

2015

Moving Towards a Nuanced Understanding of Human Mating Preferences and Strategies: A Critique of Evolutionary Psychologists' Emphasis on Sex Differences

Kathryn V. Walter

Follow this and additional works at: http://digitalwindow.vassar.edu/senior_capstone

Recommended Citation

Walter, Kathryn V., "Moving Towards a Nuanced Understanding of Human Mating Preferences and Strategies: A Critique of Evolutionary Psychologists' Emphasis on Sex Differences" (2015). *Senior Capstone Projects*. Paper 405.

This Open Access is brought to you for free and open access by Digital Window @ Vassar. It has been accepted for inclusion in Senior Capstone Projects by an authorized administrator of Digital Window @ Vassar. For more information, please contact DigitalWindowAdmin@vassar.edu.

Moving Towards a Nuanced Understanding of Human Mating
Preferences and Strategies: A Critique of Evolutionary
Psychologists' Emphasis on Sex Differences

By Kathryn V. Walter

First Reader: Professor Robert McAulay

Second Reader: Professor Janet Gray

Thesis submitted in partial fulfillment of the requirements for a major in the program in
Science, Technology, and Society (STS)

May 1, 2015

*This thesis is dedicated to my parents, William and Stacy Walter.
Thank you for making me an evolutionary success!*

ABSTRACT: This thesis examines how evolutionary psychologists study human mating preferences and strategies: the theories they test, the methods they use, and how they analyze their findings. Women's long-term mate preferences for high status, tall, investing men with resources and men's long-term mate preferences for young, beautiful women are discussed and critiqued. Evolutionary psychologists' focus on and exaggeration of sex differences as well as the controversial nature of their claims illustrate the need for a multitude of perspectives in the scientific study of human mating. Two models for study are compared: the male competition, female choice (MCFC) model and the mutual mate choice (MMC) model. An MMC perspective may be important in correcting the overemphasis on sex differences in evolutionary psychology's study of mating preferences and strategies.

TABLE OF CONTENTS

INTRODUCTION: *You: An Evolutionary Success Story* 5

CHAPTER ONE: *The Pillars and the Players* 11

CHAPTER TWO: *What Women Want* 20

CHAPTER THREE: *What Men Want* 40

CHAPTER FOUR: *The MCFC Model vs. The MMC Model* 61

CONCLUSION: *A Multitude of Perspectives* 78

INTRODUCTION

You: An Evolutionary Success Story

A theory that can't give a satisfying account of your own mind, and the minds you've loved, will never be accepted as providing a scientific account of the other six billion human minds on this planet. Theories that don't fulfill this human hunger for self explanation may win people's minds but it will not win their hearts."

—Geoffrey Miller (*The Mating Mind*, 2000; 29)

One of the most exciting things about the study of human mate choice is that your personal experience matters. And because your personal experience is bound to be unique and informed by a range of social and ideological factors, the study of innate mate selection processes is bound to be controversial when findings conflict with your personal philosophies. While there are many academic fields studying mate choice, this thesis examines how evolutionary psychologists (EPs) research and describe human mating preferences and strategies. EPs "explore the psychological adaptations that constitute human natures and their evolutionary origins" (Sefcek et al., 2007; 2). In other words, an EP attempts to discover what psychological adaptations developed in humans during the Pleistocene era of 10,000 to 1.8 million years ago and how these adaptations shape our behavior in our modern environment. Many of these mechanisms are thought to have evolved before our ancestors left Africa about 60,000-80,000 years ago (Sefcek et al., 2007; 3). Therefore, the scope of evolutionary psychology is extensive, spanning across about 2 million years of history and the entire human population.

From the perspective of an evolutionary psychologist, you are the product of thousands of generations of your ancestors successfully mating and reproducing. You are

an evolutionary success story equipped with a body and mind carefully shaped and selected for by thousands of your relatives over a couple million years (Miller, 2000; 32). While the focus of this paper is much more specific to evolutionary psychology's research on human mate preferences and strategies over the last twenty years, I want to emphasize this extended perspective of human history under which EPs operate. The Pleistocene era occurred before the agricultural revolution 10,000 years ago, before the industrial revolution around 250 years ago, and before all of the rapid technological and societal changes that have occurred in our more recent history. The Pleistocene is thought to be a relatively slow-paced and unchanging period of history by modern standards (Sefcek et al., 2007; 3), which provided enough consistency and time for humans to evolve psychological mechanisms adapted to their Pleistocene environment.

This brings me to the first and perhaps most debilitating criticism of the field of evolutionary psychology: we cannot test what life was like in the Pleistocene era. This is a valid criticism—we cannot go back in time and ask our ancestors what qualities they preferred in a significant other or what types of relationships they pursued. However, thinking in such a way is also a copout; yes, it is true scientists cannot test what life was like for our million year old ancestors, but they have some ideas about what it might have been like. First, there are anthropological studies of various hunter-gatherer or forager populations “untouched” by modern civilization, though almost all of these have been exposed since the original studies. Second, you and I are clues to what life may have been like. Modern human body structures, behaviors, and preferences that are universal across cultures are considered good indicators of traits selected for throughout the Pleistocene. Third, scientists can use studies of primates and other animal species to do

cross-species comparisons to humans. Using these methods, scientists infer what life may have been like hundreds of thousands of years ago and what adaptive problems our Pleistocene ancestors faced.

A second criticism of the field of evolutionary psychology is an ideological criticism. Evolutionary psychology provides support for and upholds theories of innate differences between the sexes. The logic is that males and females have evolved different psychological mechanisms because they faced different adaptive problems in our Pleistocene past. Again, the first criticism could be and is used against EPs here—that we can't test what problems males and females faced during the Pleistocene era. Another criticism comes from those who believe that there are no psychological differences between the sexes. Those who come from a “nurture-only” ideology will and do have big problems with the claims and findings of EPs and vice versa—so much so that the two camps are usually irreconcilable. However, “nurture-only” criticisms are valuable because they provide EPs with relevant information about the way social and cultural factors can exaggerate and create sex differences. Although EPs do believe that our modern behavior and preferences are the result of both nature and nurture, claims by evolutionary psychologists can sometimes overstate sex differences and understate situational factors.

This thesis examines how EPs study human mating preferences and strategies: the theories they test, the methods they use, and how they analyze their findings. By delving into the paradigm and looking closely at the findings of EPs as well as discussing disagreements among EPs, or between EPs and other critics, my hope is to illustrate a picture of a scientific field that is alive, shifting, and multifaceted. Differences in

perspective, offered by both scientists and nonscientists, are crucial to the creation of new hypotheses, the correction of old biases, and the provision of alternative interpretations and analyses of data.

To understand how EPs study mate choice we must go back in time and discuss the origins of evolutionary psychology's approach to the study of mate preferences and strategies. In chapter one, I discuss the two foundational theories ("pillars") that inform EPs' study of mating processes: sexual selection theory and parental investment theory. I also introduce various authors, some EPs and some critics and scientists outside of the field, the "players" whose voices I use to discuss evolutionary psychology's methodologies, findings and theories.

Chapters two and three are devoted to exploring the sex differences most commonly claimed by EPs in their study of men and women's long-term mate preferences. The chapters are divided by sex; chapter two discusses women's long-term mate preferences—the relatively established female desire for a high status, tall, investing man with resources; while chapter three discusses men's long-term mate preferences—the relatively established male desire for a young, beautiful woman. While these may be considered established facts by EPs, a closer examination of the evidence cited by EPs and the incorporation of various critiques allows us to form a more nuanced if less stable understanding of men's and women's mating preferences.

The discussion of both men and women's long-term mating preferences also reveals EPs' focus on sex differences, rather than similarities between the sexes. Evolutionary psychology operates on a sex binary and the preferences discussed here are heterosexual preferences. Another criticism of evolutionary psychology is that it often

excludes a portion of the population, those who don't fall into the sex binary and those who are not heterosexual. My hope is that more research will be done in these less studied areas as I believe it will be beneficial to discovering and revealing a more complete understanding of human mating. However, within this text I stick to discussing mating preferences as heterosexual within a men/women sex binary. Chapters two and three also continue our journey through time as the sources my discussion centers around were published from 1999-2005.

Chapter four brings us to September 2013, and discusses two theoretical models—the male competition, female choice (MCFC) model and the mutual mate choice (MMC) model—used by EPs to study mate selection processes (as they are outlined in a recent issue of *Psychological Inquiry*). Each operates on a different understanding of what life was like in the Pleistocene; within evolutionary psychology's study of human mating strategies there is disagreement over what mating strategy (monogamy or pair bond, polygamy, or promiscuity) was most prevalent in Pleistocene human populations. To date, aspects of both models are often interwoven and can contradict each other in EP's research and theory discussion. However, a distinction between the MCFC model and MMC model is important because each presents EPs with a different theoretical framework and with different implications for interpretation of data and future research directions. To be more specific an MCFC model or lens looks for sex differences, while and MMC does not and focuses instead on differences between individuals. I compare these two models and explain how an MCFC lens has led to the exaggeration of sex differences and that an MMC perspective may be important in correcting this overemphasis on sex differences in mating strategies and preferences.

Before you begin reading, I would like to reiterate how important your personal experience is within this discussion of human mating preferences and strategies. While EPs stress the unconsciousness of the psychological mechanisms discussed here (one does not need to be consciously aware of their preferences in order to act on them—often we do not analyze scientifically why we are attracted to a certain person, we are simply attracted to them), your personal experience and ideology is readily available to you and may contradict the theories presented here. However, I would advise you to read with an open mind and to pay attention to how the theories discussed here sit with you personally as well as what prior commitments you bring to the table.

CHAPTER ONE

The Pillars and the Players

“If it is intuitive, test it.”

—Patricia Gowaty (in a lecture given at Pepperdine University, 2009)

The Pillars

Evolutionary psychology’s study of human mate choice has been built off of two theories: the theory of sexual selection and the theory of parental investment. In 1871, Charles Darwin first introduced sexual selection theory in *The Descent of Man and Selection in Relation to Sex*. In addition to evolution through natural selection, animals evolve through another mechanism, sexual selection, or the ability of an individual to attract a mate and produce offspring. A distinction between natural selection and sexual selection became necessary when characteristics of certain species were observed to have no benefit in the survival of an individual (in some cases features that had been sexually selected could in fact harm an individual’s survival). The classic example is that of the peacock’s extravagant tail—a cumbersome, though beautiful, burden that simultaneously makes the bird clumsier and more visible to predators. The tail’s purpose is not to aide the peacock in survival but to aide the peacock in successfully attracting a mate and passing on his genes (Hrdy, 2000; 36). A living peacock with a very bright and costly tail advertises “good genes” to a female peahen; a peacock that has survived with and can support such an ornate tail must have a high level of “fitness”. Fitness is a relative

measure of the reproductive success of an individual's set of genes. For example, the quality of a peacock's tail is an example of a fitness indicator, or a biological trait that evolved to display one's fitness level to a potential mate. A higher fitness individual supposedly has better genes due to a lower mutation load, and is therefore a more desirable mate. The reasoning behind this theory that higher fitness individuals have lower mutation loads is due to the idea that a species living in one environment for many generations would have adapted optimal genes for its environment. Therefore, deviations from this "optimal norm" would indicate a higher mutation load (Miller, 2000; 102-103). A peacock's tail varies among individuals and therefore is a good indicator of the relative fitness of each individual. However, the concept of fitness as a ranking system implies a specific desired genetic norm, and that variations from the norm are undesirable as they indicate high mutation loads. One critique of sexual selection theory is its implication of a genetic "best"—a sort of one-size-fits-all desirable mate. As we will see as we discuss the factors that comprise human mate choice in depth, our mating decisions are far more complicated than sexual selection theory initially indicates. The process of choosing a long-term mate in humans involves many more factors than picking the individual with the "best" tail, an already vague guideline for mate choice in peacocks. However, the example of the peacock's tail is useful due to the tail's clear lack of benefit for individual survival, and its indication of another selective force: sexual selection.

The language of Darwin's original description of sexual selection theory emphasizes a difference in roles along gender lines. He confidently describes general mate selection strategies employed by the male sex: "the males of almost all animals [have] stronger passions than the females. Hence it is the males that fight together and

sedulously display their charms before the females; and those which are victorious transmit their superiority to their male offspring” (Darwin, 1871; 272). He describes the basis for what is known as male-male competition, in which males of a species compete for access to females. Competition can manifest in a few different ways: outfighting, dominating, or excluding rivals; appearing more attractive to the opposite sex; or—in the extreme—killing a rival’s offspring in order to replace it with one’s own (Hrdy, 2000; 36). Darwin’s typecast of the ardent male was perhaps a result of his observations of animals in nature or perhaps a reflection of his own Victorian courtship biases. Regardless, the language associating males with aggression and the idea of male-male competition for mates has remained salient in discussions of human mating strategies today.

Darwin’s theory and description of the female role in sexual selection potentially reveal similar preconceptions of a stereotypically Victorian female nature: “The female, on the other hand, with the rarest exception, is less eager than the male... she generally "requires to be courted;" she is coy, and may often be seen endeavouring for a long time to escape from the male... the female, though comparatively passive, generally exerts some choice and accepts one male in preference to others” (Darwin, 1871; 273). The “coy” female, is somehow both passive and active, her attempt to escape a male’s courtship simply is a signal for the male to try harder. This could easily be read as blatant evolutionary support for “no” means “try harder”, but is important to realize the societal norms of the 19th century that surrounded Darwin, which did in fact keep women from revealing their feelings or encouraging the courtship advances of man until she had decided on the one she would choose to marry. Because initial lack of receptivity of

Darwin's theory of sexual selection was partially due to his proposal that the power of choice was held by the female sex, Darwin may have been attempting to mitigate this power awarded to females by providing a passive description of females standing around or running away until finally exerting "some choice". Unfortunately, this has led to a misunderstanding and lack of clarity in descriptions the female's role in mate selection processes. I discuss how I define "female choice" in chapter two.

