


**THE WILEY-BLACKWELL ENCYCLOPEDIA OF  
PERSONALITY AND INDIVIDUAL DIFFERENCES**
**Gender differences / evolutionary**

Journal:	<i>The Wiley-Blackwell Encyclopedia of Personality and Individual Differences</i>
Manuscript ID	Draft
Wiley - Manuscript type:	Entry
Date Submitted by the Author:	n/a
Complete List of Authors:	Wong, Keri Ka-Yee; University of Cambridge, Psychology Buda, Marie
Keywords:	Natural Selection, Gender, Human Mating Behavior, Human Sexual Behavior, Mate Retention Strategies
Abstract:	The evolutionary perspective of personality centers around Darwin's (1871) Theory of Natural Selection. This chapter summarizes the literature on gender differences in short- and long-term mating behaviors (love & romance), human sexual behavior and mate retention strategies (aggression, jealousy, parenting) in relation to personality and key theories of explanation. Limitations and strengths of this area of study and future research in this discipline are discussed in the conclusions.



**Title** The Evolutionary Perspective of Personality

**Your Name** Keri Ka-Yee Wong & Marie Buda

**Affiliation** University of Cambridge

**Email Address** [kkyw3@cam.ac.uk](mailto:kkyw3@cam.ac.uk), [marie.buda@cantab.net](mailto:marie.buda@cantab.net)

**Word Count** 2213 (/2000) [Including the main text, cross-references, See Also, references, and further reading.

Total word count does not include headword (title), abstract, contributor bios, or keywords.]

**Abstract** (67 words)

The evolutionary perspective of personality centers around Darwin's (1871) Theory of Natural Selection. This chapter summarizes the literature on gender differences in short- and long-term mating behaviors (love & romance), human sexual behavior and mate retention strategies (aggression, jealousy, parenting) in relation to personality and key theories of explanation. Limitations and strengths of this area of study and future research in this discipline are discussed in the conclusions.

**Keywords**

Natural selection, gender, human mating behavior, human sexual behavior, mate retention strategies

**Main Text**

The evolutionary perspective explores the idea of personality as evolved, inherited psychological mechanisms that propagate in response to problems of survival and reproduction faced by our ancestors. These mechanisms interact with sociocultural, physiological and ecological external stimuli to manifest behavior that we define as character traits or personality. Grounded in the theory of *natural selection* (Darwin, 1871), the evolutionary perspective conceives that organisms best suited to their environment will go on to survive and reproduce, and through evolution, their genes will proliferate and become the norm. A subset of natural selection known as *Sexual Selection* focuses specifically on the adaptations that emerged from successful mating, which constitutes: *intra-sexual selection*, where pressure is exerted within one sex via competition, and *epigamic selection*, where one sex will exert influence over the other sex by choosing partners with specific features. This perspective provides psychologists with a useful framework in understanding personality differences between men and

women.

### **Human Mating Behaviors**

Human mating behaviors can be understood temporally as short-term and long-term mating behaviors.

#### *Short-Term Mating Behaviors.*

Sexual Strategies Theory (SST; Buss & Schmitt, 1993) describes how sex-distinct behaviors evolved as a result of our male and female ancestors having to solve separate adaptive issues in survival and reproduction. Thus, differences in personalities can be understood in terms of the biological sex interacting with the temporal duration of mating for each sex. Take parental investment for example. In women, reproduction incurs an enormous price (i.e., the female egg is larger and metabolically costlier to produce than the male sperm; fertility is cyclical and age-graded leaving a limited time window for childbirth; carrying offspring for nine months and caring for her child for several years post-birth). In stark contrast, producing offspring is less costly for men (i.e., larger supplies of sperm; can invest less energy in rearing their offspring; larger time window to father children). However, men additionally face the unique problem of paternal uncertainty due to internal female fertilization. SST predicts that gender contrasts in personality traits depends on how each sex interacts with short-term sexual encounters (one-night stands, temporary affairs and casual hook-ups), long-term relationships (continuing commitment and potential bi-parental investment in children), and how each gender tackles the goals of each type of partnership (see review Buss & Schmitt, 2016).

