

## What Properties Predict Mate Choice: Physical, Psychological, and Place



Evita March<sup>1</sup> and Peter K. Jonason<sup>2,3</sup>

<sup>1</sup>Federation University Australia, Berwick, VIC, Australia

<sup>2</sup>University of Padua, Padua, Italy

<sup>3</sup>Cardinal Stefan Wyszyński University, Warszawa, Poland

### Synonyms

Evolutionary psychology; Interpersonal relationships; Mate choice; Mate preferences; Personality; Sex differences

### Definition

Properties that predict mate choice are summarized in terms of three main themes: (1) *physical* properties, such as waist-to-hip ratio and symmetry; (2) *psychological* properties, such as kindness and sense of humor; and (3) *place* properties, such as the quality of alternative mates and operational sex ratio.

### Introduction

Most of us have found ourselves, at one time or another, in the position of wondering why a particular romantic or sexual partner did not choose us. Even the most appealing, successful, and charming individuals (perhaps Daniel Craig, or Scarlett Johansson) may have found themselves in this position. Arguably, the experience of unrequited attraction is universal, affecting – to different degrees – all people at some point in their lives. Who we are attracted to and choose as mates is a multimillion-dollar industry; in the fourth quarter of 2020, the Match Group (including [Match.com](#), Tinder, OkCupid, and more) reported a total revenue of US\$651.4 million (Tankovska, 2021). Such enormous revenue indicates that finding the “right” or even *any* romantic or sexual partner is big business, because people are seriously motivated to find one.

Researchers as far back as Freud have pondered issues related to mate choice, mating preferences, and interpersonal attraction. In few areas of research, larger varieties of methods and types of data have been adopted. For example, researchers have capitalized on personal ads in newspapers (e.g., Dunbar & Waynforth, 1995), on dating websites (e.g., Gallant, Williams, Fisher, & Cox, 2011), speed dating events (e.g., Kurzban & Weeden, 2007), and on dating applications (e.g., Neyt, Baert, & Vandenbulcke, 2020) to understand mate choice. In the lab, researchers have adopted correlational (e.g., Buss, 1989) and

experimental (Lukaszewski & Roney, 2010) methods and various tasks like the budget allocation task (e.g., Li, Bailey, Kenrick, & Linsenmeier, 2002) and interactive “games” (e.g., Confer, Perilloux, & Buss, 2010) to best capture mate choice. Given this long-standing and multimethod approach, there is voluminous data on what people want in their romantic and sexual partners, so much so that what is called for is some metanarrative which is usually confined to popular press books (e.g., Ansari, 2015; Buss, 1994), to help organize the apparently wide array of content new researchers would need to consume to get “up to speed” in this area. That is, there are many “trees” available about mate choice and mate preferences but few attempts to see the “forest” as a whole. Prior reviews (Li & Meltzer, 2015; Szymanik-Kostrzewska, 2016) have focused on one forest (or a portion of the forest) while, perhaps unintentionally, ignoring others. This chapter presents a framework to hold an array of potentially conflicting details in their place to get a relatively full picture of (perhaps) how multiple “subforests” connect.

This enterprise, for some, may be too general and too reductionistic. To us, these are not “four letter words” and instead reflect a common practice in science of examining topics at different levels of analysis. Individual studies, of which many will be reported, can be microscopic in nature, but a good synthesis is macroscopic and can only be achieved with an appreciation of the full literature on such topic. When one steps back from the literature, some of the granularity might be lost, but one might gain vision of how larger research traditions: (1) are linked, (2) conflict, and (3) could be reconciled, made redundant, or reduced. In this chapter, the authors assert that there are only three main higher-order factors (composed of their own midlevel factors) that account for mate choice, and these will each be reviewed. First, the importance of physical features (e.g., masculine/feminine facial markers, waist-to-hip ratio, shoulder-to-hip ratio, and facial symmetry) of prospective partners are considered, and that these features seem to be anything but superficial. Second, mate choice does not stop at the physical features of a person – physical

attraction is merely a threshold trait – and there are at least three metatraits (e.g., competence, compassion, and compatibility) that people desire in their romantic and sexual partners. Third, when people meet potential mates, they meet them within a context (i.e., the organism cannot be taken from its environment). These contexts have influence on mate choice because they inform how people evaluate their relative position in the mating market (e.g., operational sex ratio) and the quality of partners, and constrains who one meets a priori (e.g., geography plays a role in mate choice).