Since 1871, the language describing the ardent male and the coy female has stuck in theories of animal and human mating strategies and preferences. The result is established and separate male and female roles in the discussion and study of mate selection processes. This is the basis for the male competition, female choice (MCFC) model. However, it wasn't until 1972 when Robert Trivers published his essay, "Parental Investment and Sexual Selection," and provided a logical explanation for male-male competition and female "choosiness" that research on mate preferences took off. According to Trivers, the difference between the strategies of the two sexes was due to the differences in minimum obligatory parental investment. This difference begins with the disparity in gamete size— males have small gametes and females have large gametes. In humans, men produce millions of tiny sperm that replenish at a rate of 12 million per hour while women are born with a fixed amount of approximately 400, comparatively much larger, ova. For men the minimum obligatory parental investment can be a single act of copulation and ejaculation, while for women minimum obligatory parental investment does not end with copulation but includes ovulation, gestation and lactation. In humans, minimum obligatory parental investment for women is a nine month

pregnancy, and then potentially a couple years of breastfeeding, whereas for men minimum obligatory parental investment can be as short as a few minutes.

The subsequent logic is that while males are interested in quantity of offspring, females are interested in quality of offspring because they can only have a limited number of children. Therefore women are more choosy and men compete for access to this limited resource—the chance to sire one of the limited number of children women will have in their lifetime. Therefore, a traditional understanding of human mating strategies is inherently gendered: men and women approach mating with different goals—hence, the ardent male, and the coy female. This uneven approach to mating where women are choosy and men are less choosy, where women pursue long-term mating strategies and men pursue short term mating strategies, and where women are interested in quality, and men are interested in quantity, is the foundation on which mainstream established theories of human mating rest (the MCFC model).

The Players

David Buss is considered a leader in the field of evolutionary psychology. While he studies many aspects of evolutionary psychology, I focus on his work on human mating strategies and preferences. His theories of men's and women's long-term mating preferences are largely supported by evidence from surveys that he created that have been taken by over 10,000 men and women across 37 cultures and 6 continents. He describes these preferences in *Evolutionary Psychology: The New Science of the Mind* (1999). Because Buss is an established EP who supports theories of innate sex differences in human mating strategies and preferences, he and his claims have been subject to intense

criticism over the past twenty years. Other scientists studying human mate choice often cite or critique Buss's work in order to expand upon or strengthen their own point of view. In this respect, I follow a similar pattern, centering my own discussion in chapters two and three around Buss's analysis of men's and women's long-term mate preferences. This structure allows me to weave in different voices that critique Buss and what could be considered a "traditional" EP approach to the study of human mating (explanations of human mating strategies and preferences that rest on the understanding of sexual selection theory and parental investment theory outlined above or the MCFC model). Critiques of EPs often focus on the following specific long-term mate preferences: that women desire a high status man with resources, and that men desire young, beautiful women. I will outline the reasoning and data behind these statements in chapters two and three as well as present alternative theories and the intense criticism that these statements receive.

One such critic is Natalie Angier, a scientific journalist who wrote a poignant article in the *New York Times*, "Men, Women, Sex, and Darwin," (2000) that called attention to the "hardcore masculinist lens" of EPs and the inflexibility and narrow pigeon-holing of women and men into specific and stereotypical mating roles. Her feminist critique of Buss is shared by a few other women scientists: Sarah Blaffer Hrdy, Patricia Gowaty, and Joan Roughgarden. Hrdy's work in *Mother Nature* (2000) centers on the choices that mother's make, and critiques EPs' obsession with female beauty: "any Pleistocene woman who relied on looks alone to pull offspring through was not likely to be a mother very long or leave descendants" (Hrdy, 2000; 24). Her insistence that mothers make choices that balance between their own self-interest and the interests of

their offspring provides a valuable perspective in the discussion of mate choice, as the ultimate goal of selecting a mate is to reproduce. Sexual selection only works if one's offspring also survive to mate and reproduce. Hrdy also emphasizes the importance of female choice and the active role of woman in mate choice.

Gowaty and Roughgarden are concerned, like Angier, with the narrowness of mainstream evolutionary psychology's dichotomy of men and women. Gowaty dislikes that EPs' explanations of human mating behavior imply that there is a single "best mate" and ignore the huge variability in factors that affect mate choice. She believes that not everyone is programmed to want the alpha male. Instead she is developing a flexible theory of mating behavior in which both sexes display either choosy or indiscriminant behavior based on life history, environmental, and social cues (Gowaty & Hubbell, 2005). Similarly, Roughgarden has rejected Darwin's sexual selection theory, (and therefore evolutionary psychology's theories) which she believes cannot "be widened and extended to account for gender and sexuality diversity" (Roughgarden, 2004; x). As a transgender woman, Roughgarden's perspective is different than most other scientists studying human mating using Darwin's theories. Unable to reconcile her own personal experience and beliefs with the reigning theory of sexual selection, she developed a new theory, "social selection," which focuses on individual participation in a social infrastructure that produces and raises offspring, rather than on how to attract a mate. "Social selection" is more inclusive in that it allows for diversity of gender and sexuality (Roughgarden, 2004; x). As I mentioned in the introduction, EPs theories discuss and focus on the preferences and strategies of heterosexual men and women. While Gowaty and Roughgarden are not featured in the remainder of this thesis, their work represents an

alternative approach to the study of human mating which differs from the approach used by EPs. Their perspectives are incredibly important to keep in mind as we move forward and discuss the theories and type of questions asked and studied by EPs within their specific Darwinian paradigm. Gowaty and Roughgarden represent scientific study and research that is happening alongside the studies and research discussed here in this paper. In that sense they are examples of scientists exploring other options that will either add to or challenge EPs' knowledge about how humans mate and reproduce.

Alternatively, David Buller, a philosopher of science, is dissatisfied with the current scientific evidence supporting Buss's and other EPs' explanations of human mate preferences, but not the foundations on which EPs' theories rely on (sexual selection and parental investment). He does believe that the evidence for Buss's theories rests on guesswork of what life was like in the Pleistocene. He responds directly to Buss's theories in *Adapting Minds* (2005) a book in which he critiques the work of some EPs—calling attention to the somewhat questionable support for a traditional EP understanding of men and women's long-term mating preferences.

Finally, Geoffrey Miller, an evolutionary psychologist, offers the unique and growing perspective that his field does not do enough to describe the complexity of human mating behaviors. He believes that EPs have ignored crucial fitness indicators that affect mate choice such as creativity, intelligence, story-telling ability, music, dancing etc. (Miller, 2000). He represents a movement within evolutionary psychology towards a mutual mate choice (MMC) model; one that focuses on individual differences in mating behaviors and strategies rather than sex differences in mating behaviors and strategies. The difference and overlap between an MCFC model and an MMC model as

well as the importance of differentiating the two models will be discussed in chapter four. In the next two chapters I will use Buss, Buller, Hrdy, Angier, and Miller to show the ways in which EPs' develop theories, do research, and analyze results in the study of women's and men's long-term mating preferences. I will discuss the intense criticisms EPs' theories and methods of study receive from both scientists and nonscientists and will point out the controversies that develop because of these disagreements.

CHAPTER TWO

What Women Want

“We do not expect to find simple answers to what women want. Perhaps no other topic has received as much research attention in evolutionary psychology, however, and so we have some reasonably firm answers to this longstanding question.”

—David Buss (*The Handbook of Evolutionary Psychology*, 1999; 104)

Female Choice

The concept of female choice within discussions of human mate selection has emphasized women’s long-term, high investment mating strategies. Women are often assumed to be monogamous, desiring a long-term mate over a short-term mate. Part of this distinction is due to Trivers’s theory of parental investment, which for humans means that biologically, women have a higher minimum parental investment in their offspring than men. Another influence is the language used by Darwin and the Victorian prudery that has carried us forward to now and present day stereotypes (Hrdy, 2000; xvi). It has been commonly claimed by EPs that women are the choosier sex (Stewart-Williams & Thomas, 2013; 157). The problem with the current perception of “female choice” is the synonymy of “choice”, with “choosier” and “coy”. Therefore, it is pertinent to examine what exactly female choice means for humans before discussing women’s mating preferences.

Female choice first means that women are able to choose what type of relationship they would like to pursue— short-term, medium-term, long-term— the

length of which could be placed along a spectrum, from a single act of copulation to a life-time pair bond. This decision in our Pleistocene past would have been influenced by a number of environmental factors: food scarcity, number of males, danger (pathogens or predators), social customs, and the availability of choice. For example, if food is scarce a woman may want to pursue a long-term relationship with a partner who can help provide food for herself and her offspring. Or perhaps she may choose to pursue a short-term relationship in addition to a long-term relationship to secure additional resources. She may choose a short-term mate simply because she is attracted to someone (to acquire “good genes”) and rely on kin to assist in raising any subsequent offspring (alloparents). She may also have any ability to choose removed from her. Forced copulation, or rape, or infanticide (when a male kills a female’s existing infant: “he essentially nullifies any previous choice the mother might have exercised in her selection of the father of the killed offspring” (Hrdy, 2000; 41)) mean that female choice is often compromised or nonexistent. Therefore, the word “choice” is sometimes unclear due to the number of factors influencing a woman’s decision, all of which can limit her choices. The safest way to think about “female choice” is that it does not stand alone but is made within the context of a woman’s environment and preferences.

Notice how this discussion of female choice did not assign any specific personality traits to women (like coyness or passivity) and it did not imply that women are choosier than men—this is done purposefully and is meant to provide clarity, as well as highlight how scientists need to redefine terms and be careful with the language they are using. This definition of “female choice”— a woman selecting a mate based on her environment and her preferences—could easily be used to define “male choice” or

“individual choice” if we replace woman with man or individual. For EPs who are moving away from a strict male competition, female choice (MCFC) model, and towards a more encompassing model that acknowledges both male and female choice, and male and female competition, as well as male and female differences and individual differences, a classical or traditional understanding of “the coy female” will no longer suffice.

This chapter examines the mate preferences, commonly cited by EPs, of heterosexual women who are pursuing long-term relationships. The specific preferences discussed here include female preferences for a mate with resources, high status, height and athleticism, and a willingness to invest in children. This is not meant to present a complete picture of women’s preferences in a long-term mate, rather to highlight the areas in which EPs have found differences in the desires of men and women. As I mentioned at the beginning of this chapter, women have generally been assumed to prefer a long-term monogamous mating strategy under a traditional understanding of sexual selection theory and parental investment theory (the MCFC model). The reasons for this will be discussed in chapter three and chapter four. However, this chapter is meant to introduce the ways in which EPs studying these subjects do their research, analyze their results, and arrive at conclusions.

I use Buss as my primary source in this section, as he has led the research in evolutionary psychology’s study of universal mate preferences. Since his most extensive work on mate choice was published in the mid to late nineties, I weave in critiques, new research, and alternative theories throughout.

The Importance of Resources

The first preference we will discuss is women's preference for a long-term mate with resources. Buss states that a woman's preference for a mate with resources evolved because of three conditions: 1) resources, such as territories and tools, have been monopolized and controlled by men worldwide, 2) men differ in the amount of resources they control, and 3) and men differ in how they allocate those resources. Men, unlike most other primates, invest in their mates and offspring. Therefore, Buss maintains, women benefitted from pair bonds with men who were able and willing to invest in them and their offspring (Buss, 1999; 104).

What resources do men invest? What indicates to woman that a man has resources he is willing to invest in his mates and offspring? Buss lists a few examples ways that men invest resources: men "provide food, find shelter, defend territory, and protect children...tutor children in sports, hunting, fighting, hierarchy negotiation, friendship, and social influence" (Buss, 1999; 106). These sound suspiciously stereotypically male, and the list has no citation—however that doesn't necessarily mean that these are not resources men provide. Perhaps this is what Buss has observed in his own life or read of in accounts of hunter-gatherer groups, we cannot be sure. It could also be an example of what Angier refers to as the "cranky and despotic Cyclops" of evolutionary psychology "glaring through an overwhelmingly masculinist lens" (Angier, 1999; 1). The situation that Buss has illustrated is one that is patriarchal: men control resources and women depend on men for access to those resources. Buss mentions an alternative theory, the *structural powerlessness hypothesis*: because women do not have access to the resources controlled by men, they have a preference for a mate with resources. This hypothesis

provides a social explanation. Before we discuss this alternative, let's delve a little deeper into the theory that women's long-term preference for a mate with resources is innate.

Note: The following preferences that we discuss are labeled women's preferences because on average women desire these qualities more than men. It does not mean that men do not desire these qualities; rather men desire these less, relative to women.

Preference for High Socioeconomic Status

The first indicator that Buss uses to prove that women desire a long-term mate with resources is that women prefer a man with high socioeconomic status. Buss divides this desire into a preference for *good financial prospects* and *high social status*. I've combined the two into one section because they are often related. In studies conducted in 1939, 1956, 1967, and 1985, women in the United States valued "good financial prospects" in a mate about twice as highly as men. The rating was based on a three point scale from 0 (irrelevant) to 3 (indispensable). In 1939, men valued "good financial prospects" at 0.9 while women valued it at 1.8. In 1985, men valued "good financial prospects" at 1.02 while women valued it at 1.9 (Buss, 1999; 106-107). While this data seems to show that the relationship between men and women's preferences for "good financial prospects" has remained somewhat stable for 45 years, it would be important to identify if there has been any change recently and if that change is correlated with any other trends, such as increasing gender equality and the increasing number of women in the workforce.

