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Marco Del Giudice [a]

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[a] Department of Psychology, University of New Mexico. Logan Hall, 2001 Redondo Dr. NE, Albuquerque, NM 87131, USA; email: marcodg@unm.edu

Abstract

Sex differences in attachment styles have been described in adulthood, emerge as early as middle childhood, and can be sizable when described at the appropriate level of analysis. However, they have received relatively little attention in mainstream attachment research. Here I review the evidence of sex differences in attachment, including what is currently known about developmental patterns and cross-cultural variation. I summarize existing evolutionary models of sex differences, and discuss evidence for a role of prenatal and postnatal sex hormones. I highlight current theoretical and empirical gaps in the literature, and call for more integrative research on this fascinating topic.

Keywords: Attachment, evolution, gender, middle childhood, sex differences.

Introduction

The idea that males and females show systematic differences in their attachment styles is relatively new, and so far has received little attention in mainstream attachment research. However, there is growing evidence that such differences exist in adulthood, emerge as early as middle childhood, and are sizable when described at the right level of analysis [1-3]. Here I consider some reasons for this neglect, review the evidence of sex-differentiated styles and discuss their possible evolutionary basis. I argue that sex differences represent an opportunity for attachment researchers—because acknowledging them would expand existing theory and suggest novel hypotheses, but also because a deeper understanding of the functions of attachment behaviors in males and females would help reconnect the field to its evolutionary roots [4,5].

The Place of Sex Differences in Attachment Theory

Classic attachment theory is formulated in sex-neutral terms, and does not predict or explain the emergence of sexually differentiated styles. Bowlby's key intuition was that the attachment system is an evolved mechanism with the ultimate goal of promoting the infant's survival—achieved via the proximate goal of keeping caregivers close and available in case of need [6]. Male and female infants face essentially the same threats to health and survival, and need the same protection and investment from caregivers. Thus, there are no evolutionary reasons to expect that infants and young children should develop sex-differentiated attachment styles. When researchers started to explore the involvement of the attachment system in adult relationships, they built on the sex-neutral foundations of infant research. Instead of following Bowlby's ethological approach and considering the implications of adult attachment for biological fitness (which is a function of survival *and* reproduction), mainstream attachment research has focused almost exclusively on intrapsychic costs and benefits (e.g., avoidance protects from feelings of distress and rejection [7]).

At the same time, adult attachment research has documented an impressive range of correlations with social and relational outcomes. In sexual/romantic relationships, these include mate selection, couple stability, infidelity, and various sexual behaviors [7,8]. But attachment styles also influence parenting, caregiving, and even people's sensitivity to danger [9]. These findings powerfully challenge the standard sex-neutral model, since many if not most of the outcomes associated with individual differences in attachment have different fitness costs and benefits for males and females—costs and benefits that may partially shift depending on ecological and social factors (see [8,10,11]). Precisely because adult attachment styles are so consequential for mating and parenting, evolutionary considerations suggest that they should *not* be identically distributed in the two sexes. Moreover, one should not expect sex differences to be present from birth; instead, they should develop according to the biological functions of successive life stages. Revising attachment theory to account for the development of sex differences will require broadening the focus from intrapsychic to fitness-related costs and benefits, and from survival—which dominates in infancy and childhood—to reproduction, mating, and parenting [4,8,12].

Sex Differences in Adulthood

Individual differences in romantic attachment map on two weakly correlated dimensions, *anxiety* and *avoidance*. Across countries, men tend to be higher in avoidance while women are higher in anxiety. World-average effect sizes are small, with Cohen's *d* values between 0.10 and 0.20 in community samples and less than 0.10 in college samples [1]. Web-based studies have failed to detect significant sex differences, although the scarcity of men who take relationship questionnaires online (20-30% of participants) casts doubts on their representativeness (see [1]). At the same time, there is considerable cross-cultural variation in the size of sex differences. Differences are largest in Western and Middle Eastern countries, and smaller in places with high levels of adversity, mortality, and fertility (including several African countries). As ecological stress becomes more severe, avoidance increases (and/or anxiety decreases) in both sexes but more steeply in women, thus narrowing the gap [13,14]. The main exception to this pattern is China, where sex differences are very small and appear to be virtually absent in college students [1,15,16].

