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Sex Ratio and Women's Career Choice: Does a Scarcity of Men Lead Women to Choose Briefcase Over Baby?

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Although the ratio of males to females in a population is known to influence behavior in nonhuman animals, little is known about how sex ratio influences human behavior. We propose that sex ratio affects women's family planning and career choices. Using both historical data and experiments, we examined how sex ratio influences women's career aspirations. Findings showed that a scarcity of men led women to seek high-paying careers and to delay starting a family. This effect was driven by how sex ratio altered the mating market, not just the job market. Sex ratios involving a scarcity of men led women to seek lucrative careers because of the difficulty women have in finding an investing, long-term mate under such circumstances. Accordingly, this low-male sex ratio produced the strongest desire for lucrative careers in women who are least able to secure a mate. These findings demonstrate that sex ratio has far-reaching effects in humans, including whether women choose briefcase over baby.

Keywords: women, sex ratio, careers, mating markets, mate value

Recall a time in history when women began to assert their economic independence. After years of holding the near-exclusive role of homemaker, many women ambitiously entered the male-dominated workforce, successfully climbing up the economic ladder. If this description sounds like an account of the latter half of the 20th century in Western culture, it's not. Instead, this account describes a period in Medieval Europe. A substantial portion of women in Northern Europe achieved economic parity with men during the late 12th century (Guttentag & Secord, 1983). Although the Middle Ages are rarely associated with women's independence, many women in this time and place "became independent entrepreneurs and formed labor unions that were almost exclusively female" (Guttentag & Secord, 1983, p. 66).

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Historians do not attribute this medieval shift in women's economic aspirations to changes in government policy, education, or any kind of social movement that directly favored women. In fact, the change was relatively short lived; a century later, the number of female entrepreneurs and guild leaders diminished. Demographers note that rather than reflecting a change from above or a grassroots movement from below, this time period was characterized by a specific shift in the European population: a decrease in the ratio of men to women, which produced a scarcity of marriageable men (Guttentag & Secord, 1983).

The ratio of men to women in modern times varies substantially among countries (e.g., Guilmoto, 2009; Hesketh, 2009), and sex ratio can vary considerably among different geographic areas within a country. In the United States, for example, the ratio of men to women is 1.16 to 1 in Las Vegas, Nevada, but it is only 0.88 to 1 in Birmingham, Alabama (Kruger, 2009). Variation in sex ratios is not simply of demographic interest. Population-level correlational research suggests that shifts in adult sex ratio may also elicit important changes in patterns of mating behavior and family life (e.g., Hesketh & Xing, 2006; Pollet & Nettle, 2008). Recent experimental studies have found that sex ratio might have even wider implications, such as altering how men make financial decisions (Griskevicius et al., 2012).

We build on this recent work by considering how sex ratio might influence the psychology of women and their career aspirations. As suggested in the Medieval Europe example, a scarcity of men may lead more women to pursue ambitious careers. However, consideration of sex ratio theory in evolutionary biology (Pederson, 1991) suggests that sex ratio shouldn't affect women's career choices by simply changing the supply of men and women on the job market. Instead, sex ratios might affect women's career

choices by altering the *mating market*, leading women to pursue lucrative careers specifically because mates are more difficult to obtain. If so, this would suggest that sex ratio can alter women's psychology in important ways beyond mere labor economics. Using both archival data and experiments, we investigate how, why, and when the ratio of men to women in the local environment influences women's career ambitions.

Sex Ratio and Mating Markets

The study of how the ratio of males to females in a population influences behavior originates in evolutionary biological approaches to animal behavior (Fisher, 1930; James, 1987). Theory and research in this area has focused on the imbalance between reproductive-aged males and females, which is referred to as the *operational sex ratio* (Emlen & Oring, 1977; Fossett & Kiecolt, 1991). Operational sex ratio influences animal behavior by changing the nature of the mating market, which in turn affects the dynamics of courtship and intrasexual competition (Taylor & Bulmer, 1980; Weir, Grant, & Hutchings, 2010).

Animal research has shown that shifting sex ratios can have effects on both sexes (Kvarnemo & Ahnesjo, 1996; Taylor & Bulmer, 1980). Such effects exist because changes in sex ratio alter the mating market via basic mating economics: The sex that is scarcer is more likely to acquire desirable mates. When there are relatively few females, for example, it is easier for females to attract mates. Conversely, the sex that is more plentiful is less likely to acquire desirable mates (Clutton-Brock, Harvey, & Rudder, 1977; Rohr et al., 2005).