Another way EPs measure preference for economic resources is by asking women and men to indicate their minimal acceptable earnings for their partner depending on the relationship level. For example, in 1990, American college women indicated that the minimum acceptable earnings for a husband is the seventieth percentile—men earning more than 70% of all other men. For men the minimum acceptable earnings for a wife was in the fortieth percentile (Buss, 1999; 107). This measurement is interesting because it indicates a person's earnings relative to other's earnings, potentially implying a woman's preference for high status. However, as Buller points out in his critique, the subjects in this study were undergraduate students. Therefore, their education gives them medium socioeconomic status and it is possible that some had higher social class origins. The data then might support an alternative theory that women prefer a mate similar to themselves in socioeconomic status, or *mate status homogamy* (Buller, 2005; 239).

Regardless, the study's findings are undermined by inequality of salaries based on gender in the United States. Women earn less than men, about $\frac{3}{4}$ of the dollar for every dollar a man earns, even in the same job—therefore men's lower minimum acceptable earnings threshold for a wife might be an indication of economic inequality between the two sexes, not necessarily an indication of a sex difference in preferences. It also might be true that because of this inequality in pay, women still rely on men for income, while men do not need to rely on women for income. Therefore, women's preference for men with high socioeconomic status could be more of an indication of current gender inequality than an indication of an evolved preference.

Buss supplies even more data to support evolutionary psychology's theory that women prefer men of high socioeconomic status in his cross cultural study of 37 different

cultures and 10,047 individuals. Though there was variation in magnitude (for example, women in Japan rated “good financial prospects” about 150 percent more important than men, while in the Netherlands women valued “good financial prospect” only about 36 percent more than men) overall women preferred husbands with “good financial prospects” more than men did for wives (Buss, 1999; 109). According to EPs, a woman’s preference for a mate with high socioeconomic status is an adaptation. A partner with resources was necessary support for ancestral women faced with “the tremendous burdens of internal fertilization, a nine-month gestation, and lactation” (Buss, 1999; 109). In addition, EPs claim that for a preference to be a human adaptation it must be universal. Buss claims that his data supports evolutionary psychology’s theory that women prefer men with resources universally.

However, as Buller points out, we do not actually know if Pleistocene hunter-gatherers led a uniform lifestyle. In some groups that have been studied, female foraging provided two-thirds of total daily caloric intake. In another instance, a Hazda woman received more food from her mother than from her mate (Buller, 2005; 229). These examples cast some doubt on whether a Pleistocene woman even needed a long-term partner that supplied resources, or whether she relied on other sources (kin, herself). There is also some confusion about what high socioeconomic status means in the Pleistocene era and today. Economic status and social status can be separated (think *House of Cards*—money or power?), but are often combined and related (resource wealth brings power, power brings resource wealth). According to Buss, in the Pleistocene era, a high status male would have a position in the status hierarchy, and the higher the position the more resources he would receive (Buss, 1999; 110). Buss maintains that

high status is important in women's long-term mate choices. High status, he states, "would provide a powerful cue to his possession of resources" (Buss 1999; 110).

Today, status is linked with education and type of profession. Both are related to income levels or "good financial prospects". Similar to Buss's findings on financial prospects, women prefer men of high social status in a long-term mate more than men prefer women with high social status in a long-term mate. In his cross-cultural study (1989) he found that "in the vast majority of the thirty-seven cultures...women valued social status in a prospective mate more than men" (Buss 1999; 111). For Buss, this preference for high status indicates a women's preference for men with resources.

Miller, a fellow EP, critiques Buss: "I respect [Buss's] data enormously, but disagree with his interpretation" (Miller, 2000; 211). Miller argues that status is also correlated with heritable fitness. Status could be an indication of energy level and intelligence, for example. Buller mentions something along similar lines—a strong correlation between attractiveness, income level and occupational achievement (Buller, 2005; 248). In other words, wealth and status, which are not genetically heritable, may not be as important as qualities that are heritable, qualities that wealth and status can indicate. Miller argues that "the problem comes when we try to project wealth indicators back into a Pleistocene past when money did not exist, when status did not imply wealth, and when bands did not stay in one place long enough to defend piles of resources" (Miller, 2000; 211). He disagrees with Buss's statement that status would be an indication of resource wealth in the Pleistocene. To sum up Miller's point, a woman's preference for a mate with high status might be because she prefers a quality in a mate that is associated with high status but is heritable, like intelligence, ambition, or

creativity. Today, when status and wealth are often combined, a woman's preference for a man with resources may be simply an expression of a preference for another trait that is heritable.

Unlike Miller, Buller does critique Buss's data, quoting Buss himself that the data is not as inclusive of low-income rural populations as it could be "and cannot be viewed as representative of the populations in each country" (Buller, 2005; 243). According to Buller, without a representative sample, it is impossible to know whether all women from all socioeconomic statuses prefer a man with high socioeconomic status. Buller argues that the data might support a form of assortative or similar mating (status homogamy) where people are interested in marrying someone of similar socioeconomic status. He suggests that "females merely appear to prefer high earning capacity, but the data don't provide good evidence that they in fact do" (Buller, 2005; 241).

EPs, Delton, Robertson & Kendrick (DRK), however, respond to Buller in "The Mating Game Isn't Over: A Reply to Buller's Critique of the Evolutionary Psychology of Mating" (Delton et al., 2006). DRK begin their rebuttal by challenging both the structural powerlessness hypothesis and the status homogamy hypothesis, two theories that Buller proposes in lieu of EP's theory of women's innate preference for a high status man with resources. The first, the structural powerlessness hypothesis, is the theory that women prefer a man with resources and high status because of structural gender inequality. According to the hypothesis, in our patriarchal culture, a woman is dependent on her mate for both status and resources, and her mate preferences are simply a reflection of that fact. DRK argue that this cannot be true, because "as women increase in SES, they prefer increasingly high status males" (Delton et al., 2006; 268). In other

words, wealthy or highly educated women (aka women who arguably don't need resources from a man) still prefer high status males. However, Buller already accounted for this fact within his argument, stating: "There is no reason why a preference formed through twenty or so years of such [patriarchal] socialization should disappear simply because a woman finds herself earning a good salary" (Buller, 2005; 242). Parental or societal expectations, Buller argues, are a much larger factor than EPs acknowledge.

In this situation, DRK and Buller represent two different ideological camps that appear to be irreconcilable on this specific issue. This is even more obvious when DRK's next argument relies on the two pillars of the evolutionary psychology of mating:

The evolutionary hypothesis relies on the biological principles of differential parental investment and sexual selection, which have been supported by thousands of observations in other animal species. According to the structural powerlessness hypothesis, humans are exempt from these same principles and selection pressures and yet—due to historical and cultural contingency—humans (presumably by coincidence) exhibit exactly the behavior and manifest psychology as would be predicted based on these selection pressures. Although this hypothesis [structural powerlessness] is not logically impossible, it seems highly unlikely that such an unparsimonious explanation is needed to explain human behavior (Delton et al., 2006; 268).

DRK invokes the two "pillars" of EPs study of mating preferences and strategies: sexual selection theory and differential parental investment theory. This is essentially the same argument that we will see Buss make in chapter four in defense of innate psychological sex differences, and refers to a specific understanding of parental investment theory—parental investment theory through the lens of an MCFC model. I will unpack this argument in chapter four—why EPs point to observations in other species as proof, why they constantly argue against the structural powerlessness hypothesis (or a "nurture-only" model). However, this is a perfect example of two sides of a controversy talking past each other without listening to what the other has to say.

On a practical level, if we move away from the two extremes (it's all nurture or it's all nature), it is possible for both sides to be true: a woman's preference for a high-status long term mate can be a result of both the environment she is in, and an innate psychological preference. The sides do not necessarily have to be irreconcilable. Part of the problem is the claim by EPs like DRK that "Evolutionary psychologists are already way ahead of Buller in the rigor and nuance of their theories" (Delton et al., 2006; 271). However, in the same paragraph they state, "women prefer high-status men" (Delton et al., 2006; 271). Period. That is not a nuanced statement. It is simplistic and doesn't accurately portray the data or give a clear picture of what women actually prefer. As we've gone through a number of the studies that EPs use to prove this point, it is more accurate to say in the last hundred years, women, on average, have expressed a preference for a high-status mate with resources, more so than men, on average, have expressed a preference for a high-status mate with resources.

Older Men

"Do women love older men?" Angier asks. "Do women find gray hair and wrinkles attractive on men?" (Angier, 1999; 3) Evolutionary psychologists argue that yes, women on average do prefer older men, although not perhaps old enough to have gray hair and wrinkles. Angier takes EP's claim that women prefer older men in a long-term mate to the extreme as a rhetorical tool, however the data that Buss presents is less extreme. He finds that, on average, women preferred to form a long-term relationship with men that were three and a half years older than themselves. The average age difference between actual brides and grooms worldwide is three years, which according

to Buss suggests that women's desires align closely with their actual choices. His reasoning is that a man's age is related to his wealth and status—as a man gets older his wealth and status increases. He also states that anthropologists believe that a man's peak hunting ability is in his mid-thirties (Buss, 1999; 113).

Younger women are not drawn to substantially older men as Angier suggested, which Buss attributes to the fact that substantially older men have a higher risk of dying and therefore would not be able to help raise children (Buss, 1999; 113). This resource reasoning is subject to the same criticisms as above. Another reason that women might not choose a long-term mate that is substantially older than them (if their desire is to have children) is that men also have a biological clock, though not as limited as women.

According to Buller, a study of !Kung fertility found that men who were fifty had a three percent chance of siring an offspring, which dropped to zero percent at age fifty-five. In a British study with 8,515 couples, males over thirty-five were half as likely as males under twenty-five to impregnate their partners within twelve months (Buller, 2005; 220). In addition, Buller states that male sex drive peaks in the twenties and declines throughout the rest of life along with a reduction in volume and force of ejaculation and a reduction of the number of motile sperm. According to Buller, this “hardly paints a picture of a well-oiled sex machine designed to impregnate females even on a deathbed” (Buller, 2005, 220). However, while men also have a biological clock, it is true that a woman's biological clock is comparatively shorter and ends more definitively (menopause).

The discussion surrounding the age preferences that men and women express for a long-term mate is full of resentment and sex warfare. Angier provides a few alternative reasons for a woman's preference for an older man.

Assuming that women find older men attractive, is it the men's alpha status? Or could it be something less complimentary to the male, something like the following -- that an older man is appealing not because he is powerful but because in his maturity he has lost some of his power, has become less marketable and desirable and potentially more grateful and gracious, more likely to make a younger woman feel that there is a balance of power in the relationship? The rude little calculation is simple: He is male, I am female -- advantage, man. He is older, I am younger -- advantage, woman. By the same token, a woman may place little value on a man's appearance because she values something else far more: room to breathe. Who can breathe in the presence of a handsome young man, whose ego, if expressed as a vapor, would fill Biosphere II? Not even, I'm afraid, a beautiful young woman. (Angier, 1999; 3)

Despite her use of stereotypes (young men have big egos), Angier touches on the fact that women make choices for a variety of reasons, and potentially choose partners that offer benefits other than status and resources. She also expresses some anger at the stereotypes that evolutionary psychologists like Buss seem to have "proven" with their interpretation of the data, like female preference for the alpha male. However, she fights fire with fire, exchanging one stereotype about women (that women want older men for their increased resources and status) for another (young men have big egos). The strength of her argument lies in that fact that today, women still depend on men for status and resources—"he is male, I am female—advantage man," which according to critics Buller, Angier, Hrdy, and Miller, was not necessarily a Pleistocene problem. She also highlights the fact that female preference for attractiveness in a mate has often been overshadowed or deemed not as important as her preference for material resources or "good dad" qualities.

The inverse of women's preference for older men is evolutionary psychology's theory that men prefer younger women in a long-term mate. Men's preference for youth

in a long-term mate is an even more controversial subject than women's preference for older men, and will be addressed in chapter three.

Height and Athleticism

Buss states that women prefer tall, physically strong, and athletic men (Buss, 1999; 117). He reasons that a tall, strong man can protect a woman from physical domination and violence from other men. Studies of American women show that women rate "physically strong" at 1.5 on a scale between -3 (extremely undesirable) and 3 (extremely desirable). Men rated their desire for "physically strong" women at 0.87 (Buss, 1999; 117). "Women differ in the exact male height they prefer but almost always prefer a man taller than themselves" (Miller, 2000; 228). Following EPs' logic, the difference in size between men and women (men are ten percent taller than women across human populations and have forty-one percent more fat-free muscle mass than women) could be a result of women's preference for taller, muscular men (Stewart-Williams & Thomas, 2013; 141).

In a study done of 18,819 married couples with children in the United Kingdom in 2000 (response rate of 68%), researchers found that men were taller than women in 92.5% of the couples (Stulp et al., 2013). This could indicate that women's preference for taller men affects actual long-term mating decisions. However, the findings could also illustrate a preference for another characteristic correlated with height such as education (Stulp et al., 2013). Both tall women and men have been found to be more satisfied with their height than shorter men and women. This might be indicative of the correlation of height with health, wealth, and socioeconomic status (Sorokowski & Butovskya, 2012).

This correlation potentially illustrates another reason why women prefer taller men—height’s association with wealth and status. Finally, women are more likely than men to completely rule out a potential partner due to their shorter height (Stulp et al., 2013).