From an evolutionary standpoint, it is reasonable to regard romantic attachment as a component of human mating and reproductive strategies [8,12-14]. Briefly, romantic avoidance partly functions as a strategy to *minimize commitment* in the context of pair bonding and promote short-term mating, whereas the main function of anxiety is to *maximize investment* from partners and relatives. In harsher ecological conditions low-commitment strategies are favored, and avoidance rises in tandem with preference for casual sexual relations and lack of relationship exclusivity [17,18]. Men can potentially gain larger reproductive benefits from sex with multiple partners; accordingly, they display higher avoidance (on average), and seem to become more avoidant and/or less anxious in stressful conditions. Women are expected to respond with anxious strategies that promote continued investment—even at the expense of well-being and couple satisfaction—and may switch to low-commitment mating under more severe conditions than men [8]. At the other end of the spectrum, safe environments and high attachment security should contribute to align the reproductive interests of men and women, promoting reciprocal commitment and shared investment in parenting. This schematic functional model may need to be refined, to the extent that romantic anxiety and avoidance (as usually defined) capture distinct phenomena that share similar affective and behavioral manifestations. For example, avoidance may sometimes reflect a generalized suppression of mating motivation rather than a shift toward short-term relations [1,19].

While overall sex differences in romantic attachment are small, it would be a mistake to discount them as trivial. In addition to cross-cultural variation, there are age-related patterns in effect sizes: differences in anxiety peak in young adulthood, whereas differences in avoidance increase throughout life [1,20]. Even more importantly, the largest sex differences may not occur at the level of broad dimensions such as anxiety and avoidance, but at that of narrower attachment facets. This is a common pattern in personality research: small sex differences in broad traits (e.g., extraversion) often mask larger effects of opposite sign in facets of the same traits (e.g., dominance vs. sociability [21]). The same phenomenon seems to occur in romantic attachment [3]. Specifically, avoidance can be split into *self-reliance* (higher in men) and *discomfort with closeness* (similar in men and women); anxiety can be split into *preoccupation*, *neediness* (both higher in women), and *rejected desire for closeness* (higher in men). In a

preliminary study, some of these effects were in the range of d = 0.30-0.50, and were significant even in absence of overall differences in anxiety and avoidance [3].

In contrast with the evidence of reliable sex differences in self-reported romantic attachment, a meta-analysis of studies conducted with the Adult Attachment Interview (AAI) showed virtually no effect on the frequency of categorical "states of mind" [22]. However, in a subsequent study in which AAI protocols were scored dimensionally instead of categorically, men were higher in dismissiveness (d = 0.52) and women in preoccupation (d = 0.20) [23]. This finding demonstrates that sex differences are not merely an artifact of self-report questionnaires. Still, romantic styles and AAI states of mind may have partially distinct functional implications and reflect different aspects of individual strategies. For example, attachment states of mind seem to predict parenting behaviors better than mating [4,8]. The functional relations between states of mind and romantic styles are still poorly understood; a focus on sex differences may offer valuable insights in this regard.

Sex Differences in Childhood

In general, studies of attachment in infancy and early childhood have found no evidence of systematic sex differences [8]. The picture changes dramatically in middle childhood (about 6-11 years). Research has documented robust differences mirroring those observed in adulthood, with boys higher in avoidance and girls higher in preoccupation/ambivalence [2,24-30]. This pattern has been replicated in North America, Europe, Israel, South Korea, and China, with dimensional scores from questionnaires and categorical classifications from doll-play tasks. Moreover, boys consistently show higher disorganization—an intriguing finding considering that early disorganization is a precursor of dismissing states of mind in adolescence (e.g., [31]). Interestingly, studies of Chinese children have consistently found sizable differences in the expected direction [28-30]; the contrast with romantic attachment in adults is puzzling, and should be addressed by future research.