### **The Role of the Physical**

Physical characteristics play an important role in mate attraction and selection, with 92% of men and 84% of women reporting they desire a good-looking mate (Fales et al., 2016). Researchers have identified a range of physical characteristics, either sex-specific or shared by the sexes, as attractive. Attractive physical characteristics of women include lower waist-to-hip ratio (i.e., the ratio between waist and hips circumference; Bovet, 2019), lustrous hair, breast size (Dixson, Grimshaw, Linklater, & Dixson, 2011), and feminine facial features (full lips, large eyes; Jones et al., 2013). Attractive characteristics of men include high shoulder-to-hip ratio (Dijkstra & Buunk, 2001), masculine facial features (e.g., strong jaw line; Lee & Zietsch, 2011), and beards (Dixson, Sulikowski, Gouda-Vossos, Rantala, & Brooks, 2016). Other physical characteristics are also considered desirable by both sexes, including skin (i.e., healthy color, smooth texture), teeth (i.e., white, straight), facial symmetry, and even vocal characteristics.

Evolutionary psychologists posit that the importance of physical characteristics, particularly in the initial stages of mate attraction, is likely related to the reproductive potential they signal (Kenrick, Groth, Trost, & Sadalla, 1993). Although both sexes seek a physically attractive mate (Regan, Levin, Sprecher, Christopher, & Gate, 2000), across cultures, men tend to place greater value on a mate’s physical attractiveness

(Buss et al., 1990). This sex difference is often attributed to reproductive constraints historically encountered by the sexes. As the reproductive success of men is dependent on the fertility of women, men have come to value physical characteristics that signal fertility such as clear skin, full lips, low waist-to-hip ratio, and symmetrical features (see Buss, 2006). Attending to such physical cues may maximize optimal reproductive success, simultaneously limiting the potential of genetic deformity (Haselton & Miller, 2006). Women also value physical characteristics that convey information about fertility and sperm quality (Braun & Bryan, 2006), such as beard growth, jaw size, and upper body muscularity (Haselton & Miller, 2006).

Although a good-looking mate is desirable, it is unlikely all potential mates will present as perfect physical specimens, or even meet criteria to be classified as “good-looking.” A more likely scenario is that both sexes choose a mate that satisfies a minimum threshold of physical attractiveness and may even engage in trade-offs between characteristics. For example, a potential male mate may lack a muscular upper body but has clear skin and is tall. A potential female mate may have crooked teeth but has clear eyes and lustrous hair. In both examples, a minimum level of physical attractiveness may have been obtained. Further, it is likely that individual differences in mate preferences will play a role, with certain physical features being more desirable to different individuals. In sum, physical attractiveness is proposed to be a threshold trait (Jonason et al., 2019; Li et al., 2002, 2013; White, Jonason, & Al-Shawaf, 2020), and a certain level of physical attractiveness must be satisfied for mate attraction to take place. Once this physical threshold is satisfied, the selection of a mate is broadened to consider the attractiveness of nonphysical traits, such as psychological factors.

Physical attractiveness as a threshold trait is depicted in the following scenario. Two individuals meet via an online dating app. They are initially attracted to each other’s profile pictures and spend a few days messaging each other online. They arrange to meet, but upon meeting face-to-face they discover that the initial attraction

is no longer there. Although the physical characteristics remain appealing, the conversation might be dull, or perhaps one of the individuals is aggressive and disagreeable. Thus, the physical characteristics played an important threshold role in the initial attraction – the two individuals were initially attracted to each other and began communicating. Ultimately though, mate attraction and choice included more than just physical characteristics.

## The Importance of the Psychological

There are considered to be three (in no particular order) higher-order factors of psychological mate preferences: competence, compassion, and compatibility (see Jonason & March, 2020). Competence indicates a person’s ability to acquire provisions for survival and the capability to successfully navigate and ensure offspring and relationship survival. As a higher-order factor, competence includes intelligence, education, income (and employment), creativity, and a sense of humor – all of which are correlated (Ganzach, Ellis, & Gotlibovski, 2013; Silvia, 2008).