Similar to SST, Parental Investment Theory (PIT; Trivers, 1971) states that the more an organism must invest in parental care, the more they will be picky about potential mates. Women are therefore hypothesized to show more hesitancy towards casual sex as they have more parental investment compared with men. Should they engage in a short-term encounter, their priorities would be to secure immediate resources and identify good genes. Contrastingly, the Mating Opportunity Costs Hypothesis (Buss, 2015) states that any time invested in parenting is a lost opportunity to mate. Thus, men may bear greater mating opportunity costs, as they could be using the time taking care their offspring to instead impregnating other females, thereby propagating his genes. In short-term mating, the theory predicts that men, unlike women, will display competitive personalities toward other males (i.e., aggression) in order to secure women. Men's focus will be on increasing partners, minimizing commitment and identifying sexually accessible women (Buss & Schmitt, 2016).

### *Long-Term Mating Behaviors.*

Gender differences are also evident in long-term mating behaviors. Men and women in long-term relationships are thought to resolve many problems of survival and reproduction leveraging on a bi-parental support system that guarantees the survival of their offspring (*Attachment Fertility Theory*; Miller, Pedersen & Putchu-Bhagavatula, 2005). For example, men could guarantee greater paternal certainty and women could count on consistent support and resources. Problems with long-term mating were encountered by both genders (e.g., being able to identify a committed partner who is also a good parent), leading to personality traits such as a proclivity towards falling in love or being selective in their mates to develop in both genders (*Gender Similarities Hypothesis*; Hyde, 2005). Although the said goals of long-term and short-term mating differ, this notion does not discount the predictions made by SST. The issues of asymmetric parental investment and parental uncertainty still would have persisted in long-term mating, and thus are thought to have still led to sexually differentiated personality traits (Buss, 2015).

### **Human Sexual Behavior**

Human sexual behavior as defined by any activity that induces sexual arousal in solitary, between two persons, or in a group, can be understood through the evolutionary perspective. Gender differences in sexual behavior have been well replicated (Peplau, 2003). Women self-report desiring fewer sexual partners, taking more time before consenting to sex, being less willing to engage in sex (Buss & Schmitt, 1993), and having a tendency to underestimate men's potential interest in them (*commitment skepticism bias*). Men, on the other hand, report having more sexual fantasies and fantasies involving multiple sexual partners, state a greater attraction towards sexual variety, visit prostitutes more often and have more extramarital affairs (Buss, 2015), overestimate interest from the opposite sex (*sexual overperception*) (Haselton, Nettle & Andrews, 2015) and compared to women, masturbate more often and earlier in development, which reflects a higher sex drive (Oliver & Hyde, 1993). Finally, when selecting short-term mates, women gravitate toward men with highly masculine looks and displays of resources (e.g., money, status), while men are willing to dramatically lower their standards for casual sex (see wbepid0240).

Contrastingly, love, romance and attachment styles do not tend to differ substantially across genders (*Gender Similarities Hypothesis*). However, men do report falling in love quicker, experience more instances of "love at first sight", and score higher on scales of romanticism compared to women. Conversely, women report

being more careful with whom they fall in love with, slower to feel romantically passionate, and more likely to limit their feelings of love to partners who display abilities to provide and protect (i.e., having higher status, intelligence and resources) (Cialdini, 2015). These findings are consistent SST, which predicts women to be more cautious, and men to be more open with regards to sexual relationships.

### **Mate Retention Strategies**

After successfully establishing a long-term relationship with a desirable partner, one must successfully retain their mate. Several interesting sex-specific differences are seen and can be understood through the literature on aggression, jealousy and parental care.