When does this pattern emerge in development? For many behaviors including aggression and play, the transition from early to middle childhood is marked by the onset or intensification of sex differences, likely triggered by the rising levels of androgens secreted by adrenal glands [32]. It is reasonable to hypothesize that attachment styles may follow a similar trajectory, and that sex hormones may modulate the attachment system is sexually differentiated ways [2,8]. In support, an indicator of prenatal androgen exposure (digit ratio) predicted higher avoidance and lower preoccupation in children aged 8-10, consistent with an "activational" effect of adrenal androgens [27]. However, a recent study found significant sex differences already around 5 years of age, with no significant increase later on [25], which appears inconsistent with a major role of adrenal androgens. If replicated (the study included relatively few younger children), this finding would suggest that sex differences emerge independently from adrenal androgens; alternatively, sex differences may intensify in middle childhood instead of appearing for the first time, and detecting changes may require larger samples (e.g., the non-significant interactions between sex and age in [25] were in the expected direction). Longitudinal hormonal data will be crucial in addressing this question.

While romantic attachment styles in adults can be readily linked to mating and reproductive strategies, the functional logic of sex differences in middle childhood is less straightforward. Avoidance in boys and preoccupation in girls might turn out to be non-functional precursors of adult styles. Alternatively, they may be components of nascent mating/reproductive strategies, which begin to manifest in middle childhood to allow a phase of practice and feedback before sexual maturity. This interpretation is strengthened by the fact that the onset of romantic and/or sexual attraction also occurs in middle childhood, as part of the initial awakening of mating motivations [32,33]. Moreover, attachment styles at this age correlate with key aspects of social behavior (including status competition), which have partly different implications for males and females [2]. Clearly, there is still much to learn about the functions of attachment in middle childhood. The same applies to the role of environmental factors. In a recent study, children who experienced high maternal hostility showed smaller sex differences in preoccupation (mainly because of lower preoccupation in girls), with no effect on avoidance [34]. If one treats hostility as an indicator of environmental stress, these findings are only partially consistent with the idea that high-adversity conditions reduce the size of sex differences. Another important gap in the literature is the lack of longitudinal studies addressing the stability of attachment from middle childhood to adulthood, which makes it harder to interpret the available data.

Conclusion

Sex differences in attachment styles have been documented in both children and adults. While overall differences in romantic attachment are often small, their size varies depending on ecological and cultural factors; moreover, moving to the level of facets may reveal stronger and theoretically meaningful patterns. It remains unclear when sex differences emerge in development. Initial data pointed to middle childhood as a key transition—consistent with a role for adrenal androgens—but the evidence is still insufficient to draw definite conclusions. In adults, romantic attachment can be viewed as a component of mating and reproductive strategy, while the function of attachment states of mind has yet to be investigated in detail.

In this paper I adopted an evolutionary perspective on attachment, and discussed the function of individual differences in terms of their effects on biological fitness [35]. However, the end goal is to integrate the evolutionary level of analysis with the mainstream emphasis on psychological processes—including affect, memory, and attention [7]. Researchers who report sex differences in attachment often explain them by invoking gender socialization. A biological perspective suggests that, in addition to children's experience with caregivers and social learning, the development of attachment may involve other factors such as sex hormones and genetic variation. For example, sex differences in preoccupation in middle childhood are larger in children who show gender-typical interests and satisfaction with their gender [34]. However, this finding does not rule out genetic and hormonal contributions, since gender-related interests are themselves heritable and influenced by early sex hormones [36-39]. The expression of genetic variation unfolds across development, and can be modified by hormonal changes [2,32]. This may contribute to explain the gradual increase in the heritability of attachment styles from infancy to adulthood [40]. Sex differences offer a functional perspective on these intricate processes—one more reason to integrate them within mainstream attachment theory.

References and Suggested Readings

1.** Del Giudice M: **Sex differences in romantic attachment: A meta-analysis.** Pers Soc Psychol Bull 2011, **37**:193-214.

This study provided the first meta-analysis of sex differences in the anxiety and avoidance dimensions of romantic attachment and their variation across geographic regions. The paper also discussed some theoretical and methodological issues involved in the study of sex differences with attachment self-reports.

2. Del Giudice M: **Attachment in middle childhood: An evolutionary-developmental perspective.** New Dir Child Adolesc Dev 2015, **148**:15-30.