Cross-culturally, intelligence is one of the most sought-after mate characteristics (see Buss & Barnes, 1986; Marlowe, 2004). Both men and women desire a mate who is intelligent (Buunk, Dijkstra, Fetchenhauer, & Kenrick, 2002), though women assign more importance to a mate’s intelligence (Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Jonason & Antoon, 2019), across all forms of relationship involvement (e.g., sexual fantasy to marriage; Buunk et al., 2002), particularly for long-term mates (Jonason et al., 2019). Comparatively, men seem to drop their standards for intelligence when relationship involvement decreases (Buunk et al., 2002). This trend is also observed for income. Although both sexes desire a mate with lots of income (Hitsch, Hortaçsu, & Ariely, 2010), women assign more importance to this than men do (Souza, Conroy-Beam, & Buss, 2016). Unlike intelligence and income, preference for a mate’s education is mixed, with some research demonstrating preference for higher relative education (Bereczkei & Csanaky, 1996) and

other research demonstrating preference for similar relative education (Jonason & Antoon, 2019). Still, despite whether the preference is for higher or similar education level, it appears both men and women wish to *avoid* low education. Finally, both sexes desire a creative mate (Beaussart, Kaufman, & Kaufman, 2012), and sense of humor is a particularly attractive psychological mate characteristic (Cowan & Little, 2013), with men tending to place more importance on a mate's sense of humor across relationship involvement (Cowan & Little, 2013).

In addition to competence, both sexes seek compassion. Where competence represented an ability to invest, compassion represents a *willingness* to invest. Both sexes indicate a desire for compassion-related characteristics of a mate, including kindness (Buss, 1989), agreeableness (Botwin, Buss, & Shackelford, 1997), generosity (Griskevicius et al., 2007), and altruism (Farrelly, 2013). Preferences for compassionate traits appear assortative (Kay, 2021), with agreeable individuals indicating stronger preference for more agreeable mates with communal characteristics (e.g., sensitive, soft-hearted; Wood & Brumbaugh, 2009). Compromises to compassionate traits appear to be particularly unattractive, with mates both sexes considering trait aggression a relationship “dealbreaker” (Jonason, White, & Al-Shawaf, 2020).

Like competence, preference for compassionate traits can also fluctuate with sex and involvement. Women, compared to men, desire a more altruistic mate (Barclay, 2010; Moore et al., 2013), and trade off a mate's physical attractiveness for higher altruism (Farrelly, Clemson, & Guthrie, 2016). The tendency for men to engage in more public acts of generosity when the mating market is competitive (Barclay & Willer, 2007) suggests that men are acutely aware of women's preference for compassionate traits. Lastly, although both sexes desire a long-term mate who is kind (Li et al., 2002) and altruistic (Phillips, Barnard, Ferguson, & Reader, 2008), they relax these preferences when considering a more short-term, casual sex encounter (Jonason, Valentine, Li, & Harbeson, 2011).

The third higher-order psychological factor is compatibility – both sexes seek a mate with whom they are compatible. Compatibility traits (e.g., interests, sexual desire, and values) have importance in both initiating and maintaining relationships (Wilson & Cousins, 2003). Compared to competence and compassion traits where it seems “more is better,” for compatibility, the emphasis is on similarity. Humans do not necessarily desire someone with high sex drive, high religiousness, or high interest in watching movies; rather, the desire is for someone whose sexual drive, values, and interests are compatible to our own. An individual with an unusually high sex drive may find themselves unsatisfied by a mate who has little to no interest in sex, and someone who is disgusted by gore may be displeased by a mate who only wants to watch horror movies.

It is curious that compatibility, which can have meaningful consequences for relationship initiation and maintenance, has received comparatively less attention in the mate choice literature. Unlike competence and compassion, preference for compatibility does not appear to fluctuate between the sexes, though both men and women place more importance on the compatibility of a long-term, compared to a short-term, mate (Treger & Masciale, 2018). Based on the relative paucity in the literature, future research could seek to establish importance of compatibility for both sexes across different levels of relationship involvement.