Consideration of sex ratio suggests that females should have a more difficult time securing desirable mates when there is an abundance of other females. This dilemma is particularly dire in species that use mating systems involving biparental investment, such as humans (Johnstone, Reynolds, & Deutsch, 1996; Langmore, 1998). Compared with most mammals, human offspring are born relatively helpless and experience a lengthy juvenile period that requires considerable parental investment (Kaplan, Hill, Lancaster, & Hurtado, 2000). Thus, ancestral infants who received investment from a father as well as a mother were more likely to survive than those who received little or no paternal investment or care (Adler et al., 1994; Geary, 2000; Hurtado & Hill, 1992; Richner, Christe, & Oppliger, 1995). Many women, therefore, seek not only a sex partner (as females in many other species do) but also a mate who will contribute resources to them and future offspring (Gangestad & Simpson, 2000). When there is a scarcity of men, women should have an especially difficult time securing mates who are willing and able to invest in future offspring.

Correlational research suggests that sex ratio is strongly related to human mating patterns (e.g., Barber, 2001; Kruger, 2009; Licher, Kephart, McLaughlin, & Landry, 1992; Pollet & Nettle, 2007; Schmitt, 2005; E. A. Stone, Shackelford, & Buss, 2007). Consistent with predictions from evolutionary biology and mating economics (Baumeister & Vohs, 2004; Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Pederson, 1991), sex ratio affects the mating market, altering patterns of marriage and coparenting. When there is a scarcity of men, for example, women are less likely to be married and more likely to be single mothers (e.g., Guttentag & Secord, 1983; South & Trent, 1988). These patterns suggest that a substantial portion of women are unable to secure a long-term partner when there is a scarcity of men and may need to pursue alternative strategies.

Women, Careers, and Sex Ratio

Although men continue to fill more of the highest paying jobs in Western society, women also pursue careers that offer high pay but require high levels of time and investment (e.g., doctors, lawyers, engineers). In 2011, women held 16.1% of the corporate board-appointed officer positions at Fortune 500 companies, and 12 women were CEOs of these companies (Catalyst Census, 2011; Petrecca, 2011). Female enrollment in master of business administration (MBA) programs currently stands at 32% (Damast, 2008), suggesting that a substantial portion of women are investing time and effort in pursuing high-paying business careers. There are multiple reasons why some women might pursue lucrative careers (e.g., Ceci, Williams, & Barnett, 2009; Holland, 1958; Lippa, 1998). Gender roles within a culture, for example, might make it easier or more difficult for women to pursue such careers (e.g., Bem, 1999; Diekman & Eagly, 2000; Eagly, Wood, & Diekman, 2000; Eccles, Barber, & Jozefowicz, 1999). In the current research, we examine a factor that has been overlooked with regard to what might influence women's career decisions: the ratio of adult men to adult women in the local population.

We hypothesize that sex ratio might have a considerable effect on women's career aspirations, whereby a scarcity of marriageable men might lead women to invest more time and effort in pursuing a lucrative career. At the outset of this article, for example, we noted that changes in women's economic involvement in Medieval Europe corresponded with a shift in the sex ratio. As marriageable men became scarce, women entered the workforce and became more economically independent. Historians and sociologists have similarly suggested that the feminist movement during the 1960s and 1970s in the United States—a time when women gained greater economic independence—may also have been tied to shifts in sex ratio (Guttentag & Secord, 1983). This work reveals that adult men in the U.S. were scarcer precisely during the height of the women's independence movement.

As discussed earlier, a sex ratio with fewer men than women changes the nature of the mating market such that the relative scarcity of men decreases the likelihood that a given woman will find a long-term mate. Because a substantial portion of women in a female-skewed ecology will not be able to secure a long-term mate, more women will remain single and unmarried after reaching sexual maturity (Kruger, 2009). Many of these single women must find ways to support themselves financially without the support of an investing partner, most likely by seeking well-paying jobs. Given that the lack of an investing relationship partner (e.g., a spouse) makes it difficult to reduce one's work obligations or leave the workforce altogether, a scarcity of men should lead women to prioritize money and material success.

Past research indicates that a scarcity of men is also associated with more single mothers, more out-of-wedlock births, and lower paternal investment (Guttentag & Secord, 1983; South & Trent, 1988). This suggests that a scarcity of men might lead women to seek lucrative careers to support not only themselves but also current or future offspring. Raising children requires an immense amount of investment. In the United States, for example, it costs between $205,960 and $475,680 to raise just one child (Lino,

2010). Women who have children without an investing long-term partner face the challenge of acquiring sufficient resources necessary for parenting. In ecologies where there are few men, women must find ways to obtain sufficient parenting resources, such as by becoming financially independent. Indeed, many women in modern Western societies choose to become single mothers in their 30s and 40s, especially if they can afford to do so financially (Shapiro, 2010). Taken together, these findings suggest that a female-skewed sex ratio might influence women's career choices, leading more women to pursue high-paying careers.