Why is lack of height such a deal breaker for women? EPs provide an answer: “women, especially when pregnant, and children were vulnerable to attack by predators, resulting in injury or death” (Sefcek et al., 2007; 11), and therefore relied on men for protection in the Pleistocene. Men are often thought of as “protectors”, and physical strength assumed via height could be indicate a man’s ability to protect his family. While this could still be a viable explanation for women’s preference for tall, strong men (especially in regards to protection from other men), EPs also need to take into account cultural factors that could influence these preferences. One factor could be simply the portrayal of men and women in heterosexual romantic relationships in the media—because masculinity is associated with largeness and femininity is associated with smallness—the man is often taller than the woman. In addition, the research done on height preferences is mostly done in Western cultures. Research in other cultures does not suggest the same male-taller norm (Sorokowski & Butovskya, 2012). Therefore, EPs who claim that for a preference to be innate, it needs to be universal, need to do more research before declaring that all women prefer taller men due to problems faced by women in their evolutionary past. However, they have done an excellent job of documenting modern Western women’s preference for taller men.

Willingness to Invest in Children

Another factor that influences women's long-term mate selection is whether a potential mate is willing to invest in her children. Evolutionary psychology has established that women prefer mates that invest in their children and that a sexually selected trait varies widely among the sex of a species. Buss states that this is true in human males based on two facts: men are sometimes interested in sexual variety and can pursue mating opportunities rather than parental opportunities, and that men face parental uncertainty and can allocate parental care based on the likelihood that they are the genetic father of the child. Therefore, willingness to invest in children varies among men (Buss, 1999; 122). The subsequent logic is that women evolved a preference for men who are willing to invest in their children.

As proof, Buss describes a study done by Peggy La Cerra in 1994 which had 240 undergraduate women rate five different images on how attractive they found the man in each image, for different levels of relationships (date, sexual partner, marriage partner, friend, neighbor). The five images depicted the same man in several different conditions: vacuuming, standing alone, interacting with an eighteen month old child (smiling, making eye contact, and reaching for the child), ignoring the same crying child, and facing forward with the child also facing forward (Buss, 1999; 122). The rating scale was from -5 (very unattractive) to 5 (very attractive).

The man standing alone and standing neutrally next to the child both received a score of 2.0 for marriage partner. The man ignoring the child in distress was the most unattractive for a marriage partner with a score of 1.25, with the vacuuming scoring 1.3. The most attractive rating was given to the image of the man interacting positively with

the child, a 2.75. Therefore, the study concluded that for potential marriage partners, attractiveness of men is increased by cues of their affection for a child and decreased by cues of their indifference towards a child in distress (Buss, 1999; 122).

To test whether this was a distinctive preference of women and not just a human preference, La Cerra did the same test but with a woman in the images and men doing the ratings. Men's ratings remained the same (2.7) across all contexts. Therefore, Buss uses this evidence to provide proof of women's (and not men's) desire for a long-term mate that is willing to invest in her children (Buss, 1999; 122). Though this is a very interesting study; one study done with undergraduate students does not prove that women have an evolved, innate preference for men willing to invest in her children. However, it is not unreasonable to think that women and men would prefer a mate who will invest in their offspring since caring for a human infant is so costly.

There is a phrase in the study of human mate choice that women want “dads not cads” in long-term mates. This means that women want a long-term mate who is invested in them and their offspring rather than a man who is uninterested in committing to them (the phrase has also been used in reference to looks—indicating that women choose commitment over attractiveness in a long-term mate). However, there is not really an equivalent in men's preferences for women. You will see in the next chapter that evolutionary psychology focused on physical qualities of women—can she bear children? Is she attractive? Nowhere is there a question of whether or not she will invest in her children. It is assumed that she will—it's her maternal nature. Perhaps this is why men did not differ their ratings of attractiveness even when the woman was ignoring a baby in distress. There appears to be an assumption that all women are good mothers.

But not all men are good fathers, according to sexual selection theory and evolutionary psychology's interpretation: men vary in the ways and how much they invest in their children. In *Mother Nature*, Hrdy talks about maternal nature and the choices that mothers make.

As with other mammals, a mother's emotional commitment to her infant can be highly contingent on ecologically and historically produced circumstances. No one knows how the underlying mechanisms work. But it is a reasonable guess that such mechanisms involve thresholds for responding to infant cues. These would be endocrinologically and neurologically set, possible during pregnancy and prior to birth, rendering a mother more or less likely to become engaged by infantile cues as she makes decisions about how much of herself to invest in her infant (Hrdy, 2000; 316).

Hrdy suggests that a mother's investment may be a decision or a choice that is dependent on her situation. In other words, there are perhaps evolved mechanisms for maternal love that may or may not be activated, or may be activated to a certain extent. She gives an example of the Ayoreo Indians of Bolivia, where in one village, during a war in 1932-1935, almost every mother had committed infanticide, burying alive 38 percent of infants born (Hrdy, 2000; 314). She notes that this is age dependent, with younger mothers more likely to respond to poor circumstances by choosing not to invest in their children than older mothers (younger mothers have more chances to conceive).

She describes the phenomenon of infant abandonment in Europe in the 1500s-1800s, where millions of babies were left at foundling homes, often with a mortality rate of 80 to 90 percent (Hrdy, 2000; 303-304). As a sociobiologist and feminist, Hrdy does not discount or dismiss an innate maternal nature, rather she describes a maternal nature that is highly dependent on a mother's situation. She also states that as mothers and infants remain close after birth, attachment grows and so that "across primates, including humans, wherever mothers abandon babies they almost invariably do so within the first

seventy-two hours” (Hrdy, 2000; 316). A mother makes decisions based on her own circumstances and the circumstances that face her children. Her maternal “nature” is constrained by situational factors, making it a decision or choice whether or not to be a “good mother”. “Across cultures—in South America, New Guinea, Europe—the same mother who regretfully eliminates a poorly timed neonate will lovingly care for later ones if circumstances improve” (Hrdy, 2000; 314). A woman’s mating and subsequent mothering decisions and strategies are flexible, nuanced, and highly contingent on the individual’s situation. While mating and motherhood is often not thought of as a calculated, pragmatic decision, women make choices in order to survive and reproduce, and for their children to survive and reproduce.

Overall, we have seen how EPs study women’s long-term mate preferences, the logic behind their theories, as well as the specific studies that they use as evidence supporting their theories. We have also seen how critics respond to the claims made by EPs, what tools they use and what specific criticisms they make. In addition, EPs understanding of women’s long-term mate preferences rests on a specific conception of the problems faced by a woman in the Pleistocene. She faced a nine-month pregnancy, a few years of breastfeeding, and the challenge of providing for and raising her offspring to maturity; she faced animal predators and other predatory men. Therefore, our female ancestors benefitted from securing a committed mate who could provide resources and protection to her and her children. These women, EPs’ argue, were more successful at producing offspring that survived to adulthood. Their daughters inherited their mothers’ preferences and the cycle continued over thousands of generations until today. There is something enticing about the simplicity of this idea. However, I hope the discussion of

women's preferences in this chapter gave you some idea of the complexity of our mating choices, and how difficult it is to ascertain the extent to which our genes interact with our environment. As we move to chapter three and examine men's long-term mating preferences, it is important to pay attention to how EPs have conceptualized the specific problems faced by men in the Pleistocene, and how this has contributed to the way they study and explain men's mating preferences and strategies today.

CHAPTER THREE

What Men Want

“In many species, males differ vastly from females in reproductive potential. In humans, for example, the orgasm of one lucky man could theoretically inseminate at once all females within the city limits of Tuscon, AZ (female population approximately 250,000), whereas a woman can only successfully gestate a limited number of fetuses at one time.”

—Jon A. Sefcek, Barbara H. Brumbach, Geneva Vasquez and Geoffrey Miller (2007)

Men’s Mating Strategy

Men face the problem of paternity uncertainty. Unlike women, who can be one hundred percent confident that the child they carry for nine months and give birth to is their child, men can never be quite as secure. Because of this uncertainty, seeking a long-term monogamous relationship makes sense for a man interested in reproducing and passing on his genes. Within the discussion of mate choice among EPs, however, there is a lack of clarity surrounding men’s mating strategies: do men prefer a long-term mate or a short-term mate? Often there is the assumption or implicit indication that men, given their high reproductive potential, as illustrated by the quote at the beginning of this chapter, prefer to pursue a short-term mating strategy. Compared to women, men have a higher reproductive potential (men have millions of sperm that replenish, while women have around 400 ova) and a smaller minimum parental investment: “for men the consequences of a ‘poor’ choice in mate that leads to unhealthy offspring would at minimum mean the loss of a few seconds of time (how embarrassing!) and a few ounces of semen” (Sefcek et al., 2007; 17). Therefore, the logic follows that men can “afford” to pursue many short-term relationships with a variety of women without reproductive

consequences (and potentially reproductive benefits!). Due to these disparities between the sexes, men seeking long-term relationships and women seeking short-term relationships are often treated as exceptions rather than the rule.

A general assumption that women are interested in long-term relationships and men are interested in short-term relationships exists despite evidence of men in long-term committed relationships and the increased survival of offspring with paternal investment. This assumption fits nicely into the MCFC model because female desire for a mate who will provide a long-term commitment to her and her children constrains male desire for short-term relationships. According to Buss, “one solution to the puzzle of why men would seek marriage comes from the ground rules set by women. Because it is clear that many ancestral women required reliable signs of male commitment before consenting to sex, men who failed to commit would have suffered selectively in the mating market” (Buss, 1999; 131). Although it is far from clear what exactly ancestral women required, it is reasonable to theorize that perhaps they desired some sort of long-term pair bond in order to raise an offspring. What is also unclear is why men would not desire exactly the same thing—to find a partner to raise offspring with. This is the theory behind MMC—Mutual Mate Choice, where parental investment for both sexes becomes more equal because the typical parental investment for men and women is more similar.

However, traditional evolutionary psychology’s language, description and logic rely on the theory of minimum parental investment and therefore operates under the assumption that men would rather pursue short-term relationships with women than long-term relationships. EPs like Buss do acknowledge that men pursue long-term mating strategies and he explains the adaptive advantages a man may gain by pursuing a long-

term mating strategy: 1) increased odds of succeeding in attracting a mate, 2) increased ability to attract a more desirable mate, 3) increased paternity certainty, 4) increased survival of his children, and 5) increased reproductive success of children due to paternal investment (Buss, 1999; 133). These all seem like incredibly convincing arguments for men to desire a long-term partnership, so why does the myth persist that men are naturally more interested in pursuing a short-term mating strategy with a variety of women?

Part of this comes from extreme instances of men pursuing this strategy in our history, such as kings and despots who are known for having mistresses or harems. These men with resources and high status, according to Buss were “in a position to get exactly what they [preferred]” (Buss, 1999; 153). He describes, for example, the Moroccan emperor Moulay Ismail the Bloodthirsty, who had a harem of five hundred women under thirty. Ismail, with his immense wealth and social power, was unconstrained by women’s preferences (female choice was essentially eliminated as the women in his harem were heavily guarded and severely punished for any suspected adultery). While Ismail certainly had reproductive success, siring an estimated 888 children (Buss, 1999; 153), his life is an example of anecdotal evidence, not necessarily representative of all men. In addition, there is also the problem of figuring out whether men with high socioeconomic status like kings or despots are able to act on their “true” preferences because of their status, or if the types of men who are kings and despots already prefer to pursue a short-term mating strategy with a variety of women.

This assumption of men’s, but not women’s, interest in a short-term mating strategy is also due to various studies that asked women and men how many sexual

partners they desired over a certain period of time. In 1993, Buss & Schmitt conducted a survey that found on average, men desired 16 sexual partners and women desired 4 sexual partners in the next 30 years (Pederson et al., 2002, 157). Angier quotes Steven Pinker, an EP who explains the theory behind this finding: “a man who slept with fifty women could sire 50 children, while a woman who slept with fifty men could only sire one, thus men should seek quantity, women quality” (Angier, 1999; 4). This explanation is based on the differences between men and women’s reproductive potential and minimum parental investment. Angier responds by wondering how such a man in the Pleistocene would be able to keep the vast number of women he slept with from then sleeping with other men (confusing paternity), and where a man would find all of these women: “Population densities during that purportedly all-powerful psyche shaper, the ‘ancestral environment,’ were quite low, and long distance travel was dangerous and difficult” (Angier, 1999; 4). She has a point; the ability to mate with numerous different women or even the possibility to control a harem of women was most likely not an option for men before the agricultural revolution, before humans were able to stock pile resources and build up population size.

A study done in 2002 attempted to recreate and clarify the 1993 Buss and Schmitt “sexual partner” findings mentioned above. However, Pederson et al. found that medians, not averages, presented a better measure of central tendency and resulted in few sex differences. The most common answer (from 52% of men and 66% of women participating in the study) for the number of sexual partners desired over the next 30 years was one. This finding relates to their second study in which participants were asked whether they intended to settle down with one mutually exclusive partner in their

lifetime. Only 1.1% of the men and .8% of the women participating in the study said no. Furthermore, the median number of short-term sexual partners desired by both men and women in the study was zero (Pederson et al., 2002; 157-159). While the averages the Pederson et al. study found were similar to the results presented by Buss and Schmitt in 1993, Pederson et al. argue that their distributions were highly skewed by outliers, and therefore the mean did not effectively measure central tendencies. In a small comparison of two different studies, researchers reached opposite conclusions; Buss and Schmitt found sex differences in desired number of partners and therefore theorized that men want more sexual variety and short-term relationships more than women while Pederson et al. reached the conclusion that men and women are similar in their desires for a long-term monogamous relationship. The data collected by these scientists were similar, but their analyses were not. These contrasting conclusions (men are interested in short-term relationships more than women vs. men and women are both interested in long-term relationships) are illustrative of a larger controversy within EP: the disagreement over which mating strategy is innate in humans. This issue will be discussed more thoroughly in chapter four.