## The Power of Place

The last higher-order factor is the context (i.e., place) in which mate attraction and selection takes place – in particular, the mating environment (including sex ratio), proximity, and cultural norms. Let us start by considering the mating environment, also referred to as “the mating market” (Li et al., 2002). The potential mates we encounter on a more frequent basis can alter our perceptions of what is attainable, subsequently influencing valued mate characteristics. Consider an individual who encounters physically attractive potential mates on a regular basis. For this

individual, their mating market is already comprised of physically attractive potential mates. As a result, this person may assume that they have already “secured” the physical attractiveness of a mate, leading them to turn their attention to other, perhaps more psychological characteristics, such as competence and compassion. Comparably, the individual who often encounters pathogens in their environment has a different perception of potential mates. This increased pathogen prevalence leads that person to perceive their mating market as physically compromised, leading them to prioritize the physical attractiveness in a potential mate (Gangestad & Buss, 1993; Gangestad, Haselton, & Buss, 2006).

This common mating environment concept could be applied for other nonphysical characteristics. The educated individual who spends most of their time interacting with “intellectuals” may assume their potential mate as already possessing some degree of intelligence. Thus, their search for intelligence may not be as salient as someone who does not often interact with intelligent others. The number of available mates in our mating environments can also impact preferences. In low sex ratio (i.e., the number of men per 100 reproductive-age women in a specific mating environment) mating environments, where women are more numerous than men, both men and women tend to increase their long-term mate standards (Stone, Shackelford, & Buss, 2007). Further, in these low sex ratio environments where women outnumber men, men typically preference short-term sexual encounters over long-term unions (Schmitt, 2005).

The geographical context, specifically physical proximity, can also influence mate preferences and selection. Technology advances have expanded the mate environment, with online dating and matching considerably increasing the pool of potential mates. However, there may still be some preference for propinquity, given many online dating platforms and apps are popular due to displaying potential mates within proximity (Timmermans & De Caluwé, 2017). Low propinquity can result in several relational challenges (e.g., Feeney, 1999; Hassenzahl, Heidecker, Eckoldt, Diefenbach, & Hillmann, 2012), such

as increased monetary investment (i.e., travel to see the potential mate), decreased coitus opportunity, and increased relational threats (i.e., cuckolding) that distance might present. Despite the challenges that low proximity can present, distance to and proximity of potential mates appears to not be a necessity in mate choice, though it is more desirable to men seeking a short-term mate (see Jonason, Nolland, & Tyler, 2017). In fact, some men and women may even exhibit preference for low proximity for a long-term mate (Sahlstein, 2004). Increased distance may have positive influences on the relationship (e.g., absence makes the heart grow fonder), and there is even evidence to suggest that long-distance romantic relationships have greater relational stability than those with greater proximity (Stafford & Merolla, 2007).

Lastly, mate preferences can also interact with contextual customs and norms. For example, religiosity and a similar religious background may be particularly important in more religious, conservative cultures (Atari & Jamali, 2016; Badahdah & Tiemann, 2009), whereas in Western cultures, partner religiousness is of less importance (Perilloux, Fleischman, & Buss, 2011). Changes in the cultural context over time can also influence mate preferences. In China, preference for a mate’s religiosity *increased* from 1983 to 2008; researchers theorized this increase could be the result of cultural shifts in religious tolerance (Chang, Wang, Shackelford, & Buss, 2011). The cultural context can also, at times, appear at odds with mate preferences, for example, despite India’s tradition with arranged marriages, both men and women still consider “mutual attraction” and “love” to be important mate preferences (Kamble, Shackelford, Pham, & Buss, 2014). To summarize, physical and psychological factors – although uniquely desirable factors – can interact with mate availability, sex ratio, proximity, and cultural norms to influence mate preferences and selection. Future research exploring mate preferences and selection should therefore aim to both consider and account for the power of place.