3.* Del Giudice M: **Sex differences in romantic attachment: A facet-level analysis.** Pers Individ Dif 2016, **88**:125-128.

This study analyzed romantic attachment self-reports from Italy and the USA and found larger sex differences at the level of narrow facets, compared with the broader dimensions of anxiety and avoidance.

4. Del Giudice M, Belsky J: **Evolving attachment theory: Beyond Bowlby and back to Darwin.** Child Dev Perspect 2010, **4**:112-113.

5. Simpson JA, Belsky J: **Attachment theory within a modern evolutionary framework**. In *Handbook of attachment: Theory, research, and clinical applications* (3rd ed.). Edited by Cassidy J, Shaver PR. Guilford; 2016:91-116.

6. Bowlby J: *Attachment and loss: Vol. 1. Attachment*. Basic Books; 1982.

7. Mikulincer M, Shaver PR: *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). Guilford; 2016.

8.** Del Giudice M: **Sex, attachment, and the development of reproductive strategies.** Behav Brain Sci 2009, 32:1-21.

This theoretical paper summarized previous evolutionary work on attachment styles, and advanced an integrative model of the development of sex differences and their functional significance, from childhood to adulthood.

9. Ein-Dor T, Mikulincer M, Shaver PR: **Attachment insecurities and the processing of threat-related information: Studying the schemas involved in insecure people's coping strategies.** J Pers Soc Psychol 2011, 101:78-93.

10. Geary DC: *Male, female: The evolution of human sex differences*. American Psychological Association; 2010.

11. Buss DM (Ed.): *The handbook of evolutionary psychology* (2nd ed.). Wiley; 2015.

12. Kirkpatrick LA: **Evolution, pair-bonding, and reproductive strategies: A reconceptualization of adult attachment.** In *Attachment theory and close relationships*. Edited by Simpson JA, Rholes WS. Guilford; 1998:353–393.

13. Schmitt DP, Alcalay L, Allensworth M, Allik J, Ault L, Austers I, Bennett KL, Bianchi G, Boholst F, Borg Cunen MA, et al: **Are men universally more dismissing than women? Gender differences in romantic attachment across 62 cultural regions**. Pers Relat 2003, **10:**307-331.

14.** Schmitt DP: **Evolutionary perspectives on romantic attachment and culture: How ecological stressors influence dismissing orientations across genders and geographies**. Cross Cult Res 2008, **42:**220-247.

This paper summarized previous cross-cultural findings on sex differences in romantic attachment, and employed an evolutionary perspective to examine the effect of social and ecological variables on the magnitude of sex differences.

15. Shu C, Chen X, Liu Y, Zhang X, Hu D, Hu N, Liu X: **Gender and birth cohort differences in adult attachment in Chinese college students: A meta-analysis**. Pers Individ Dif 2017, **105**:300-311.

16. Li D, Shu C, Chen X: **Sex differences in romantic attachment among the Chinese: A meta-analysis.** Manuscript under review.

17. Schmitt DP: **Is short-term mating the maladaptive result of insecure attachment? A test of competing evolutionary perspectives.** Pers Soc Psychol Bull 2005, **31:**747-768.

18. Schmitt DP, Jonason PK: **Attachment and sexual permissiveness: Exploring differential associations across sexes, cultures, and facets of short-term mating**. J Cross Cult Psychol 2015, **46:**119-133.

19. Del Giudice M: *Evolutionary psychopathology: A unified approach.* Oxford University Press; 2018.

20. Chopik WJ, Edelstein RS, Fraley, RC: **From the cradle to the grave: Age differences in attachment from early adulthood to old age**. J Pers 2013, **81:**171-183.

21. Del Giudice M: **Gender differences in personality and social behavior**. In *International encyclopedia of the social and behavioral sciences* (2nd ed.), edited by Wright JD. Elsevier, 2015:750-756.

22. van IJzendoorn MH, Bakermans-Kranenburg MJ: **Invariance of adult attachment across gender, age, culture, and socioeconomic status?** J Soc Pers Relat 2010, **27**:200-208.