The point of the last few paragraphs is to illustrate the perspective and theories under which Buss operates, within the discussion of what men want. As the remainder of this chapter is devoted to discussing the qualities men prefer in a long-term mate, a discussion centered around his findings, it is important to understand how Buss has arrived at his conclusions. To his credit, Buss acknowledges that men (and women) pursue both short-term and long-term mating strategies. However, his emphasis on the different adaptive problems faced by both men and women (difference in reproductive

potential and minimum parental investment) results in an understanding of mating strategies that differs between the sexes (men prefer short-term relationships while men prefer long-term relationships, although both sexes pursue both types). Consequently, this results in qualities that men prefer in a long-term mate that differ from qualities that women prefer in a long-term mate, specifically men's preference for youth and beauty.

Youth

As we saw in chapter two, women prefer men who are about three and half years older than them. Men, on the other hand, desire a woman younger than them for a long-term mate. The reasoning behind men's desire for youth is because youth is tied to a woman's reproductive value. Reproductive value is defined by Buss as the number of children a person of a given age and sex is likely to have in the future (Buss, 1999; 133). Women's reproductive value declines as they get older. Fertility (actual reproductive performance) peaks in a woman's mid-twenties. Men cannot tell just from looking at a woman how fertile she is or what her reproductive value is. However, there are cues that men can see which can indicate a woman's fertility and reproductive value. The first is youth—a woman's reproductive value declines with age. Therefore, a man seeking a long-term mate, but also seeking to maximize his reproductive success would benefit from seeking a younger mate with a higher reproductive potential.

In all of the thirty-seven societies examined in Buss's study, men preferred younger wives—on average about two and half years younger (Buss, 1999; 135). While the desire for a wife younger than them appears to be, on average, universal, the age gap preference differs in different cultures. For example, in Scandinavian countries like

Finland, Sweden, and Norway, men prefer to marry women about one or two years younger while men in Nigeria and Zambia prefer brides that are about six and a half to seven years younger. However, Buss qualifies that the increased age preference in Nigeria and Zambia may be due to the polygynous mating systems there, in which men are older than in monogamous systems before they have acquired enough resources to attract a wife (Buss, 1999; 136).

Because an evolutionary model focuses on age as a cue for reproductive value and fertility, EPs also cite as proof, teenage boys' desire for slightly older women (aka women in peak fertility). Women in their twenties, however, did not express a desire to mate with adolescent males (Buss, 1999; 138). In addition, as men get older, they express a preference for increasingly younger women. Overall, Buss states that this data has supported evolutionary psychology's theory that "men desire young women because over evolutionary time youth has consistently been linked with fertility" (Buss, 1999; 139).

Buller, on the other hand, would argue that the data does not support evolutionary psychology's theory. The average age of actual marriage in Buss's study was 28.2 years for males and 25.3 years for women, a 2.9 year difference that seems to support EPs' theory. The average age for a woman's marriage is also close to peak fertility (Buller, 2005; 211). However, the average age of males in Buss's study was 23.49 years, so Buller argues that while Buss's study might show the preferences of younger men it doesn't do a good job of examining the preferences of older men—older men's preferences get lost in the averages (Buller, 2005; 212).

Buller proposes an alternative theory of age homogamy or assortative mating—mating with those of similar age to you. His logic is if the age preference is tied to

fertility and resource acquisition, then why is it not larger? Why do men express interest in marrying a 25-year old woman rather than a 20-year old woman? He believes that part of the close age difference is due to a desire for a mate that is similar in age and cites a study on mating by sociologist Edward Laumann that found similarity in age to be more important in mate choice than similarity in religious orientation (Buller, 2005; 213).

Still the persistent age difference of two and half years presents a problem to the theory of age homogamy. Buller suggests that this small age difference could be due partly to the difference ages at which men and women reach maturity. In humans, “males lag behind females in reaching puberty and full adult growth by two years, on average” (Buller, 2005; 214). While this potentially explains the data of 25.3 and 28.2 years old as the average age for women and men getting married, it doesn’t explain the variation in preference that occurs as we move out to younger and older men. Data shows that adolescent males prefer older women (in their 20s) and also that these women show no interest in adolescent males. Meanwhile data for marriages in Seattle and Phoenix in January of 1986, and data from marriages on the Philippine island of Poro between 1913 and 1939, in a study by Kenrick and Keefe, shows that as men get older they marry younger and younger women.

For example, in Phoenix and Seattle in 1986, on average, “males who married in their twenties married females a year or so younger; males in their thirties married females a few years younger; males in their forties married females about six years younger; males in their fifties married females about nine years younger; males in their sixties married females about ten years younger” (Buller, 2006; 216). As you can see, the differences in age between men and women who were getting married increased as men

became older. In Poro, the differences were even more extreme: “males in their twenties married females three years younger; males in their thirties married females about nine years younger; males in their forties married females about twelve years younger; males in their fifties married females fifteen years younger; and males in their sixties married females a full twenty years younger (Buller, 2005; 217). Though this supports Buss’s and evolutionary psychology’s theory that men prefer to mate with younger women, Buller points out that men in their fifties and sixties, though they married younger women, married women in their postreproductive years.

To test if this was a compromise men had to make (because older men are unable to attract women at peak fertility), Kenrick and Keefe gathered data on men’s preferred age for a mate, and compared it to the actual marriage data. The data supported men’s preference for women younger than themselves but men in their fifties and sixties still preferred women with a low reproductive value or women who were postreproductive (Buller, 2005; 217). In addition, Buller points out that data for men marrying in their fifties and sixties is almost always of men remarrying. He points out that this ignores a huge group (at least 50 percent) of men who choose to stay with wives who are most likely (given the data on marriages in men’s twenties and thirties) similar in age to them. “Divorce data, and independent data about the frequency of infidelity...shows that married people frequently have the option of taking up with a new mate” (Buller, 2005; 218). Therefore, Buller states that staying in a marriage is a choice, and therefore at least half of older men are choosing to be with women who are close to their age. The data on male preference for increasingly younger women then, according to Buller, is insufficient. This missing data as well as the variation in Kenrick and Keefe’s data (for

example, the fact that 53 year old males had preferences for mate ranging from 35-57 years old) (Buller, 2005; 219) leaves Buller unsatisfied with evolutionary psychology's explanation based on averages that ignore the huge amount of variation found in the data.

Buller suggests another alternative interpretation of the data: that men allocate resources between mating effort and parenting effort as a part of their reproductive effort. A man allocating his reproductive effort entirely towards mating effort, or effort expended to mate, will pursue young, fertile women. A man allocating their reproductive effort entirely towards parenting effort, or effort expended to raise an offspring, will allocate their reproductive efforts towards tending to their children. Buller states, "parenting effort, recall, is essential to reproductive success. For if one's children fail to reproduce, one has hit a genetic dead end, just as surely as if one failed to have children" (Buller, 2005; 221). Therefore, he reasons that reproductive effort shifts across the male lifespan. For example, adolescents who expressed a preference for women in their early and mid-twenties are representative of men engaging in pure mating effort. As a man has offspring, however, Buller suggests that more reproductive effort may be allocated towards parenting and less towards mating (Buller, 2005; 223). He also stipulates that this is not a universal trend, and some men continue to expend mating effort into older age—and these men he would expect to prefer much younger women. Others who are interested in parenting or grandfathering would divert more of their energy towards offspring, or towards their grandchildren, and also would be interested in a mate that could assist in parenting effort.

Though there is not much research on grandfathering, there is research by anthropologist Kristen Hawkes on grandmothering that claims, "through caring and

providing resources for their daughters and their daughters' children, grandmothers can promote their reproductive success more than if they were to have more offspring themselves" (Buller, 2005; 221). A grandmother providing resources and care to her daughter's children enables her daughter to produce more children than the grandmother could have had if she had continued reproducing throughout her lifetime (Buller, 2005; 221). In other words, an older woman enhances her reproductive success by expending more energy towards a parenting effort than towards a mating effort. For women, who have a specific window of fertility, pursuing a parenting strategy later in life makes sense to maximize reproductive success. Would the same strategy be as effective for a grandfather? As I mentioned in chapter two, Buller describes how men have a biological clock as well, and though they are technically able to sire a child later in life, the likelihood decreases with age. So grandfathering may be an effective strategy for men to maximize reproductive success as well. Buller is the first to point out that "there is insufficient evidence at this point to confirm any of these speculations." He then continues, "what is clear, however, is that the data don't fit Evolutionary Psychology's simple hypothesis that males prefer and choose females of high productive potential" (Buller, 2005; 224). Buller is criticizing EPs' interpretation of the data as well as their reliance on averages to provide proof of a universal preference. His closer examination of the data and suggestions of alternate interpretations are a call for a more nuanced and specific explanation of the data on male age preference. He concludes, "It is doubtful that the desire for fertile young women is as ineluctable a part of male psychology from puberty to death as Evolutionary Psychologists claim" (Buller, 2005; 224).

In “The Mating Game Isn’t Over” which was previously discussed in chapter two, EP’s Delton, Robertson and Kendrick (DRK) respond to Buller’s critique. They use the difference in biological clock to explain men’s desire for younger women: “Because women more than men invest physiologically in offspring and because women’s reproductive capacities suffer a much more severe age-linked decline than men’s (for instance, women undergo menopause), men, relative to women, are predicted to have a stronger preference for younger mates” (Delton et al., 2006, 263). Now, remember that Buller chooses not to emphasize this biological difference, in fact, he believes that men’s ability to reproduce into old age is over exaggerated. DRK regard this biological difference as an essential factor in explaining why men prefer younger women. In this specific instance, perhaps further testing of men’s and women’s reproductive potential over time would provide more clarity as to how extensive this difference is.

Regardless, DRK argues that Buller and EPs do not actually disagree on all that much. For example, DRK states, “Younger men are more likely to be playing a strategy emphasizing mating effort, and older men a strategy emphasizing parenting and grandparenting effort...this isn’t new or an alternative—it’s the prevailing consensus in evolutionary psychology” (Delton et al., 2006, 265). Buller presents this idea as an alternative but DRK point out that is a theory that has already been incorporated into evolutionary psychology’s paradigm. Perhaps the problem that Buller is alluding to with his critique is the blanket statements that EPs sometimes use, statements that present “hard” facts such as “Men prefer young, fertile women” (Delton et al., 2005, 271). As mentioned in chapter two, such a simple statement does not capture the complexity of men’s preferences and therefore, can be easily argued against. In addition, some EPs are

better at presenting essentially the same information in a way that is less controversial, or more well received by specific audiences.

One example is Miller, who agrees with EP's theories but also includes and acknowledges situational factors that could influence current evidence of men's expressed preferences for younger women. He suggests that, "male hominids may not have been quite so youth-obsessed as men from agricultural, pastoral, and modern civilizations" (Miller, 2000; 212). He explains that this is due to the enforcement of lifetime monogamy—the pressures of religion, law, and society for a man to mate with one woman for life "put a huge premium on youth" because younger women have higher reproductive potential. Miller agrees with DRK that men's biological clock declines more slowly with age than a woman's, so "female mate preferences need not have paid so much attention to a man's age as a cue of his reproductive ability" (Miller, 2000; 212). Notice though, how he phrases it from the perspective of women—and presents men's longer biological clock as a potential benefit for women (don't worry too much about his age, ladies!).

Though he agrees with the logic behind EP's theories, Miller believes the male preference for youth is overblown. He fathoms that our Pleistocene ancestors entered into "medium-term" relationships, an idea developed by anthropologist Helen Fisher, which theorizes that Pleistocene men and women formed monogamous pair-bonds long enough to produce a child and raise it past toddlerhood. This pair-bond relationship would typically last four or five years (Miller, 2000; 212). If this was indeed the case, then an older woman who had already given birth to and raised a healthy offspring might be considered to have a higher level of fitness than a younger woman with no offspring.

During her reproductive years, a woman's age does have a negative correlation with her fertility. But under challenging Pleistocene conditions, age would have had a positive correlation with heritable fitness because low-fitness individuals would have died younger. Any woman who managed to reach her mid-thirties and raise several children successfully, while staying physically and psychologically attractive, might have made a better genetic bet for a choosy male than an untested teenager of unproven fertility. Other male primates tend to shun adolescent females without offspring, and prefer older, high-ranking females with offspring who have already demonstrated their fertility, survival ability, social intelligence, and mothering skills (Miller, 2000; 212).

For Miller, the male preference for young women exists, but is either over exaggerated or partially a product of our modern culture. "Men in modern societies generally prefer the physical appearance of women around 20 years old to those who are older (or younger). But I have argued that this preference may have been amplified somewhat by the economic and religious pressures for monogamy since civilization arose, which makes finding a young bride crucial to a man's reproductive success" (Miller, 2000; 213). He lists other factors that may also be attractive to a mate: survival ability, social intelligence and mothering skills. Later he laments the lack of research on the age at which a woman's mind is most attractive, especially because data shows that men seeking a long-term relationship prefer women closer to their own age as they get older (Miller, 2000; 213). (Perhaps it is what is on the inside that really matters!) Despite his qualms with evolutionary psychology's simplistic approach and narrowness of scope, Miller supports the disciplines theory: "evolutionary psychology has rightfully emphasized the strong male human interest in young female bodies" (Miller, 2000; 213), though he thinks that they should direct their research to discovering what other preferences males have that are not so surface level, such as "the romantic interest aroused in both sexes by mature, worldly minds" (Miller, 2000; 213). His perspective includes not only social and environmental factors, but also a wider imaginative scope, appealing to a broader

audience of people who believe human mating cannot be as simple as men preferring younger women.