## Limitations and Future Directions

There can be little doubt that the research in this area is robust in terms of sampling and method. Few fields of research in psychology have adopted such varied samples (e.g., cross-cultural), methods, data analytic approaches, and theoretical paradigms to answer just one question. Nevertheless, there are several limitations worthy of future research attention. Although these may not provide substantively different insights into this area of research, studying such narrow-band questions will: (1) tie off loose ends, and (2) potentially provide further clarification of the mechanisms of mate choice. For example, the studies cited in this chapter, along with those not cited, could be called heteronormative and criticized for making so-called gender binary assumptions. It is true that little research has examined mate choice in non-heterosexuals (see Conway, Noe, Stulp, & Pollet, 2015) and even fewer studies (if any) have examined mate choice in individuals who identify as transexual or transgender. Further research in the areas of mate choice in nonbinary and non-heterosexual individuals will require a high level of sophistication, but it may reveal important mediators/mechanisms for mate preferences in the larger population, while also providing insights about the psychological systems of those who are not binary or heteronormative (Honey & Fillion, 2017).

It could be argued that most of the research on mate preferences is based on antiquated models of mate searching. That is, gone are the days (relatively speaking) of being set up on dates by friends and meeting people in bars and, instead, here are the days of app-dating. In app-dating, people find mates from the comfort of their couches, making somewhat idealized and stereotypical choices without any connection to reality. On these apps, a 43 year-old, short, chubby, angry man can be exposed to and select from exceptionally beautiful 23 year-old women who in few external contexts would he come across let alone seduce. While these realities may not change mate preferences, they may undermine people's abilities to find relationships because of various issues

with contrast effects and the apparent availability of high-quality alternatives. That is, this hypothetical man may find himself endlessly single and disappointed because he gets the false impression that he could woo a woman out of his league. Therefore, mate preferences might not change, but mate choice will be untethered to strong feedback from the world about one's relative position in the mating market.

## Conclusion

In this chapter, three main higher-order factors of mate preferences and selection were proposed: physical, psychological, and place. Rather than dismissing the physical factors, the physical is of considerable importance as a threshold trait. Indeed, it is even possible that unless the potential mate satisfies a degree of physical desirability, attraction may not take place. This chapter also presented three main forms of psychological traits: competence, compassion, and compatibility. Research exploring mate choice has largely focused on competence followed by compassion, and the importance and desirability of compatible traits requires further investigation. Lastly, the importance of place – the *context* in which the mate attraction and selection takes place – is of considerable importance. The authors appreciate that this approach could be considered too generalized and reductionist. Still, there is value in stepping back from the details to consider the whole, and a synthesis of the available literature promotes an understanding of interactions and conflicts and hopefully reconciles research camps.

## Cross-References

- ▶ [Buss' Mate Choice Theory](#)
- ▶ [Differences Between Short-Term and Long-Term Relationships Relative to Mate Choice](#)
- ▶ [Factors That Indicate Quality Mates](#)
- ▶ [Sex Differences in Mate Choice](#)

**Acknowledgement** The second author was partially funded by a grant from the National Science Centre of Poland (2019/35/B/HS6/00682).