Research Overview

We conducted four studies that examined how sex ratio influences women's career aspirations. On the basis of sex ratio theory in evolutionary biology (Pederson, 1991) and past correlational research examining sex ratio and mating patterns (Barber, 2001; Guttentag & Secord, 1983; Kruger, 2009), our core prediction is that a female-skewed sex ratio (a scarcity of men) should lead more women to pursue lucrative careers and to delay starting a family. Study 1 examined the relation between sex ratio, women's careers, and family choices using archival data from the entire population of the United States. Building on these real-world findings, Study 2 experimentally manipulated perceptions of local sex ratio, investigating how sex ratio influences women's prioritizing of careers and families.

The next two studies examined the mechanism underlying how sex ratio influences women's career aspirations. Our theoretical framework suggests that sex ratio should affect career aspirations by altering the mating market, not just the job market, such that a scarcity of men indicates to women that it will be relatively difficult to find a mate. Study 3 tested whether women's perceptions of the mating market mediate the effect of sex ratio on career aspirations. Study 4 examined a key individual difference that ought to moderate the core effect, testing whether sex ratio is most likely to affect career aspirations for women who are least likely to secure a mate. By using both archival and experimental methods, including different manipulations of sex ratio, we aimed to ascertain how, why, and when sex ratio influences women's career aspirations.

Study 1: U.S. Sex Ratios, Family Planning, and Women's Careers

Our first step in examining the link between sex ratio and women's career and family choices involved a correlational study using data from the entire population of the United States. We obtained data from the U.S. Census that provided operational sex ratios for each of the 50 states plus Washington, D.C. Next, we obtained a list from the U.S. Department of Labor of the highest paying careers for women. We also obtained data from the Centers for Disease Control on the average maternal age at first birth and the number of babies born to women. We then examined the relation between operational sex ratio and these variables within each state.

We predict that a scarcity of men should make it more difficult for women to find a mate, leading more women to pursue high-paying careers. In addition, because women should have a more difficult time securing a mate, more women should delay having children. Thus, we predicted that as sex ratios become more female skewed and there are fewer marriageable men, we should find three specific patterns: (a) more women will be in high-paying careers, (b) maternal age at first birth will increase, and (c) the number of babies born will decrease.

Method

Sex ratio. On the basis of previous sex ratio research (Griskevicius et al., 2012), we calculated operational sex ratio as the ratio of adult unmarried men to adult unmarried women between the ages of 15 and 44 within a population. We obtained operational sex ratio for each of the 50 states plus Washington, D.C. using the U.S. Census's American Community Survey data (American Community Survey, 2009). The range in operational sex ratio was 0.93 to 1.34.

Careers. Because we were specifically interested in how operational sex ratio is related to women's choices to pursue high-paying careers, we obtained data from the U.S. Department of Labor on the 10 highest paying careers for women: chief executive, pharmacist, lawyer, information systems manager, software engineer, physician or surgeon, computer programmer, financial analyst, systems analyst, and occupational therapist (U.S. Department of Labor Women's Bureau, 2010). The percentage of women in each job category ranged from 18.9% to 90.9% (see Table 1).

Maternal age and number of births. We obtained data on the average maternal age at first birth and the number of babies born per 1,000 women from the Centers for Disease Control and the American Community Survey (American Community Survey, 2009; Mathews & Hamilton, 2009). Average maternal age at first birth was 24.9 years, and average number of births per 1,000 women per 12-month period was 56.7.

Results and Discussion

We first examined the zero-order correlations between sex ratio in the 50 states plus Washington, D.C. and the three outcome variables of interest. For percentage of women in high-paying

Table 1
Correlations Between Operational Sex Ratio and Percentage of Women in the Highest Paying Careers (Study 1)

Career type	Percent female	Correlation with sex ratio (r)
Chief executive	18.9	−.00
Pharmacist	45.7	.09
Lawyer	27.0	−.27*
Information systems manager	29.0	−.48***
Software engineer	27.2	.09
Physician or surgeon	25.1	−.44**
Computer programmer	27.5	−.48***
Financial analyst	38.8	−.44**
Systems analyst	33.7	−.30*
Occupational therapist	90.9	−.02
Sum of careers	36.4	−.35**

Note. Data include women living in the 50 United States plus Washington, D.C. Negative correlations mean that more women choose high-paying careers when there are fewer available men.
* $p < .05$. ** $p < .01$. *** $p < .001$.

careers, there was a significant correlation in the predicted direction for six of the 10 careers (see Table 1). The other four careers, which included the career with the most women (occupational therapist, 90.9%) and the career with the fewest women (chief executive, 18.9%), did not show a significant effect. When the 10 careers were collapsed into one variable, there was a significant correlation between sex ratio and the percentage of women in high-paying careers, $r(51) = -.35$, $p = .01$.

For the family planning variables, there was also a significant correlation in the predicted direction for both maternal age at first birth, $r(51) = -.27$, $p = .05$, and for number of babies born, $r(51) = .49$, $p < .001$. Female-skewed sex ratios were associated with fewer births and delayed reproduction.