Preference for Physical Beauty

Buss found in his cross-cultural study that in every country that participated, men valued physical appearance in potential mate more than women (Buss, 1999; 145). A study done in the United States over fifty-seven years also shows that the importance of physical attractiveness in a mate is increasing for both men and women. In 1939, “good looks” in a marriage partner was rated on a 0 to 3 scale as 1.5 in importance for men and 0.94 in importance for women. Those numbers increased in 1996 to 2.11 for men and 1.67 for women (Buss, 1999; 144-145). However, Buss points out that the difference in importance between the sexes still persists: overall, men place more importance on attractiveness in a long-term mate than women do in a long-term mate.

“Good looks” is a vague term, so researchers have certain cues that signify physical attractiveness. Within evolutionary psychology, a woman’s physical attractiveness is a signal for youth, health, and fertility. Cues like “full lips, clear skin, smooth skin, clear eyes, lustrous hair, good muscle tone and body fat distribution” are examples of “observable evidence of a woman’s reproductive value” (Buss, 1999; 139). The logic is that men who did not prefer these qualities, “men who preferred gray-haired women with somewhat less smooth skin and firm muscle tone—would have had fewer offspring, and their line would have eventually died out” (Buss, 1999; 139). Buss states that certain qualities are universally attractive, such as, cleanliness, freedom from disease,

and symmetry; and others are universally unattractive, like sores and lesions, poor complexion, ringworm, facial disfigurement, and filthiness (Buss, 1999; 140).

An attractive face is one that is symmetrical and average. Studies show that individuals found composite faces, faces that were superimposed on one another to create one face, were more attractive than an individual face. A thirty-two face composite was judged to be more attractive than a sixteen face composite which was judged to be more attractive than an eight face composite. The explanation for this effect is that “superimposing individual faces tends to eliminate their irregularities and make them more symmetrical” (Buss, 1999; 141). However, symmetry alone is not enough to make a face attractive. Some symmetrical faces have been found to be unattractive, while some asymmetrical faces were rated as highly attractive. “These findings suggest that proximity to the population average remains an important determinant of attractiveness, above and beyond the effect of symmetry” (Buss, 1999; 142).

Within the field of evolutionary psychology, symmetry is an indicator of “fitness”. Fluctuating asymmetry (the opposite of symmetry) is “the degree to which bilaterally symmetrical features deviate from each other” (Sefcek et al., 2007; 12). For example, fluctuating asymmetry is a measure of the degree to which your eyes differ, or your ears differ, or any other paired body part differs. Environmental stressors like pollution, parasites, malnutrition, and blunt traumas, as well as genetic stressors like inbreeding and mutations increase fluctuating asymmetry (Sefcek et al., 2007; 12). High fluctuating asymmetry is related to “higher instances of health risks in males and females,” “overall lower fitness,” and “negative sperm parameters leading to infertility” (Sefcek et al., 2007; 12), just to name some examples. Symmetry is related to attraction

and health, and women pay attention to symmetry too, according to Buss, as a cue of good health (Buss, 1999; 118-119).

In the discussion of male mate preferences, female beauty is a cue for good health, youthfulness, and good reproductive value. According to Buss, standards of beauty are consistent across cultures (Buss, 1999; 140). In 1995, when a psychologist, Michael Cunningham, “asked people of different races to judge the facial attractiveness of Asian, Hispanic, Black, and White women in photographs, he found tremendous consensus about who is and is not considered good-looking” (Buss, 1999; 140-141). In addition, research has been done with infants, where babies were shown two pictures of faces that differed in levels of attractiveness. Babies stared longer at the faces that were more attractive. One-year-olds were found to play longer with facially attractive dolls than with unattractive dolls (Buss, 1999; 140). Buss claims that this evidence “challenges the commonly held view that the standards of attractiveness are learned through gradual exposure to current cultural models. No training seems necessary for these standards to emerge” (Buss, 1999; 140). Buss is saying that a preference for beauty is innate not something learned through culture. However, with the exception of symmetry and averageness, it is unclear what defines a beautiful face.

The Critical Waist-to-Hip Ratio

Standards for female bodily attractiveness are more clearly defined than facial attractiveness, and appear to have more cultural variation. For example, standards in different cultures vary along dimensions like a slim build vs. a plump build or lighter skin vs. darker skin. Type of build (slim or plump) preferred tends to vary based on food

scarcity within the culture. When food is scarce, a plump figure signals wealth, health, and adequate nutrition, while in food abundant cultures, slim people are considered to be wealthier and healthier (Buss, 1999; 142). However, evolutionary psychology supports the idea that a woman's waist-hip-ratio (WHR) provides cues to her health and reproductive status universally (Buss, 1999; 144). While both male and female children have similar fat distributions, during puberty, the release of estrogen in girls causes them to deposit fat in their hips and upper thighs, while men lose fat from their hips and thighs. WHR for both men and women prior to puberty ranges from 0.85 to 0.95. Puberty, however, causes women's WHR to decrease to 0.67-0.80 (meaning their waist is smaller than their hips), while men's remain in the 0.85-0.95 range (their waists and hips are more similar).

A lower WHR is associated with better health and better reproductive success. Women with higher ratios had more difficulty getting pregnant than those with lower ratios (Buss, 1999; 144). In a series of studies where men examined drawings of women with varying WHRs and varying amounts of fat, women with a WHR of 0.70 were judged as most attractive regardless of total amount of fat. In addition, an average figure was also judged the most attractive rather than a fat or thin figure (Buss, 1999; 144).

However, Buller points out the issues with the study Buss cites, a study done by Devendra Singh at the University of Texas (1995). Singh's study on male WHR preference had white male college students, older white males, Indonesian male college students, and African-American male college students participating in it. These participants found the 0.7 WHR to be most attractive, and because a 0.7 WHR is correlated with peak reproductive potential and the participants were considered

ethnically diverse, “Evolutionary Psychologists quickly inferred that the preference is universal” (Buller, 2005; 227). Buller presents convincing evidence that it is not universal. He describes two studies that tried to control for the effect of American culture on the Singh study participants. In one, males in an isolated indigenous population in Peru were presented with Singh’s line studies and rated the female with a WHR of 0.9 as most attractive. In the other, males in the Hazda, a hunter-gatherer society in Tanzania, also preferred the “overweight” females. For Buller, “it’s anything but clear that males are most attracted to females with a 0.7 waist-to-hip ratio, which is supposedly correlated with peak reproductive potential” (Buller, 2005; 228). While a specific WHR may not be a good indicator of universal male preference because preference seems to vary across cultures, WHR is an excellent example of a preference that is largely influenced by culture. In other words, what is found to be attractive can depend on the society one is in, and therefore preferences can be culturally determined. One example, from a study that Singh did analyzing the bodies of *Playboy* centerfolds and winners of U.S. beauty contests, is that these women have become thinner over the past thirty years (Buss, 1999; 144). This is most likely related to our modern standards beauty and is indicative of a shifting cultural preference rather than an innate male preference.

Beauty, too, may not be as essential or universally desired as EPs make it out to be. Hrdy disagrees that beauty was as important to men thousands of years ago as it is to men today: “any Pleistocene woman who relied on looks alone to pull offspring through was not likely to be a mother very long or leave descendants” (Hrdy, 2000; 24). Perhaps, as Miller proposed, a woman who was resourceful or a good mother was more attractive than a woman who was simply beautiful. Certainly, EPs’ idea of male preference for a

woman who is healthy enough and young enough to have children makes sense from a reproductive point of view, although it is likely that attraction is much more nuanced and individualistic.

While psychologists appear to have found consensus from those judging faces on which ones are most beautiful, looking at a composite face in a lab setting is quite different from interacting with a person in real life. How a person moves, talks, the sound of their voice, the way that they smell, and the things that they have to say are examples of other qualities that might affect how beautiful a person appears to be. In addition, these other qualities might matter more than beauty to someone searching for a long-term partner. Miller, in an interview by Angier, talks about his own mate choice, “I think I was drawn to her because she was very witty and funny and a woman I thought I could learn a lot from. You look for somebody who you feel you could talk to for years without getting bored and when you find that person it’s a very exciting event” (Miller, 2000a; 4). Miller does not even mention beauty in his description of his long-term partner, which is somewhat unsurprising given his theory of attractive minds (and the fact that this interview took place as publicity for his book *The Mating Mind*), but he does illustrate a good point: perhaps EPs’ focus on male and female differences has led to a skewed understanding of men’s and women’s preferences that has understated other important qualities which both sexes prefer, like intelligence. Love, a dependable character, and emotional stability or maturity are also considered the most important qualities preferred in a long-term mate by both sexes (Buss, 2000; 115), but are not mentioned by EPs as much as preferences that differ between men and women.

Chapter two and chapter three were meant to illustrate how EPs have studied men's and women's long term mating preferences: the theories behind their studies, the types of studies they have done, the data they have found, and the way they have interpreted the data. Critiques by Angier, Buller, Hrdy, and Miller refute or redefine some of the claims made by EPs, provide alternative analyses, or present the material in a less controversial fashion. These two chapters have been important in laying out the groundwork for the discussion of two different theoretical models used to study human mating preferences in the fourth and final chapter. In this final chapter we move forward in time to 2013 and closely examine the MCFC model and the MMC model and their respective uses in the future study of human mating preferences.

CHAPTER FOUR

The MCFC Model vs. The MMC Model

“Another group, calling themselves ‘human evolutionary psychologists’ focused on the evolution of sex differences. Moving away from their roots in biology, they took with them sexual selection theory as it was being applied by sociobiologists in the late 1970s. Some of them would attempt to use this theory to explain human mate preferences. Because these researchers (many of them trained as social psychologists) relied on surveys and questionnaires rather than spending long periods actually living among their subjects, they could be trained quickly. For this reason they are more numerous than behavioral ecologists. It may also be a reason they tend to be less impressed by behavioral flexibility and by variation between individuals. From the outset their goal was the discovery of pan-human traits.”

—Sarah Hrdy (Preface to *The Woman That Never Evolved*, 1999; xix)

In September of 2013, an article written by Steve Stewart-Williams and Andrew G. Thomas was published in *Psychological Inquiry* titled: “The Ape That Thought It Was a Peacock: Does Evolutionary Psychology Exaggerate Human Sex Differences?” The same issue featured responses to this “target” article, and included responses by both Geoffrey Miller and David Buss. The Stewart-Williams and Thomas article provides an analysis and critique of the models EPs use to study human mate choice and describes how each model has influenced the study of evolved sex differences in mate selection processes. They state, “a common criticism is that evolutionary psychology exaggerates the magnitude of sex differences in sexuality, including differences related to the pursuit of casual sex and to mate choice criteria” (Stewart-Williams & Thomas, 2013; 137). They compare two models: the male competition, female choice (MCFC) model and the mutual mate choice (MMC) model. They are clear that they favor the MMC model, (Stewart-Williams & Thomas, 2013; 138).

The Male Competition, Female Choice Model

Remember the peacock in Chapter One? The peacock is a classic example of a species in which males compete and females choose, and is often cited to explain sexual selection theory. It is also an obvious example of sexual dimorphism because of the difference between the extravagant bright male tail and the drab female tail. It was Darwin who first noticed the trend of male and female differences in nature among many species, as well as the same *type* of differences occurring over and over again. For example, in vertebrate species, such as elephants, elephant seals, giraffes, gorillas, polar bears, whales, and wolves, males are larger than females (Stewart-Williams & Thomas, 2013; 139). In humans, males are ten percent larger on average than women and have about forty-one percent more fat-free muscle mass than women (Stewart-Williams & Thomas, 2013; 141). This size difference is also correlated with the larger sex displaying a stronger sex drive, stronger aggression and competitiveness, a stronger desire to obtain multiple mates, as well as having a shorter lifespan. Meanwhile, the smaller females are choosier about mates, provide most parental care for offspring, and have greater longevity (Stewart-Williams & Thomas, 2013; 139).

As discussed in chapter one, the reason given for these differences is the difference in minimum parental investment for each sex, with the females typically having a higher investment than the males, having larger gametes, a pregnancy period, and a lower maximum number of offspring (Stewart-Williams & Thomas, 2013; 140). What this can lead to is a situation in which a male can mate and produce offspring with more than one offspring, therefore monopolizing a number of females, and reducing other

males' mating success to zero. Therefore, males with more attractive traits can pass those traits on to offspring at a greater rate than those males with unattractive traits and those traits will be sexually selected for within a species (Stewart-Williams & Thomas, 2013; 140). Hence, the male peacock's tail is considered a result of generations of female peahen preference of colorful extravagant plumage in a mate. Based on this difference in parental investment, males are often said to want a quantity of mates while females are often said to pursue a single mate of quality.

Although this may seem somewhat repetitive, it is useful to review the logic behind the MCFC model as it has informed how we study human mate choice. However, the MCFC model certainly does not represent the entire framework used by EPs to study mate choice. As you hopefully realized while reading chapter three, there is extensive research done on human male's preferences in a long-term mate, preferences that indicate human males exercise choice and human females compete for mates. However, in certain EPs' language and explanations, there are examples of the MCFC model representing a certain "norm" with which to examine human mating preferences. For example, Buss presents a man's reason for pursuing a long-term relationship as a sort of compromise: a choice that a man is forced to make when he cannot pursue his true or innate desire to engage in many short-term relationships. If a man does not possess a high enough status or enough resources to attract multiple mates, he may pursue a long-term mating strategy in order to attract a mate. The problem lies in the subtle or sometimes not so subtle indication that a man pursues a long-term mating strategy as a sort of second option, or a restriction of his true "nature". The same could be said in discussion of women's pursuit of a short-term mate. While there is ample evidence of

women pursuing short-term relationships —like the overlooked fact that for a man to have a casual sexual encounter, it requires a woman to also be having a casual sexual encounter— EPs seem to have a difficult time explaining why a woman would do such a thing (Buss, 1999; 173). The explanation for woman’s short-term mating strategy is similarly seen as a “second best” option, or a compromise: for example, if there are no men with adequate resources who will invest, women will choose to pursue a short-term strategy to secure “good genes”. A consequence of an underlying MCFC framework is the exaggeration of sex differences: if there is an assumption that women and men want essentially opposite things (women want quality, men want quantity), research can look for and focus on how men and women differ in preferences.