## References

- Ansari, A. (2015). *Modern romance: An investigation*. New York: Penguin Group.
- Atari, M., & Jamali, R. (2016). Dimensions of women's mate preferences: Validation of a mate preference scale in Iran. *Evolutionary Psychology, 14*, 1–10.
- Badahdah, A. M., & Tiemann, K. A. (2009). Religion and mate selection through cyberspace: A case study of preferences among Muslims. *Journal of Muslim Minority Affairs, 29*, 83–90.
- Barclay, P. (2010). Altruism as a courtship display: Some effects of third-party generosity on audience perceptions. *British Journal of Psychology, 101*, 123–135.
- Barclay, P., & Willer, R. (2007). Partner choice creates competitive altruism in humans. *Proceedings of the Royal Society B: Biological Sciences, 274*, 749–753.
- Beaussart, M. L., Kaufman, S. B., & Kaufman, J. C. (2012). Creative activity, personality, mental illness, and short-term mating success. *The Journal of Creative Behavior, 46*, 151–167.
- Bereczkei, T., & Csanaky, A. (1996). Mate choice, marital success, and reproduction in a modern society. *Ethology and Sociobiology, 17*, 17–35.
- Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences: Five factors in mate selection and marital satisfaction. *Journal of Personality, 65*, 107–136.
- Bovet, J. (2019). Evolutionary theories and men's preferences for women's waist-to-hip ratio: Which hypotheses remain? A systematic review. *Frontiers in Psychology, 10*, 1221.
- Braun, M. F., & Bryan, A. (2006). Female waist-to-hip and male waist-to-shoulder ratios as determinants of romantic partner desirability. *Journal of Social and Personal Relationships, 23*, 805–819.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1–49.
- Buss, D. M. (1994). *The evolution of desire: Strategies of human mating*. Boulder, CO: Basic Books.
- Buss, D. M. (2006). Strategies of human mating. *Psychological Topics, 15*, 239–260.
- Buss, D. M., & Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology, 50*, 559–570.
- Buss, D. M., Abbott, M., Angleitner, A., Asherian, A., Biaggio, A., Blanco-Villasenor, A., et al. (1990). International preferences in selecting mates: A study of 37 cultures. *Journal of Cross-Cultural Psychology, 21*, 5–47.
- Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., & Larsen, R. J. (2001). A half century of mate preferences: The cultural evolution of values. *Journal of Marriage and Family, 63*, 491–503.
- Buunk, B. P., Dijkstra, P., Fetchenhauer, D., & Kenrick, D. T. (2002). Age and gender differences in mate selection criteria for various involvement levels. *Personal Relationships, 9*, 271–278.
- Chang, L., Wang, Y., Shackelford, T. K., & Buss, D. M. (2011). Chinese mate preferences: Cultural evolution and continuity across a quarter of a century. *Personality and Individual Differences, 50*, 678–683.
- Confer, J. C., Perilloux, C., & Buss, D. M. (2010). More than just a pretty face: Men's priority shifts toward bodily attractiveness in short-term versus long-term mating contexts. *Evolution and Human Behavior, 31*, 348–353.
- Conway, J. R., Noe, N., Stulp, G., & Pollet, T. V. (2015). Finding your soulmate: Homosexual and heterosexual age preferences in online dating. *Personal Relationships, 22*, 666–678.
- Cowan, M. L., & Little, A. C. (2013). The attractiveness of humour types in personal advertisements: Affiliative and aggressive humour are differentially preferred in long-term versus short-term partners. *Journal of Evolutionary Psychology, 11*, 159–170.
- Dijkstra, P., & Buunk, B. P. (2001). Sex differences in the jealousy-evoking nature of a rival's body build. *Evolution and Human Behavior, 22*, 335–341.
- Dixson, B. J., Grimshaw, G. M., Linklater, W. L., & Dixson, A. F. (2011). Eye-tracking of men's preferences for waist-to-hip ratio and breast size of women. *Archives of Sexual Behavior, 40*, 43–50.
- Dixson, B. J. W., Sulikowski, D., Gouda-Vossos, A., Rantala, M. J., & Brooks, R. C. (2016). The masculinity paradox: Facial masculinity and beardedness interact to determine women's ratings of men's facial attractiveness. *Journal of Evolutionary Biology, 29*, 2311–2320.
- Dunbar, R. I. M., & Waynforth, D. (1995). Conditional mate choice strategies in humans: Evidence from 'lonely hearts' advertisements. *Behaviour, 132*, 755–779.
- Fales, M. R., Frederick, D. A., Garcia, J. R., Gildersleeve, K. A., Haselton, M. G., & Fisher, H. E. (2016). Mating markets and bargaining hands: Mate preferences for attractiveness and resources in two national US studies. *Personality and Individual Differences, 88*, 78–87.
- Farrelly, D. (2013). Altruism as an indicator of good parenting quality in long-term relationships: Further investigations using the mate preferences towards altruistic traits scale. *The Journal of Social Psychology, 153*, 395–398.
- Farrelly, D., Clemson, P., & Guthrie, M. (2016). Are women's mate preferences for altruism also influenced by physical attractiveness? *Evolutionary Psychology, 14*, 1474704915623698.
- Feeney, J. A. (1999). Issues of closeness and distance in dating relationships: Effects of sex and attachment style. *Journal of Social and Personal Relationships, 16*, 571–590.