These results provide qualified support for our prediction regarding how operational sex ratio is linked to women's career choices and family planning. As the number of marriageable men in an area decreased, (a) the percentage of women in the highest paying careers increased, (b) the average maternal age increased, and (c) the number of babies born decreased. These findings suggest that the availability of mates may have important implications for women's decisions to choose to pursue a high-investment career path and hold off starting a family.

Study 2: Manipulated Sex Ratios and Desire for a Career

Study 1 revealed a sizable association between sex ratio across the United States and the percentage of women in the highest paying careers, maternal age, and the number of babies born. However, the correlational nature of Study 1 cannot determine whether sex ratio has a causal effect on career aspirations. In Study 2, we tested the relation between sex ratio and career aspirations by experimentally manipulating perceptions of the sex ratio in the local environment. Building on the findings of Study 1, we predicted that a perceived scarcity of men in the local environment should lead women to desire a career relative to starting a family.

Method

Participants. Eighty-nine female undergraduates at a large public university participated in exchange for course credit or $5. Mean participant age was 20.91 years ($SD = 2.30$).

Design and procedure. Study 2 had three between-subjects sex ratio conditions: many women, many men, and equal sex ratio. On individual computers, participants first viewed a series of photo arrays of the local population that varied on sex ratio (based on Griskevicius et al., 2012). Participants then answered questions about prioritizing career versus family. To minimize suspicion, participants were told that the session involved several different studies, the first of which concerned "accuracy in interpersonal perception." Consistent with this cover story, participants were asked to count the numbers of men and women in each series of photo arrays. Following this task, participants began what they were told was a different study of "lifestyle preferences." Post-study interviews revealed no suspicion or knowledge of the hypotheses.

Local sex ratio manipulation. All participants viewed three arrays of 18 photos each. The photos were obtained from public-domain websites. Participants were told that the first photo array consisted of individuals aged 18 to 30 from a local dating website, the second photo array was of recent graduates of the local university who were still living in the area, and the third photo array was taken recently on the university campus. Photos of comparable attractiveness (determined through pilot testing) were used.

In the many women condition, 13, 12, and 14 of the 18 faces in each of the three arrays were female. In the many men condition, 13, 12, and 14 of the faces were male. In the equal sex ratio condition, half (9) of the faces in each array were male and half (9) were female. Participants first saw each array for 1 s and were asked to write how many men and women appeared in each array. Participants then viewed the same arrays again for 15 s each, ostensibly so they could check the accuracy of their initial perceptions. After this second viewing, participants once again recorded the number of men and women in each array.

The number of men and women participants indicated seeing in the local environment (the local dating website, the university campus, and photos of recent graduates) served as a manipulation check of the sex ratio manipulation. Ninety-four percent of participants were fully accurate in their perceptions of the local sex ratio. For example, a female participant who saw 13, 12, and 14 women (out of 18 total people on each array) indicated that she saw 13, 12, and 14 women in the photo arrays was categorized as fully accurate. The other 6% of participants were off by only one or two people, confirming that participants were aware of the sex ratio in the photos.

Dependent measures. To assess how sex ratio influenced desire for career versus family, participants responded to three items. Each item began with the following instructions: "Please indicate which is more important to you in terms of your future." The three items were on 9-point scales anchored with the following labels: (a) *having a family—having a career*, (b) *spending quality time with my future children—having a satisfying job*, and (c) *having a happy and well-adjusted family—reaching my full career potential*. The order of the items was randomized. Responses were combined into a family versus career tradeoff index ($\alpha = .81$), with higher numbers indicating a prioritization of career over family.

Results and Discussion

Using a general linear model (GLM) analysis, we tested whether there was an effect of sex ratio on the desire for career versus family. There was a significant main effect of sex ratio, $F(2, 86) = 4.96$, $p = .009$, $\eta^2 = .10$ (see Figure 1). In the many women condition ($M = 4.70$, $SD = 1.96$), women prioritized career over family more so than in the many men condition ($M = 3.48$, $SD = 1.62$), $F(1, 58) = 6.79$, $p = .012$, $\eta^2 = .11$, or in the equal sex ratio condition (control; $M = 3.64$, $SD = 1.20$), $F(1, 58) = 6.21$, $p = .016$, $\eta^2 = .10$. There was no difference in prioritization of career versus family in the many men and equal sex ratio conditions ($p = .67$). The many women condition was also significantly different from the combination of the many men and the equal sex ratio conditions, $F(1, 87) = 9.87$, $p = .002$, $\eta^2 = .10$.

