>
<td>90 vs. 99</td>
<td>.19</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.830)</td>
</tr>
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</table>

*Note. N = 214; IQ = Intelligence; Kind. = Kindness; Easy = Easygoing; Phys. = Physical Attraction; p-values reported at .001 were < .001.*
Table S3

Principal Axis Factor Analysis Pattern Matrices Associated with Four Mate Characteristics:

Percentile Sexual Attraction Scale

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Intelligent</th>
<th>Agreeable</th>
<th>Kind</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>1</td>
<td>.68</td>
<td>-.24</td>
<td>.77</td>
<td>-.10</td>
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<tr>
<td>10</td>
<td>.82</td>
<td>-.21</td>
<td>.89</td>
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<td>.59</td>
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<td>.74</td>
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*Note. N = 214; the correlations between the low and high factors across the Intelligent, Agreeable, Kind and Physically Attractive mate characteristics were -.36, -.31, -.17 and -.27, respectively.*
Table S4

Principal Axis Factor Analysis Pattern Matrices Associated with Four Mate Characteristics:

Percentile Partner Interest Scale

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Intelligent Low High</th>
<th>Agreeable Low High</th>
<th>Kind Low High</th>
<th>Physical Low High</th>
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<tr>
<td>1</td>
<td>.79 -.22</td>
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<td>10</td>
<td>.89 -.17</td>
<td>.88 -.17</td>
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<tr>
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<td>.19 .87</td>
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<tr>
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<td>-.13 .92</td>
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<td>-.11 .97</td>
<td>-.11 .92</td>
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<tr>
<td>99</td>
<td>-.16 .64</td>
<td>-.13 .78</td>
<td>-.18 .68</td>
<td>-.12 .80</td>
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Note. N = 214; the correlations between the low and high factors across the Intelligent, Agreeable, Kind and Physically Attractive mate characteristics were -.23, -.24, -.19 and -.22, respectively; principal components analysis was used for the Agreeable data, as the corresponding principal axis factor analysis yielded a non-converged solution.
Table S5

*General Sexual Interest Percentile Factor*

<table>
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<tr>
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<tr>
<td>Intelligent 50(^{th})</td>
<td>.56</td>
</tr>
<tr>
<td>Agreeable 50(^{th})</td>
<td>.54</td>
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<tr>
<td>Kind 50(^{th})</td>
<td>.65</td>
</tr>
<tr>
<td>Physically Attractive 50(^{th})</td>
<td>.70</td>
</tr>
</tbody>
</table>

*Note. N = 214; the four items are the 50\(^{th}\) percentile indicators across the four Percentile Sexual Attraction Scales.*
Table S6

Correlations between intelligence latent variables (SAI and TBAI) and Percentile

Attraction/Interest Scale Items – Intelligent

<table>
<thead>
<tr>
<th>IQ Percentile</th>
<th>Sexual Attraction</th>
<th>Partner Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>1</td>
<td>2.60</td>
<td>1.26</td>
</tr>
<tr>
<td>10</td>
<td>2.90</td>
<td>1.15</td>
</tr>
<tr>
<td>25</td>
<td>3.31</td>
<td>0.96</td>
</tr>
<tr>
<td>50</td>
<td>3.85</td>
<td>0.75</td>
</tr>
<tr>
<td>75</td>
<td>4.26</td>
<td>0.77</td>
</tr>
<tr>
<td>90</td>
<td>4.44</td>
<td>1.01</td>
</tr>
<tr>
<td>99</td>
<td>4.22</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Note. $N = 214$; TBAI = Task-Based Assessed Intelligence (latent variable); SAI = Self-Assessed Intelligence (latent variable); all correlations non-significant statistically ($p > .05$).
Figure S1. Item-Level Histograms – IQ Percentile Ratings
Figure S2. Item-Level Histograms – Kindness Percentile Ratings
Sexual Attraction – Physical Attraction

Partner Desirability – Physical Attraction

Figure S3. Item-Level Histograms – Physical Attraction Percentile Ratings
Figure S4. Item-Level Histograms – Easygoing Percentile Ratings
Figure S5. Plot of means depicting the association between percentile level and mate characteristic desirability across four rated characteristics: IQ, Easygoing, Kindness and Physical (Panel A = Sexual Attraction Specifically; Panel B = Partner Interest)
Figure S6. Latent variable model depicting the unique effects of SAI and TBAI as predictors of partner interest to the IQ 25th (low) and IQ 90th (high) percentiles (all coefficients are completely standardized); SAI = Self-Assessed Intelligence; TBAI = Task-Based Assessed Intelligence; SAlp1 = item parcel 1 (sum of SRIQ items 1, 2, and 3); Speed = Connections Test; LNS = Letter-Number Sequencing; APM = Advanced Progressive Matrices; AVT = Advanced Vocabulary Test; Generation Interest = general partner interest method variance factor; all coefficients greater than |.15| were significant statistically (p < .05); N = 214; model close-fit: $\chi^2(59) = 98.82$, $p = .001$, SRMR = .060, RMSEA = .056, CFI = .947, TLI = .931.