- Gallant, S., Williams, L., Fisher, M., & Cox, A. (2011). Mating strategies and self-presentation in online personal advertisement photographs. *Journal of Social, Evolutionary, and Cultural Psychology, 5*, 106–121.
- Gangestad, S. W., & Buss, D. M. (1993). Pathogen prevalence and human mate preferences. *Ethology and Sociobiology, 14*, 89–96.
- Gangestad, S. W., Haselton, M. G., & Buss, D. M. (2006). Evolutionary foundations of cultural variation: Evoked culture and mate preferences. *Psychological Inquiry, 17*, 75–95.
- Ganzach, Y., Ellis, S., & Gotlibovski, C. (2013). On intelligence education and religious beliefs. *Intelligence, 41*, 121–128.
- Griskevicius, V., Tybur, J. M., Sundie, J. M., Cialdini, R. B., Miller, G. F., & Kenrick, D. T. (2007). Blatant benevolence and conspicuous consumption: When romantic motives elicit strategic costly signals. *Journal of Personality and Social Psychology, 93*, 85–102.
- Haselton, M. G., & Miller, G. F. (2006). Women's fertility across the cycle increases the short-term attractiveness of creative intelligence. *Human Nature, 17*, 50–73.
- Hassenzahl, M., Heidecker, S., Eckoldt, K., Diefenbach, S., & Hillmann, U. (2012). All you need is love: Current strategies of mediating intimate relationships through technology. *ACM Transactions on Computer-Human Interaction (TOCHI), 19*, 1–19.
- Hitsch, G. J., Hortaçsu, A., & Ariely, D. (2010). What makes you click? Mate preferences in online dating. *Quantitative Marketing and Economics, 8*, 393–427.
- Honey, P. L., & Fillion, C. (2017). Is chastity an obsolete virtue? Contrasting cues of chastity and parental investment for mate evaluation. *Journal of Evolutionary Studies Consortium, 8*, 77–91.
- Jonason, P. K., & Antoon, C. N. (2019). Mate preferences for educated partners: Similarities and differences in the sexes depend on mating context. *Personality and Individual Differences, 148*, 57–61.
- Jonason, P. K., & March, E. (2020). The three C's of psychological mate preferences: What psychological traits people want in mates and why they want them. In J. Mogilsky & T. K. Shackelford (Eds.), *The Oxford handbook of evolutionary psychology and romantic relationships*. New York: Oxford University Press.
- Jonason, P. K., Valentine, K. A., Li, N. P., & Harbeson, C. L. (2011). Mate-selection and the dark triad: Facilitating a short-term mating strategy and creating a volatile environment. *Personality and Individual Differences, 51*, 759–763.
- Jonason, P. K., Nolland, M., & Tyler, M. D. (2017). Incorporating geographic distance into mate preference research: Necessities and luxuries, 2.0. *Personal Relationships, 24*, 585–597.
- Jonason, P. K., Marsh, K., Dib, O., Plush, D., Doszpot, M., Fung, E., et al. (2019). Is smart sexy? Examining the role of relative intelligence in mate preferences. *Personality and Individual Differences, 139*, 53–59.
- Jonason, P. K., White, K. P., & Al-Shawaf, L. (2020). Should I stay or should I go: Individual differences in response to romantic dealmakers and dealbreakers. *Personality and Individual Differences, 164*, 110120.
- Jones, B. C., Fincher, C. L., Welling, L. L., Little, A. C., Feinberg, D. R., Watkins, C. D., et al. (2013). Salivary cortisol and pathogen disgust predict men's preferences for feminine shape cues in women's faces. *Biological Psychology, 92*(2), 233–240.
- Kamble, S., Shackelford, T. K., Pham, M., & Buss, D. M. (2014). Indian mate preferences: Continuity, sex differences, and cultural change across a quarter of a century. *Personality and Individual Differences, 70*, 150–155.
- Kay, C. S. (2021). Negative traits, positive assortment: Revisiting the dark triad and a preference for similar others. *Journal of Social and Personal Relationships, 38*(2), 0265407521989820.
- Kenrick, D. T., Groth, G. E., Trost, M. R., & Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology, 64*, 951–969.
- Kurzban, R., & Weeden, J. (2007). Do advertised preferences predict the behavior of speed daters? *Personal Relationships, 14*(4), 623–632.
- Lee, A. J., & Zietsch, B. P. (2011). Experimental evidence that women's mate preferences are directly influenced by cues of pathogen prevalence and resource scarcity. *Biology Letters, 7*, 892–895.
- Li, N. P., & Meltzer, A. L. (2015). The validity of sex-differentiated mate preferences: Reconciling the seemingly conflicting evidence. *Evolutionary Behavioral Sciences, 9*, 89–106.
- Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology, 82*, 947–955.
- Li, N. P., Yong, J. C., Tov, W., Sng, O., Fletcher, G. J., Valentine, K. A., et al. (2013). Mate preferences do predict attraction and choices in the early stages of mate selection. *Journal of Personality and Social Psychology, 105*, 757–776.
- Lukaszewski, A. W., & Roney, J. R. (2010). Kind toward whom? Mate preferences for personality traits are target specific. *Evolution and Human Behavior, 31*, 29–38.
- Marlowe, F. W. (2004). Mate preferences among Hadza hunter-gatherers. *Human Nature, 15*, 365–376.
- Moore, D., Wigby, S., English, S., Wong, S., Székely, T., & Harrison, F. (2013). Selflessness is sexy: Reported helping behaviour increases desirability of men and women as long-term sexual partners. *BMC Evolutionary Biology, 13*, 182–189.
- Neyt, B., Baert, S., & Vandenbulcke, S. (2020). Never mind I'll find someone like me—assortative mating preferences on tinder. *Personality and Individual Differences, 155*, 109739.
- Perilloux, C., Fleischman, D. S., & Buss, D. M. (2011). Meet the parents: Parent-offspring convergence and