Stewart-Williams and Thomas point out two examples of how parental investment theory does not fit the MCFC model in nature. One is the reverse, female competition, male choice, which Darwin also acknowledged in his original observations and description of sexual selection theory. Species in which the male is the higher investing sex such as the tidewater goby, certain species of pipefish and the midwife toad, the females are usually larger, more aggressive, more ornamented than the males, while the males care for the eggs and hatchlings alone (Stewart-Williams & Thomas, 2013; 140). These examples serve to strengthen Trivers’s theory of parental investment—in which the higher investing sex is interested in quality and subsequently more “choosy” while the lower investing sex is interested in quantity and is more competitive. There is no rule in nature that females must be the higher investing sex, or that males must be the lower investing sex. However, it is true for mammalian species, like humans, that the females have a pregnancy and lactation period, not the males. The type of offspring, though, is

correlated with the paternal investment: species with altricial (helpless) young, tend to have monogamous mating structures and high investment from the father, while species with precocial (independent, able to feed themselves) young, tend to have polygynous mating structures and low investment from the father (Zeloff & Boyce 1974).

The first (species with altricial young) is an example of a species in which both sexes invest heavily in offspring or a sexually monomorphic species. In this case, the number of offspring each sex can have is more similar and “the normal pattern of sex differences is sharply diminished” (Stewart-Williams & Thomas, 2013; 141). About ninety percent of birds form pair-bonds and tend to be more monomorphic, as well as some lemurs, owl monkeys, marmosets, and gibbons. Stewart-Williams and Thomas maintain that sexually monomorphic species are fairly common, and fit within parental investment theory, but are disappointed that “sexually monomorphic species... appear less frequently in discussions of sexual selection and parental investment than do unambiguously MFCF species such as peacocks and deer” (Stewart-Williams & Thomas, 2013; 141). They argue that in the study of human mate selection, humans are a more monomorphic species than a dimorphic species. In other words, we are more like gibbons than peacocks. While most evolutionary psychologists would agree that humans are closer to the monomorphic end of the spectrum than the dimorphic end of the spectrum [Buss and Miller agree], the influence of the MFCF model persists in the study of human mate selection and emphasizes sex differences.

Why the Persistence of the MCFC Model?

Prior to 1985, none of the research done on the psychology of human mating was informed by an evolutionary perspective (Buss, 2013; 171). Then, when EPs began to research and develop theories of human mating strategies and mating preferences, they faced an academy attached to the “blank slate” theory of human nature. “The blank slate position implied that psychological sex differences, if they existed at all, were almost entirely the products of experience and socialization rather than biology” (Stewart-Williams & Thomas, 2013; 141). Within that historical context, Buss maintains that any exaggeration of sex differences was a useful strategy in order to move away from a “nurture only” model. He argues, like Stewart-Williams and Thomas, and like DRK in chapter two, that blank slate social theories do not make sense given our biological sex differences.

When evolutionary psychologists began to study these mating phenomena, they were going against an extremely strong mainstream grain in the social sciences that held that men and women were psychologically monomorphic. Any differences were believed to be due to dressing girls in pink and boys in blue, giving girls Barbie dolls and boys toy guns and masculine trucks. In that historical context, it was indeed big news that mainstream social scientists were wrong... Even to this day, some psychologists continue to maintain that women and men are psychologically identical, except by virtue of the “roles” to which they are “assigned,” and differ solely in anatomy. To an evolutionary psychologist, the notion that sexual selection would favor sex differences in anatomy, morphology, and reproductive biology with absolutely no attendant psychological, behavioral, or strategic sex differences would be baffling beyond belief and constitute the sole species on the planet for which such a strange disconnect occurred” (Buss, 2013; 174-175).

A “nurture-only” or “blank slate” model of human behavior is not compatible with evolutionary psychology’s theory of evolved human mating strategies and preferences. However, in attempting to distance themselves from the “nurture-only” school of thought, EPs perhaps swung too far the other way, emphasizing sex differences and not giving situational and social factors enough weight in their discussion of mating

strategies. Buss admits, “it’s possible that some evolutionary psychologists, me included, may have contributed to these exaggerations” (Buss, 2013; 174). In our discussion of long-term mating preferences in chapters two and three, which uses many sources that were written ten to fifteen years ago, the emphasis on and exaggeration of sex differences is clear.

Stewart-Williams and Thomas also point out that the MCFC model is enticing because it can appear to apply to human beings quite well. They list five factors that are commonly used by EPs to support an MCFC model of behavior for humans. First of all, there is the size difference between men and women that I mentioned earlier: men are ten percent taller than women across human populations and have forty-one percent more fat-free muscle mass than women. Second, there is evidence of men expressing a greater interest in casual sex and sexual variety than women. EPs point to the fact that men are the main consumers of pornography and prostitutes while women are the main consumers of romance novels. Third, there are studies stating that men are more competitive and directly aggressive than women, on average, and more likely to engage in extreme forms of violence—a difference that begins before puberty. In addition, men engage in more direct aggression between the ages of 20 and 30, which is the time of peak mating effort. Fourth, women across cultures are more involved in childcare than men, even in nations with gender equality ideals and the availability of certain technologies like baby bottles and formula that give men the ability to care for babies and children. Finally, women live longer than men do (Stewart-Williams & Thomas, 2013; 141-142).

At first glance, the evidence appears to align very well with the MCFC model, as described earlier in this chapter (pg. 58). However, there are two problems with the

MCFC model's application to humans, one is with some of the listed evidence above and the other is the fact that in actual human mating behavior we can see that men also care for their offspring and that men and women both compete for and choose mates. Stewart-Williams and Thomas cite evidence, as other EPs have, that men are more interested in casual sex and sexual variety with women. This conclusion is based off of two different studies, the first is one in which women and men were each asked how many sex partners they would like over different periods of time. This study, by Buss & Schmitt (1993), was discussed in detail in chapter three (pg. 39). However, the finding from that study which is referred to by Stewart-Williams and Thomas is that over the next year male participants stated they would like to have eight sexual partners on average while female participants stated that they would only like two on average. As mentioned previously, another study (Pederson et. al, 2002) found that this average difference was skewed by outliers and that the median was a more appropriate measure of central tendency and resulted in the elimination of sex differences.

The second piece of evidence Stewart-Williams and Thomas refer to is a study in which men and women were each approached by strangers of the opposite sex and who asked them if they would 1) go on a date with them, 2) go back to their room with them, or 3) go to bed with them. In the original study (Clark & Hatfield, 1989), 75% of men said they would go to bed with a female stranger while zero women said that they would go to bed with a male stranger. This specific study has become somewhat of a "classic," often cited by EPs as evidence supporting sex differences in interest in casual sex. A study done in 2010 attempted to replicate and expand upon the Clark & Hatfield study. Researchers found similar results: that men were far more likely than women to accept an

invitation to “come to my place” or “go to bed with me” from an opposite sex confederate. They did discover, however, that the confederate’s attractiveness increased the consent of women, but not men, to these invitations (Hald & Høgh-Olesen, 2010). While the difference between men’s and women’s desire for casual sexual encounters has appeared to remain unchanged, Angier makes a convincing argument using a role reversed rhetorical strategy that demonstrates how socialization could potentially be behind this sex difference:

Would a man find the prospect of a string of partners so appealing if the following rules were applied: that no matter how much he may like a particular woman and be pleased by her performance and want to sleep with her again, he will have no say in the matter and will be dependent on her mood and good graces for all future contact; that each act of casual sex will cheapen his status and make him increasingly less attractive to other women; and that society will not wink at his randiness but rather sneer at him and think him pathetic, sullied, smaller than life? Until men are subjected to the same severe standards and threat of censure as women are, and until they are given the lower hand in a so-called casual encounter from the start, it is hard to insist with such self-satisfaction that, hey, it's natural, men like a lot of sex with a lot of people and women don't (Angier, 1999; 4).

It is hard to argue with her. We live in a world that constantly punishes women for sexual promiscuity and glorifies it for men. Additionally, the second study could be an instance of woman feeling unsafe to go to a male stranger’s bedroom as he could potentially physically harm her (remember the difference in height and muscle mass!). Another study by Tappé et al. attempted to expand upon the original 1989 study by asking participants their reasons for rejecting the offers. Some examples of responses by women were “I don’t know him that well. I would feel awkward/unsafe” and “I’m not a slut”. Some examples of responses by men were “I don’t like it when girls ask guys out” and “No idea if it’s safe, plus sex should be about intimacy, not blind lust” (Tappé et al., 2013). The reasoning varied tremendously across both men and women, but many answers reflected cultural norms and expectations. Still, all of the studies show a striking

disparity between the rate of acceptance for the offer of “will you go to bed with me?” between women and men. Yet women learn very early to say no or ignore men’s comments on the street, so the situation (perception of danger or social repercussions) may be a larger factor than it is given credit for in the results of these studies.

This discussion highlights the way in which evolutionary psychology can sometimes pay too little attention to socialization. Although it is understandable that evolutionary psychology as a field needed to distance itself from a “nurture-only” model, in the late eighties and nineties, research today can ignore or write off cultural and social factors too easily and too often. EPs should spend less time worrying about the school of thought that adheres to a “nurture-only” model and start worrying more about how innate psychological factors are shaped by environmental and social factors. How do biology, genes, and evolved psychological mechanisms interact with socialization, culture, and modern inventions?

The MCFC model is rigid in the roles that it gives and expects of each sex—especially in humans where both sexes express mate preferences and both sexes care for offspring (Stewart-Williams & Thomas, 2013; 143). Scientists who are familiar with or support the MCFC model can look for certain answers (like male and female differences) in their research and ignore other factors. An example would be Buss’s discussion of long-term mating preferences and his focus on male and female differences in preferences rather than any similarities between sexes. Another instance is the tendency of EPs’ research to focus on average differences between sexes rather than individual differences and variation within each sex. To counteract this tendency, Stewart-Williams

and Thomas propose that EPs use a MMC model rather than a MCFC model when looking at mating strategies and mating preferences.

The Mutual Mate Choice Model

Stewart-Williams and Thomas first begin by arguing that humans are a more monomorphic species than a dimorphic species. They then state that human “sex differences usually involve modest differences in the central tendency for each group, with strongly overlapping distributions and smaller differences between groups than within groups” (Stewart-Williams & Thomas, 2013; 143). Additionally, psychological and behavior differences between the sexes are less pronounced than physical traits, like strength and height (Stewart-Williams & Thomas, 2013; 143). Their logic lies in their interpretation of parental investment theory. While biologically women have a much higher minimum parental investment than men, a human male’s *typical* investment is much higher than his minimum investment (Stewart-Williams & Thomas, 2013; 144). A consequence of this more equal parental investment is a reduction in sexual dimorphism as well as both sexes exerting mate choice and competing for mates.

The reason Stewart-Williams and Thomas give for men’s and women’s relatively equal parental investment lies in our evolutionary history. Human babies are extremely costly as they are helpless and utterly dependent at birth. This is due to two factors, human evolution of bipedalism and large brains. Bipedalism resulted in a narrowing of the pelvic canal, while larger brains meant that infants heads were bigger. Therefore, human babies are born early, while their heads are still small enough to fit through the birth canal (Stewart-Williams & Thomas, 2013; 144). The result is that human babies are

unable to move about or feed themselves, and require an extreme amount of attention and care for the early part of their lives. In addition, human children have extended childhoods due to the amount of time it takes for our brains to develop. It is estimated that the larger our brains became, the longer it took for them to develop. In studies of hunter-gatherer societies, children do not acquire (through gathering) more calories than they consume until they are around eighteen years old, unlike in Great Apes where offspring began to provision for themselves as soon as they are weaned (Stewart-Williams & Thomas, 2013; 144). Unlike Great Apes, humans have a short interbirth interval, about 3-4 years compared to 4.5-8 years for Great Apes. Consequently, women often have more than one dependent offspring at one time, which would require the help of allomaternal care (care from individuals other than the mother) (Stewart-Williams & Thomas, 2013; 144-145).

Although mothers can receive help from siblings, grandparents or friends, Stewart-Williams and Thomas argue that it was very likely that a Pleistocene mother received paternal help—care from an offspring’s father. They describe human affinity for pair bonding, a (not necessarily exclusive) long-term relationship that can last for months, years, or a lifetime. They are careful to qualify that the pair bond does not represent the “true” or “natural” mating system for humans (other mating systems humans have are polygyny, promiscuity, and polyandry) rather than “the pair bond is the most common setting for sex and reproduction in our species, that it has been for a long time, and that this left a deep imprint on our evolved nature” (Stewart-Williams & Thomas, 2013; 145). Paternal care, they maintain, enhanced the fitness of human males, through higher survival rate of offspring, increasing a female’s fertility by shortening her

interbirth interval by helping her with child care and food provision, or making him appear more attractive to a potential mate (Stewart-Williams & Thomas, 2013; 146). They are careful to stipulate that paternal investment differs depending on situational factors and by culture. Men tend to invest less in offspring if their own mate value is high or if females outnumber males in a population, while men tend to invest more when the child is likely theirs (Stewart-Williams & Thomas, 2013; 146). Studies of forager fathers found that they provide more direct care (holding, grooming, and babysitting) than pastoralist or agriculturalist fathers. Foraging is closer to how our Pleistocene ancestors would have operated. Pastoralists and agriculturalists tended to provide more indirect care (provision of resources). Finally, another human universal is the cross-cultural evidence of romantic love, leading Stewart-Williams and Thomas to write it is “plausible that human beings are, by nature, the kind of animal that falls in love” (Stewart-Williams & Thomas, 2013; 147).