Consistent with our core prediction, cues of a female-biased local sex ratio led women to increase their desire for a career relative to having a family. In Study 1, we found significant correlations between sex ratio within all 50 U.S. states plus Washington, D.C. and the percentage of women in lucrative careers: As

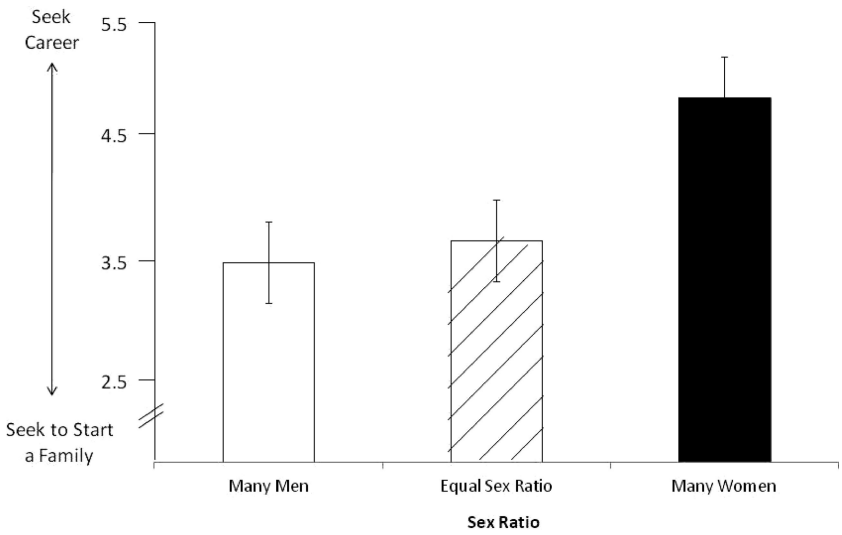

Figure 1. The influence of sex ratio on women's desire to seek a career versus start a family (Study 2). Error bars represent standard error of the mean.

the number of marriageable men in a state decreased, the percentage of women in lucrative careers in that state increased. Study 1 also showed that as the number of marriageable men in a state decreased, women had fewer children. And when women had children, they had them at later ages.

In Study 2, we tested this association experimentally and found that perceived sex ratio had a similar influence on women's desire for a career versus starting a family. The perceived scarcity of men in the local area led women to prioritize their careers over starting a family. The inclusion of an equal sex ratio condition in Study 2 showed that women's career–family tradeoffs were responsive to the many women condition rather than the many men condition (see Figure 1). Sex ratio, in other words, altered people's psychology specifically when there was a scarcity of the opposite sex, consistent with prior sex ratio research (Griskevicius et al., 2012).

Study 3: The Mechanism Underlying How Sex Ratio Affects Careers

Studies 1 and 2 both supported the prediction that a scarcity of men leads women to prioritize pursuing careers relative to starting a family. On the basis of sex ratio theory from evolutionary biology (James, 1987; Pederson, 1991), we contend that a scarcity of men leads women to desire a career because sex ratio alters perceptions of the mating market: A scarcity of men indicates that it will be more difficult for women to find a mate, which in turn leads them to seek careers. However, it is also possible that sex ratio affects careers simply by shifting labor market supply: As the number of men in the population decreases, more job opportunities become available for women. Although the job market may play a role in how sex ratio affects careers, we predict that sex ratio should affect career choices by altering mating markets, not just job markets.

Study 3 first sought to conceptually replicate the experimental findings in Study 2 using a different sex ratio manipulation. In addition, Study 3 tested our proposed mediator for the effect of sex ratio on women's career aspirations. We contend that a scarcity of men influences women's career aspirations by changing women's perceptions of how difficult it will be to find a mate. As a result, a scarcity of marriageable men in the local area should increase (a) the priority that women place on career versus starting a family and (b) women's perceptions of how difficult it will be to find a mate, and (c) women's perceptions of the mating market should mediate the influence of sex ratio on their career aspirations. Finally, to investigate whether shifts in sex ratio affect women's perceptions of local job market conditions (rather than local mating market conditions), we also tested how sex ratio influences women's perceptions of job market opportunities. Because the equal sex ratio condition in Study 2 produced responses that were nearly identical to the many men condition, Study 3 tested predictions by comparing the many women versus the many men conditions.

Method

Participants. Fifty-eight female undergraduates at a large public university participated in exchange for course credit. Mean participant age was 22.56 years ($SD = 3.30$).

Design and procedure. Study 3 had two between-subjects sex ratio conditions: many women and many men. Participants first read a short news article about male and female students on campus. They then answered questions about their future careers, the mating market, and the job market. To minimize suspicion, participants were told that the session included multiple studies, the first of which dealt with memory for news material. Consistent with this cover story, participants were told that the article was selected because it was recent, relevant to students, and exactly 500 words, making it ideal for memory studies. After reading the article, participants answered questions about their career preferences and their perceptions of the mating market and job market, ostensibly to allow time for their memory of the news story to decay. Poststudy interviews revealed no suspicion.