*Aggression.* Males have consistently been found to be more aggressive and violent than females, a finding that is replicated in young adolescents and adults. Evolutionarily, males have had to compete with other males for resources, compete for viable fertile mates, and deter sexual infidelity whenever possible. Such competitiveness is evident in young children. Wölfer and Hewstone (2015) conducted one of the first 'aggression' network analytic study in Europe (N=11,307 schoolchildren) to examine the nature of aggression toward same-sex or other-sex individuals. Each child in 597 classrooms nominated a peer 'who is sometimes mean to them' to produce an average same- and other-sex aggressor score per classroom. On average, males were more aggressive to both sexes in each classroom compared to females, though there were a few females above average as well. Biologically, men tend to have a shorter index to ring-finger (i.e., 2D:4D ratio) than women, which reflects higher prenatal testosterone levels or greater sensitivity to androgens or both when they were in the mother's womb (see review Turanovic, Pratt, & Piquero, 2017). Men have also repeatedly been found to have lower resting heart rates than women, which is reflective of men being more of a 'sensation-seeker' who engages in more antisocial behaviors.

*Jealousy.* Evolutionarily, jealousy is an important emotional response to deter potential threats to a partnership (e.g., partner infidelity and/or abandonment, mate poaching). While both genders report experiencing jealousy in similar frequencies and intensities the types of infidelity that provoke maximum feelings of betrayal differ by gender, specifically, paternal uncertainty elicits personality contrasts. For example, men report greater distress and physiological stress response toward female sexual infidelity, where they risk raising a genetically unrelated child; while women experience the same effect with regard to emotional infidelity, which may lead to partner abandonment and a loss of long-term resources and support towards both

her and her offspring. Women may also use other strategies including enhancing their physical appearance to play on men's tendency to seek youthful attractive mates, or purposely induce jealousy in their partners by flirting with members of the opposite sex in order to test their partner's commitment. Alternatively, men are more likely to employ strategies such as displaying resources (e.g., buying gifts), concealing partners when other males are present (e.g., spending all day with partner), submitting to their mate's wishes, and using aggression and violence against any male threats. These findings have most recently been corroborated by cognitive tests (e.g., information search, memory for cues to sexual vs emotional infidelity), physiological measures (e.g., muscle movement) and neuroimaging studies (Buss, 2015).

*Parental Care.* Gender differences in confidently establishing paternal certainty have said to lead to divergence in personality traits related to parental care. Evolutionarily compared to men, women as the primary caregiver have developed personality traits including empathy, nurturance, and infant facial recognition that are necessary for the survival of their offspring (*primary caretaker hypothesis*; Babchuk, Hames, & Thompson, 1985). Under stress, women are more likely to 'tend' and soothe offspring and 'befriend' members of their social group for mutual defense (Taylor *et al.*, 2000) rather than engage in the adrenalin-based 'fight-or-flight' response in men. Together, these gender-specific personalities have been evolutionarily advantageous for the survival of human offspring.

### **Evaluation of Evolutionary Perspective of Personality**

#### Strengths

- Crucial in formulating testable hypotheses regarding gender differences, most of which have been confirmed over the years (Buss & Schmitt, 2011).
- Many reported personality differences have been cross-cultural, thus strengthening the case for their evolutionary heritage (Buss, 2015).

#### Limitations

- It is important to take into consideration the effect sizes of reported differences between men and women. A meta-synthesis study of 106 meta-analytic studies on gender differences found only a small effect size for personality differences ( $d=0.22$ , ~84% overlap between men and women) (Zell, Krizan

& Teeter, 2015). This highlights greater similarities between the genders than differences.

- Most findings rely on self-reports which inflate the relationships between constructs; however, studies using other types of testing (e.g., cognitive, genetics neuroimaging, network analysis) are emerging and corroborate with the original findings.

## Conclusion

The evolutionary perspective provides a fundamental understanding and testable frameworks of the role of gender across a range of behaviors and how it translates to our understanding of personality. This area of research recognizes both differences between genders, but importantly, the similarities as well. However, future studies are still needed before any definitive conclusions regarding gender differences can be made, through triangulating multiple methods, cross-cultural studies and large population studies.