- divergence in mate preferences. *Personality and Individual Differences*, 50, 253–258.
- Phillips, T., Barnard, C., Ferguson, E., & Reader, T. (2008). Do humans prefer altruistic mates? Testing a link between sexual selection and altruism towards non-relatives. *British Journal of Psychology*, 99, 555–572.
- Regan, P. C., Levin, L., Sprecher, S., Christopher, F. S., & Gate, R. (2000). Partner preferences: What characteristics do men and women desire in their short-term sexual and long-term romantic partners? *Journal of Psychology & Human Sexuality*, 12, 1–21.
- Sahlstein, E. M. (2004). Relating at a distance: Negotiating being together and being apart in long-distance relationships. *Journal of Social and Personal Relationships*, 21, 689–710.
- Schmitt, D. P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences*, 28, 247–311.
- Silvia, P. (2008). Another look at creativity and intelligence: exploring higher-order models and probable confounds. *Personality and Individual Differences*, 44, 1012–1021.
- Souza, A. L., Conroy-Beam, D., & Buss, D. M. (2016). Mate preferences in Brazil: Evolved desires and cultural evolution over three decades. *Personality and Individual Differences*, 95, 45–49.
- Stafford, L., & Merolla, A. J. (2007). Idealization, reunions, and stability in long-distance dating relationships. *Journal of Social and Personal Relationships*, 24, 37–54.
- Stone, E. A., Shackelford, T. K., & Buss, D. M. (2007). Sex ratio and mate preferences: A cross-cultural investigation. *European Journal of Social Psychology*, 37, 288–296.
- Szymanik-Kostrzewska, A. (2016). What is physical attractiveness?: A discussion of definitions and paradigms. *Roczniki Psychologiczne*, 19, 59–74.
- Tankovska, H. (2021). Match Group: Quarterly revenue 2014–2020. <https://www.statista.com/statistics/449390/quarterly-revenue-match-group/#statistic>
- Container
- Timmermans, E., & De Caluwé, E. (2017). To tinder or not to tinder, that's the question: An individual differences perspective to tinder use and motives. *Personality and Individual Differences*, 110, 74–79.
- Treger, S., & Masciale, J. (2018). Domains of similarity and attraction in three types of relationships. *Interpersona*, 12, 254–266.
- White, K. P., Jonason, P. K., & Al-Shawaf, L. (2020). Mating decisions in the absence of physical attraction. *Adaptive Human Behavior and Physiology*, 7, 43–53.
- Wilson, G., & Cousins, J. (2003). Partner similarity and relationship satisfaction: Development of a compatibility quotient. *Sexual and Relationship Therapy*, 18, 161–170.
- Wood, D., & Brumbaugh, C. C. (2009). Using revealed mate preferences to evaluate market force and differential preference explanations for mate selection. *Journal of Personality and Social Psychology*, 96, 1226–1244.