Sex ratio manipulation. Participants read one of two short news articles, supposedly taken from the *Austin-American Statesman* (a reputable newspaper located in the general region of the university where the study was conducted). One article highlighted that the sex ratios on nearby college campuses are female biased, whereas the other article noted that sex ratios are male biased. For example, an article titled "Fewer Women for Every Man for Today's Students" described recent demographic data showing more men than women in certain age groups (see the Appendix).

To ensure that the manipulations affected perceptions of local sex ratio, a different sample of 57 undergraduate women read either the many men news story ($n = 28$) or the many women news story ($n = 29$). They then answered the question, "Currently, how would you describe the proportion of men to women on campus?" with anchors 1 (*many more women than men*) to 7 (*many more men than women*). Results confirmed that the news articles were effective at shifting perceptions of local sex ratio. Women who read the many women news story perceived that there were significantly fewer men than did those who read the many men article ($M = 2.00$, $SD = 0.60$; $M = 5.75$, $SD = 0.80$, respectively), $F(1, 55) = 404.33$, $p < .001$.

Dependent measures. To assess how sex ratio influences desire for career versus family, participants responded to three items. Each item began with the following instructions: "Please indicate which is more important to you in terms of your future." The three items were on 9-point scales anchored with the following labels: (a) *having a family—having a career*, (b) *spending quality time with my future children—having a satisfying job*, and (c) *get married–get promoted*. The order of the items was randomized. Responses were combined into a family versus career tradeoff index ($\alpha = .78$), with higher numbers indicating a prioritization of career over family.

To assess perceptions of the mating market, participants indicated how much they agreed or disagreed with two statements: (a) "It will be difficult to find someone to marry" and (b) "There will be a lot of competition to find someone desirable to date." Responses were combined into a mating market index ($\alpha = .84$). To assess perceptions of the job market, participants indicated how much they agreed or disagreed with two statements: (a) "It will be difficult for me to get a good job" and (b) "I will have to compete with others to get a good job." Responses were combined into a job market index ($\alpha = .78$). All ratings were made on 9-point scales anchored at 1 (*strongly disagree*) and 9 (*strongly agree*). The order of the items was randomized.

Results and Discussion

Using a GLM analysis, we first tested whether there was an effect of sex ratio on the desire for career versus family. Replicating findings from Study 2, there was a significant main effect of sex ratio, $F(1, 56) = 4.61$, $p = .036$, $\eta^2 = .07$. In the many women condition ($M = 5.39$, $SD = 1.74$), women prioritized career over family more so than women in the many men condition ($M = 4.30$, $SD = 2.12$).

We next examined whether sex ratio influenced women's perceptions of the mating market and the job market. As predicted, there was a significant main effect of sex ratio on women's perceptions of the mating market, $F(1, 56) = 4.93$, $p = .030$, $\eta^2 = .08$. Women in the many women condition ($M = 4.02$, $SD = 2.18$) perceived that it would be more difficult to attract a mate compared with women in the many men condition ($M = 2.93$, $SD = 1.45$). However, there was no difference in the perceived job market in response to sex ratio condition (many women: $M = 5.43$, $SD = 1.54$; many men: $M = 5.30$, $SD = 1.45$; $p = .74$).

Mediation analysis. We predicted that women's perceptions of the mating market would mediate the relationship between sex ratio and women's prioritization of career. To test this hypothesis, we used the Preacher and Hayes (2008) bootstrapping procedure and corresponding SPSS macro to test for a significant indirect effect of sex ratio on women's career aspirations via women's perceptions of the mating market. Because the bootstrapping procedure does not assume the product term of two variables is normally distributed and the distribution of the product term is normal only in very large samples, the bootstrapping procedure is the preferred test of indirect mediation rather than the more traditional Sobel test or Baron and Kenny (1986) procedures (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004, 2008; Shrout & Bolger, 2002). To meet criteria for mediation, the effect of sex ratio on career prioritization should become nonsignificant when controlling for the mating market variable. Five thousand bootstrap resamples were performed.

Results revealed evidence for mediation of the effect of sex ratio on women's prioritization of careers by women's perception of the mating market. Consistent with our predictions, the total effect of sex ratio on women's prioritization of career over family via perceptions of the mating market was statistically significant (*c* path), $B = 1.09$ ($SE = 0.51$), $t(57) = 2.15$, $p = .036$. Sex ratio significantly predicted women's perceptions of the mating market (*a* path), $B = 1.09$ ($SE = 0.48$), $t(57) = 2.22$, $p = .03$, whereby women believed it is more difficult to secure a mate when men are scarce. Further, as women's perceptions of the mating market became more bleak, women were more likely to prioritize career over family (*b* path), $B = 0.24$ ($SE = 0.14$), $t(57) = 1.79$, $p = .08$. The direct effect of sex ratio on women's career prioritization after controlling for the mediating influence of women's perception of the mating market was not significant (c' path), $B = 0.83$ ($SE = 0.52$), $t(57) = 1.59$, $p = .12$ (see Figure 2). The indirect effect (the mediated effect) of sex ratio on women's career choice via perceptions of the mating market was 0.26 ($SE = 0.17$), 95% bias-corrected and accelerated confidence interval [.035, .785] does not overlap with zero. Taken together, these findings indicate that perceptions of the mating market mediate the effect of sex ratio on women's career prioritization.