23*. Haydon KC, Roisman GI, Owen MT, Booth-LaForce C, Cox MJ: **Shared and distinctive antecedents of adult attachment interview state-of-mind and inferred-experience dimensions**. Monogr Soc Res Child Dev 2014, **79:**108–125.

This was the first study to report reliable sex differences in attachment states of mind assessed with the Adult Attachment Interview, using dimensional scores instead of discrete categories.

24. Del Giudice M: **Sex-biased ratio of avoidant/ambivalent attachment in middle childhood**. Br J Dev Psychol 2008, **26**:369-379.

25.** Gloger-Tippelt G, Kappler G: **Narratives of attachment in middle childhood: do gender, age, and risk-status matter for the quality of attachment?** Attach Hum Dev 2016, **18**:570-595.

To date, this is the largest study of sex differences in attachment in early and middle childhood, based on several samples from Germany and other European countries. The study analyzed the effect of age, risk status, and their interaction on sex differences in attachment styles (measured as discrete categories).

26. Choi WJ, Kang S, Hong SB, Kim CD, Yi SH: **The distribution of attachment types and their characteristics in middle childhood boys**. Korean J Child Stud 2016, **37:**5-18.

27.* Del Giudice M, Angeleri R: **Digit ratio (2D:4D) and attachment styles in middle childhood: Indirect evidence for an organizational effect of sex hormones**. Adapt Hum Behav Physiol 2016, **2**:1-10.

This study provided the first indirect evidence that prenatal/early postnatal exposure to sex hormones may contribute to individual and sex differences in attachment in middle childhood.

28. Chen BB: **The association between self-reported mother–child attachment and social initiative and withdrawal in Chinese school-aged children**. J Genet Psychol 2012, **173**:279-301.

29. Chen BB, Chang L: **Adaptive insecure attachment and resource control strategies during middle childhood**. Int J Behav Dev 2012, **36**:389-397.

30. Chen BB, Santo JB: **Mother–child attachment and social withdrawal in urban Chinese children**. Soc Behav Pers 2016, **44**:233-245.

31. Weinfield NS, Whaley GJ, Egeland B: **Continuity, discontinuity, and coherence in attachment from infancy to late adolescence: Sequelae of organization and disorganization.** Attach Hum Dev 2004, **6**:73-97.

32. Del Giudice M: **Middle childhood: An evolutionary-developmental synthesis**. Child Dev Perspect 2014, **8**:193-200.

33. Herdt G, McClintock M: **The magical age of 10**. Arch Sex Behav 2000, **29:**587–606.

34. Pauletti RE, Cooper PJ, Aults CD, Hodges EV, Perry DG: **Sex Differences in preadolescents' attachment strategies: Products of harsh environments or of gender identity?** Soc Dev 2016, **25:**390-404.

35. Scott-Phillips TC, Dickins TE, West SA: **Evolutionary theory and the ultimate–proximate distinction in the human behavioral sciences**. Perspecti Psychol Sci 2011, **6:**38-47.

36. Lippa RA: Biological influences on masculinity. In *APA handbook of men and masculinities*. Edited by Wong YJ, Wester SR. APA Press; 2016:187-209.

37. Lippa RA, Hershberger S: **Genetic and environmental influences on individual differences in masculinity, femininity, and gender diagnosticity: Analyzing data from a classic twin study**. J Pers 1999, **67:**127-155.

38. Loehlin JC, Jönsson EG, Gustavsson JP, Stallings MC, Gillespie NA, Wright MJ, Martin NG **Psychological masculinity-femininity via the gender diagnosticity approach: Heritability and consistency across ages and populations**. J Pers 2005, **73:**1295-1320.

39. Manning JT, Trivers R, Fink B: **Is digit ratio (2D: 4D) related to masculinity and femininity? Evidence from the BBC Internet Study**. Evol Psychol Sci 2017, s40806-017-0098-4.

40. Barbaro N, Boutwell BB, Barnes JC, Shackelford TK: **Rethinking the transmission gap: What behavioral genetics and evolutionary psychology mean for attachment theory. a comment on Verhage et al. (2016)**. Psychol Bull 2017, **143**:107-113.