The MMC model operates on the assumption many ancestral women and men formed pair bonds and contributed high levels of parental investment to offspring. Therefore humans evolved to be a relatively monomorphic species with a mutual courtship in which males and females both compete for and choose mates. However, Stewart-Williams and Thomas present the caveat that “men’s reproductive variability is still generally higher than women’s, which is why men are, on average, larger and more aggressive than women, as well as being more interested in casual sex” (Stewart-Williams & Thomas, 2013; 162). However, they emphasize that this fact is just a small stipulation to the claim that humans primarily are a pair bonding and biparental caring species—the foundation which the MMC model rests on. Though they acknowledge the

existence of the same evidence that leads some EPs to infer that we are a MCFC species, they give these sex differences much less weight, relying instead on other factors such as the helplessness of infants and the tendency for men and women to both compete for and choose mates and form loving pair bonds as much better indicators of human mating strategies.

How does the MMC Model fit into Evolutionary Psychology's Study of Human Mating?

Geoffrey Miller is a huge supporter and user of the MMC model, though he admits that he transitioned throughout the nineties from a MCFC model to an MMC model. He writes in a response to Stewart Williams and Thomas, “By the time I wrote *The Mating Mind* in 1998 and 1999, I had rejected that MCFC runaway model as inconsistent with the low dimorphism in human intelligence and brain size” (Miller, 2013; 208) (He mentions the runaway model, which is where female selection of male intelligence, or other traits, results in intelligence or other traits in females as a genetic side effect—this is the way scientists attempted to explain female intelligence under the MCFC model). Miller's transition is an example of the way shifting ideologies within evolutionary psychology's study of mate selection influence theories that shape research. The MMC model rests on a simple reinterpretation of Trivers's parental investment theory as it applies to humans, but the consequences are far reaching.

Within evolutionary psychology's study of mate choice there are many competing models: the MCFC model, the MMC model, Sexual Strategies Theory (SST), and the mass-promiscuity model, to name a few. Each uses a different mating strategy to study

mating preferences and sex differences. The MCFC model leads researchers to infer that men are promiscuous and women are monogamous due the difference in minimum parental investment. The MMC model champions the pair bond and similar parental investment between the sexes, while the mass-promiscuity model compares humans to bonobos and equalizes the sexes in the opposite way (both men and women are promiscuous) (Miller, 2013; 209). SST was developed by Buss in 1993, and relies on an understanding that men and women faced different adaptive problems in the Pleistocene in both short-term and long-term mating contexts. Buss claims that SST is a more broad and encompassing model for studying human mate preferences as it incorporates elements of mutual mate choice but does not limit researchers from exploring other human mating strategies (he lists short-term mateships, infidelities, and extramarital affairs) (Buss, 2013; 173). However, SST, like the MCFC model, operates on the assumption that men and women, with their different minimum parental investments, want different things (men want quantity, women want quality) and their strategies and preferences are a reflection of this. Hopefully, in our discussion of men's and women's long-term preferences, you were able to see how EPs studying human mating still incorporate elements of the MCFC model. SST emphasizes and looks for sex differences, while the MMC does not.

Buss seems to be missing the point of Stewart-Williams and Thomas's article which Miller nicely sums up: "that sexual selection could have played a central role in human evolution without either requiring or producing large sex differences—we can have all the benefits of using sexual selection theory to understand human nature, without the scientific costs of downplaying male mate choice and female competition, or the

professional risks of sounding sexist and simplistic when we talk about human mating” (Miller, 2013; 207). While Buss certainly does include both male mate choice and female competition in his study of mating preferences and strategies, he does so through a MCFC lens that already has defined roles for men and women, leading to an assumption of a natural hierarchy of mating strategies that differs between the sexes.

The reality is that we cannot actually test what strategy was dominant 10,000 to 2 million years ago, although EPs maintain that we can find clues today that support each model. What is important about these different models studying human mate choice is that they indicate the different ideological camps within the field, each of which argue and point fingers at each other. In that sense, the field of evolutionary psychology is bubbling with controversy, debate, and inconsistencies. However, these controversies and disagreements are beneficial to the field overall, as they allow scientists to check each others’ findings and interpretations, create new studies and theories, and move research forward towards a better understanding of human mating.

While Buss may be right that an MMC model might be too narrow to last forever, it is the direction some evolutionary psychologists are heading in and is certainly something that all evolutionary psychologists studying human mating should pay attention to. Miller writes that a shift to an MMC model “will require hard work: more research on individual differences within each sex rather than just sex differences, more integration with evolutionary behavior genetics and psychometrics, and more sophisticated theoretical models of sexual selection than psychology or biology has ever seen before” (Miller, 2013; 210). Therefore, the MMC model is important because it offers EPs a model for study without a focus on the sex differences that are so

controversial and bring harsh criticism to the field. As research in human mating preferences and strategies continues, theories will likely become more complicated and more nuanced, requiring EPs and other researchers to be diligent in how they present their findings and how they grapple with the interaction of our evolved nature and our modern environment.

CONCLUSION

A Multitude of Perspectives

Each of us can compare ourselves to the averages for human males or females and find we don't completely match. Almost everyone seems to cross over the statistical norms for their sex in some way or another. The average values for the sexes don't have much meaning for us as individual people: it's like saying the average American lives in Kansas, which doesn't apply to most of us.

—Joan Roughgarden (*Evolution's Rainbows*, 2004; 231)

In my introduction, I asked you to read with an open mind and pay attention to not only what beliefs and ideologies you bring to the table, but also how the theories and findings presented here sit with you personally. Chances are that you agreed with some and disagreed with others, or perhaps disagreed with all (if you are from a “nurture-only” camp, for example). Perhaps, you, like Joan Roughgarden in the quote above, are not able to relate to statistical averages or you reject Darwin's sexual selection theory for not being able to account for the diversity you experience. Your perspective matters.

Especially in the study of human mating, you are your own best and worst resource. You are studying yourself but you also carrying with you years of socialization, cultural trends and ideas you've learned from those around you. In that sense, a multitude of different perspectives is better than one. Our understanding of Darwin's theory of sexual selection, for example, is much different today than the way he probably conceptualized it, in an environment rife with Victorian culture biases.

In chapter one, I explained the “pillars” of evolutionary psychology; the theories of sexual selection and parental investment that EPs use to study mating. I introduced the

“players” who each offer a unique perspective on human mating preferences and strategies. While Buss, Miller, Hrdy, Angier, and Buller discuss and critique human mating strategies within an evolutionary psychology framework, Gowaty and Roughgarden were important in pointing out that equally important research on the subject of human mating and reproduction is happening outside of evolutionary psychology. The point of this first chapter was to illustrate the theories EPs are using to study mate choice, and the perspectives that different scholars have to offer to the scientific study of mate choice as a whole.

Chapters two and three were important to understanding how the “pillars” have been and are used by EPs to research women’s and men’s long-term mating preferences. In addition, the two chapters incorporated the voices of the different “players” illustrating the controversial nature of EPs’ findings and analyses. Chapters two and three pointed out EPs’ focus on sex differences in their study of human mating strategies and preferences. This led to chapter four’s discussion of two theoretical models for evolutionary psychology’s study of human mating: the MCFC model and the MMC model. The MCFC model’s infiltration into SST and the research and interpretation of results by Buss and other EPs has led to an exaggeration of sex differences. The MMC model proposed by Stewart-Williams and Thomas is illustrative of a movement within evolutionary psychology of researchers, like Miller, to continue forward with their research with less of a focus on sex differences and more of a focus on individual differences. While not all EPs will be using the MMC model, those that are will be able to provide a new perspective that will add new depth and theories to the existing body of research, and perhaps correct an overemphasis on sex differences.

Hrdy talks about the value of new perspectives to scientific study in the preface to her book, *The Woman that Never Evolved*. Though she is responding directly to a question about whether the incorporation of the female perspective into evolutionary biology is a win for science or for feminists, her answer relates more to the overall nature of science: “I think such questions are mischievous. The answer is so obvious: any time wrong ideas are corrected, science wins. If biases were there in the first place because of sexism, and a feminist perspective helped identify them, it is still science that comes out ahead when they are corrected” (Hrdy, 1999; xix). Her idea is applicable to our study of human mating preferences and strategies: though a multitude of perspectives can lead to disagreement and controversy, they can also fuel new research and correct old biases. When we incorporate a diversity of ideas into the study of human mating, science triumphs, and our understanding of ourselves grows.

Bibliography

- Angier, Natalie. "Men, Women, Sex and Darwin." *The New York Times Magazine*. The New York Times, 21 Feb. 1999.
- Buller, David J. *Adapting Minds*. Cambridge, Massachusetts: MIT Press, 2005. Print.
- Buss, David M. *Evolutionary Psychology: The New Science of the Mind*. Needham Heights, MA: Allyn & Bacon, 1999. Print.
- Buss, David M. "The Science of Human Mating Strategies: An Historical Perspective." *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory* 24.3 (2013): 171-77. Web.
- Buss, David M., and David P. Schmitt. "Sexual Strategies Theory: An Evolutionary Perspective on Human Mating." *Psychological Review* 100.2 (1993): 204-32. Web.
- Clark, Russell, and Elaine Hatfield. "Gender Differences in Receptivity to Sexual Offers." *Journal of Psychology and Human Sexuality* 2.1 (1989): 39-55. Web.
- Darwin, Charles. *The Descent of Man, and Selection in Relation to Sex*. London.: John Murray, 1871. Print.
- Dixson, Alan F. *Sexual Selection and the Origins of Human Mating*. Oxford: Oxford University Press, 2009. Print.
- Geary, David C. *Male, Female: The Evolution of Human Sex Differences*. Washington, DC: American Psychological Association, 1998. Print.
- Gowaty, Patricia, and Stephen Hubbell. "Chance, Time Allocation, and The Evolution of Adaptively Flexible Sex Role Behavior." *Integrative and Comparative Biology* 45.5 (2005): 931-44. Web.
- Gowaty, Patricia. "What Darwin Didn't Want to Talk About: Difficulties in the Act." Why Darwin Still Matters. Pepperdine University, Malibu. 20 Nov. 2009. Lecture.
- Hald, Gert Martin, and Henrik Høgh-Olesen. "Receptivity to Sexual Invitations from Strangers of the opposite Gender." *Evolution and Human Behavior* 31.6 (2010): 453-58. Web.
- Hrdy, Sarah Blaffer. "On Raising Darwin's Consciousness." Preface. *The Woman That Never Evolved: With a New Preface and Bibliographical Updates*. Cambridge, MA: Harvard UP, 1999. Print.
- Hrdy, Sarah Blaffer. *Mother Nature: Maternal Instincts and How They Shape the Human Species*. New York: Ballantine, 2000. Print.
- Miller, Geoffrey. "Author Offers Theory on Gray Matter of Love." Interview by Natalie

- Angier. *The New York Times* 30 May 2000: 1-4. Print.
- Miller, Geoffrey. "Mutual Mate Choice Models as the Red Pill in Evolutionary Psychology: Long Delayed, Much Needed, Ideologically Challenging, and Hard to Swallow." *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory* 24.3 (2013): 207-10. Web.
- Miller, Geoffrey. *The Mating Mind: How Sexual Choice Shaped the Evolution of Human Nature*. New York and Toronto: Anchor Books, Random House Inc., 2000a. Print.
- Pedersen, William C., Lynn C. Miller, Anila D. Putchu-Bhagavatula, and Yijing Yang. "Evolved Sex Differences in the Number of Partners Desired? The Long and the Short of It." *Psychological Science* 13.2 (2002): 157-61. Web.
- Sefcek, Jon A., Barbara H. Brumbach, Geneva Vasquez, and Geoffrey F. Miller. "The Evolutionary Psychology of Human Mate Choice: How Ecology, Genes, Fertility, and Fashion Influence Mating Behavior." *Journal of Psychology and Human Sexuality* 18.2-3 (2007): 125-82. Web.
- Singh, Devendra, and Robert K. Young. "Body Weight, Waist-to-hip Ratio, Breasts, and Hips: Role in Judgments of Female Attractiveness and Desirability for Relationships." *Ethology and Sociobiology* 16.6 (1995): 483-507. Web.
- Sorokowski, P., and M.I. Butovskaya. "Height Preferences in Humans May Not Be Universal: Evidence from the Datoga People of Tanzania." *Body Image* 9.4 (2012): 510-16. Web.
- Stewart-Williams, Steve, and Andrew G. Thomas. "The Ape That Thought It Was a Peacock: Does Evolutionary Psychology Exaggerate Human Sex Differences?" *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory* 24.3 (2013): 137-68. Web.
- Stulp, Gert, Abraham P. Buunk, Thomas V. Pollet, Daniel Nettle, and Simon Verhulst. "Are Human Mating Preferences with Respect to Height Reflected in Actual Pairings?" Ed. Samuli Helle. *PLoS ONE* 8.1 (2013): n. pag. Web.
- Tappé, Mercedes, Lisamarie Bensman, Kentaro Hayashi, and Elaine Hatfield. "Gender Differences in Receptivity to Sexual Offers: A New Research Prototype." *Interpersona: An International Journal on Personal Relationships* 7.2 (2013): 323-44. Web.
- Trivers, Robert L. "Parental Investment and Sexual Selection." *Sexual Selection and the Descent of Man: 1871-1971*. Ed. Bernard Campbell. Chicago, IL: Aldine, 1977. 136-79. Print.
- Zeveloff, Samuel I., and Mark S. Boyce. "Parental Investment and Mating Systems in Mammals." *Evolution* 34.5 (1980): 973-982. Web.