Despite using a different sex ratio manipulation (news article), Study 3 conceptually replicated the effect of sex ratio on women's career aspirations found in Study 2. When there was a scarcity of men (i.e., a female-biased sex ratio), women prioritized career over family. Study 3 also found that the effects of sex ratio on women's career aspirations are driven by perceptions of the mating market. Cues suggesting a female-biased sex ratio increased women's perceptions of how difficult it would be to find a mate, which mediated women's desire for a career. These findings suggest that sex ratio influences women's career aspirations by altering their perceptions of how hard it will be to find a suitable romantic partner, rather than merely how hard or easy it will be to find a job.

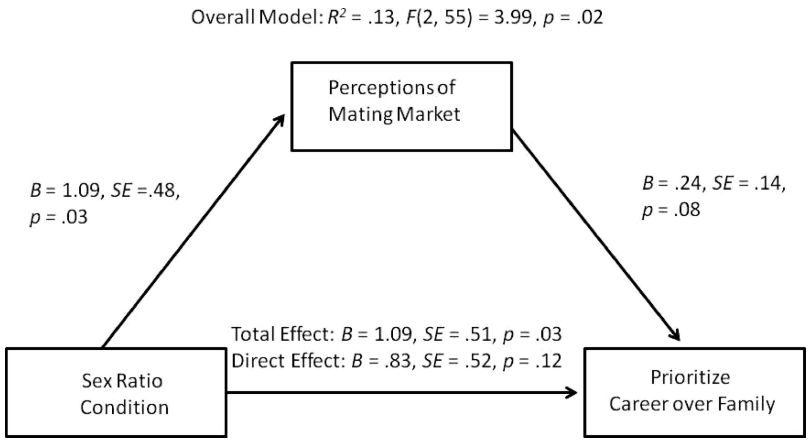

Figure 2. Mediation model for the effect of sex ratio on women's desire for careers via changing perceptions of the mating market. All path coefficients represent unstandardized regression weights. The direct effect coefficient represents the effect of sex ratio condition on desire for career versus family after controlling for the mediating influence of mating market perceptions (Study 3).

Study 4: Sex Ratio, Lucrative Careers, and Mate Value

Study 3 documented that a scarcity of men leads women to seek careers because women perceive fewer mating opportunities to secure a mate in a female-skewed ecology. Women, however, vary in their ability to secure a long-term, investing mate. Because our model predicts that the difficulty of securing a mate drives the effect of sex ratio on career preferences (as found in Study 3), a scarcity of men should have the strongest effect on desire for a lucrative career in women who are likely to have the most difficult time securing a mate.

A person's ability to attract mates is directly related to their mate value (Buss & Barnes, 1986; Kenrick, Groth, Trost, & Sadalla, 1993). Higher mate-value women (e.g., women who are more physically attractive) have more mating opportunities and are better at securing desirable mates (Buss & Shackelford, 2008; Durante & Li, 2009). Individual differences in mate value, therefore, reflect differences in how easy versus difficult it is for a woman to obtain a desirable mate.

When men are plentiful, most women are likely to find desirable mates (Brown, Laland, & Borgerhoff Mulder, 2009). When men are scarce, however, only the most desirable women should be able to secure long-term, investing male partners. Because women who are less desirable to men (e.g., lower mate-value women) are less likely to secure a long-term mate when men are scarce, such women should have fewer options to obtain the resources needed to support themselves. When men are hard to find, lower mate-value women may not have the option of pooling their resources with a long-term partner, meaning that they must independently support themselves. Accordingly, the effects of a scarcity of men on desire to pursue material resources should be especially pronounced among women who are less desirable as romantic partners.

Study 4 tested whether individual differences in women's mate value moderate the effects of sex ratio on women's desire for a lucrative career. We predicted that a scarcity of men should lead low, rather than high, mate-value women to seek careers, and specifically to seek careers that offer higher pay. Because such women should have a more difficult time attracting a desirable mate, they should be more likely to pursue lucrative careers as a way to independently secure material resources that can then be invested in themselves and their family.

Method

Participants. Eighty-seven female undergraduates participated for course credit or $5. The mean age of participants was 19.73 years (SD = 3.33).