## See Also (Cross-References in the form of 'Related Articles'):

## References

- Babchuk, W. A., Hames, R. B., & Thompson, R. A. (1985). Sex differences in the recognition of infant facial expression of emotion: the primary caretaker hypothesis. *Ethology & Sociobiology*, *6*, 89-101.
- Buss, D. M. (2015). *Evolutionary psychology: The new science of the mind* (5th ed. ed.). New York: Psychology Press.
- Buss, D. M., & Schmitt, D. P. (2011). Evolutionary psychology and feminism. *Sex Roles*, *64*(9-10), 768-787.
- Buss, D. M., & Schmitt, D. P. (2016). Sexual Strategies Theory. In T. K. Shackelford & V. A. Weekes-Shackelford (Eds.), *Encyclopedia of Evolutionary Psychological Science*. Basel, Switzerland: Springer International Publishing AG.
- Darwin, C. (1871). *The Descent of Man, and Selection in Relation to Sex*. London: Murray.
- Haselton, M. G., Nettle, D., & Andrews, P. W. (2015). The Evolution of Cognitive Bias. In D. M. Buss (Ed.), *The Handbook of Evolutionary Psychology* (pp. 968-987). New Jersey: John Wiley & Sons, Inc.
- Hyde, J. S. (2005). The gender similarities hypothesis. *American Psychologist*, *60*, 581-592.

- Lenz, B., Bouna-Pyrrou, P., Mühle, C., & Kornhuber, J. (2018). Low digit ratio (2D: 4D) and late pubertal onset indicate prenatal hyperandrogenization in alcohol binge drinking. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*.
- Miller, L. C., Pedersen, W. C., & Putcha-Bhagavatula, A. D. (2005). Promiscuity in an evolved pair-bonding system: Mating within and outside the pleistocene box. *The Behavioural and Brain Sciences*, *28*, 290-291.
- Oliver, M. B., & Hyde, J. S. (1993). Gender differences in sexuality: A meta-analysis. *Psychological Bulletin*, *114*, 29-51.
- Peplau, L. A. (2003). Human sexuality: How do men and women differ? *Current Directions in Psychological Science*, *12*, 37-40.
- Takahashi, H., Matsuura, M., Yahata, N., Koeda, M., Suhara, T., & Okubo, Y. (2006). Men and women show distinct brain activations during imagery of sexual and emotional infidelity. *NeuroImage*, *32*, 1299-1307.
- Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioural responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review*, *107*, 411-429.
- Trivers, R. L. (1972). *Parental investment and sexual selection*. Chicago: Aldine Publishing Company.
- Turanovic, J. J., Pratt, T. C., & Piquero, A. R. (2017). Exposure to fetal testosterone, aggression, and violent behavior: a meta-analysis of the 2D: 4D digit ratio. *Aggression and violent behavior*, *33*, 51-61.
- Wölfer, R., & Hewstone, M. (2015). Intra-versus intersex aggression: Testing theories of sex differences using aggression networks. *Psychological science*, *26*(8), 1285-1294.
- Zell, E., Krizan, Z., & Teeter, S. R. (2015). Evaluating gender similarities and differences using metasynthesis. *American Psychologist*, *70*(1), 10-20.

### Further Reading (optional)

- Carducci, B. J. (2015). *The psychology of personality: Viewpoints, research and applications (3rd ed.)*. Hoboken, NJ: Wiley.

### Brief Biography

**Dr. Marie Buda** (Ph.D., University of Cambridge, 2013) received her doctorate in cognitive neuroscience from the University of Cambridge. She was formally Bye-Fellow and College Lecturer, as well as Director of Studies in Psychological and Behavioural Sciences at Downing College, University of Cambridge. During her time



there she was shortlisted for the Student Union's Teaching Award. She currently is a behavioural science consultant at Innovia Technology.

**Dr. Keri K. Wong** (Ph.D., University of Cambridge, 2015) is the Betty Behrens Research Fellow at Clare Hall College at the University of Cambridge. Her research interests include early assessments of childhood paranoia and suspiciousness, antisocial and aggressive behaviors, schizophrenia-spectrum disorders, and cross-cultural comparative research. Her most recent publication is a review on the developmental aspects of childhood schizotypy and suspiciousness (Wong & Raine, 2018).

For Review Only