Design and procedure. Study 4 had two between-subjects sex ratio conditions: many women and many men. As in Study 3, participants first read a short news article about male and female students on campus. Again, to minimize suspicion, participants were told that the session involved multiple studies, the first of which dealt with memory for news material. Participants then answered questions about their career preferences ostensibly to allow time for their memory of the news story to decay. Poststudy interviews conducted during pilot testing revealed no suspicion.

Sex ratio manipulation. The sex ratio manipulation was identical to that used in Study 3. However, in Study 4, participants read one of two short news articles, supposedly taken from the *Chicago Tribune* (a reputable newspaper located in the general region of the university where the study was conducted). As in Study 3, one article highlighted that the sex ratios on nearby college campuses are female biased, whereas the other article noted that sex ratios are male biased (see the Appendix).

Dependent measures. We first examined how sex ratio influences women's prioritization of career versus family with a tradeoff item conceptually identical to the dependent measure in Study 2 and Study 3: "What is most important for your future?" Participants responded on a 9-point scale anchored at 1 (*definitely family*) and 9 (*definitely career*).

Because we predicted that financial success in a career would be particularly important, participants next responded to two items assessing the importance of financial success in their future careers: (a) "How important is it for you to have a job/career in

which you can make a lot of money?" and (b) "How important is it for you to have a job/career in which there is virtually NO limit on how much money you might be able to make?" Participants responded on a 7-point scale anchored at 1 (*not at all important*) and 7 (*very important*). Responses were combined to form a desire for high-paying careers index, where higher numbers indicated the desire for financial success.

Mate value. To assess self-perceived mate value, participants completed the Self-Perceived Mate Value Survey (Lalumière & Quinsey, 1996). This survey assesses a person's general perceived desirability as a mate in the eyes of similar-aged, opposite-sex people. On 7-point scales, participants indicated the extent to which they agreed or disagreed with statements such as "Members of the opposite sex that I like tend to like me back," "Members of the opposite sex notice me," and "I receive many compliments from members of the opposite sex." The items were aggregated to form a mate value index ($\alpha = .91$). This scale is a reliable and valid measure of self-perceived mate value (Surbey & Brice, 2007). Previous research has also shown that subjective (self-perceived) measures of mate value are highly correlated with objective (outsider-observed) measures of mate value (Durante & Li, 2009).

Results

Mate value and career–family tradeoff. We first examined the career–family tradeoff using a GLM approach, treating sex ratio as a categorical factor and mate value as a centered continuous factor, and included the interaction term in the model. This analysis revealed a significant main effect of sex ratio, $F(1, 83) = 4.14$, $p = .045$, $\eta_p^2 = .05$. Replicating both Studies 2 and 3, this main effect indicated that women placed greater value on careers relative to family when there were many women ($M = 4.96$, $SD = 1.87$) compared with many men ($M = 4.18$, $SD = 1.90$).

Supporting our prediction, there was also an interaction between sex ratio and mate value, $F(1, 83) = 4.62$, $p = .034$, $\eta_p^2 = .05$ (see Figure 3). Following Aiken and West (1991), we probed the interaction by calculating the estimated mean difference in preferences for career for women who scored 1 *SD* above or below the mean on mate value. At 1 *SD* below the mate value mean, there was a greater desire for a career over family in the many women compared with the many men condition, $t(83) = -2.95$, $p = .004$,$\eta^2 = .10$. Lower mate-value women were especially likely to respond to a scarcity of men by prioritizing a career. In contrast, at 1 *SD* above the mean of mate value, there was no difference in desire for career over family in the many women compared with the many men condition ($p = .74$). Sex ratio did not influence whether higher mate-value women prioritized career or family.

Mate value and desire for high-paying careers. We next tested whether sex ratio influenced women's desire for careers that offered greater financial rewards. Sex ratio was entered as a categorical factor, mate value was centered and entered as a continuous factor, and the interaction term was included in the model. This analysis revealed a nearly significant main effect of sex ratio, $F(1, 83) = 3.63$, $p = .06$, $\eta_p^2 = .04$. This main effect indicated that women placed greater value on a career that would offer greater financial rewards when there were many women ($M = 4.93$, $SD = 1.27$) compared with many men ($M = 4.43$, $SD = 1.10$).

Our central prediction was that a scarcity of men would lead low mate-value women in particular to seek financial rewards in their careers. Supporting this prediction, there was a significant interaction between sex ratio and mate value, $F(1, 83) = 6.57$, $p = .012$, $\eta_p^2 = .07$. At 1 *SD* below the mate value mean, there was a greater desire for a career that offered financial success in the many women compared with the many men condition, $t(83) = -3.20$, $p = .002$, $\eta^2 = .11$. Lower mate-value women were especially likely to respond to a scarcity of men by wanting careers that offered higher pay and financial rewards. In contrast, at 1 *SD* above the mean of mate value, sex ratio had no effect on women's

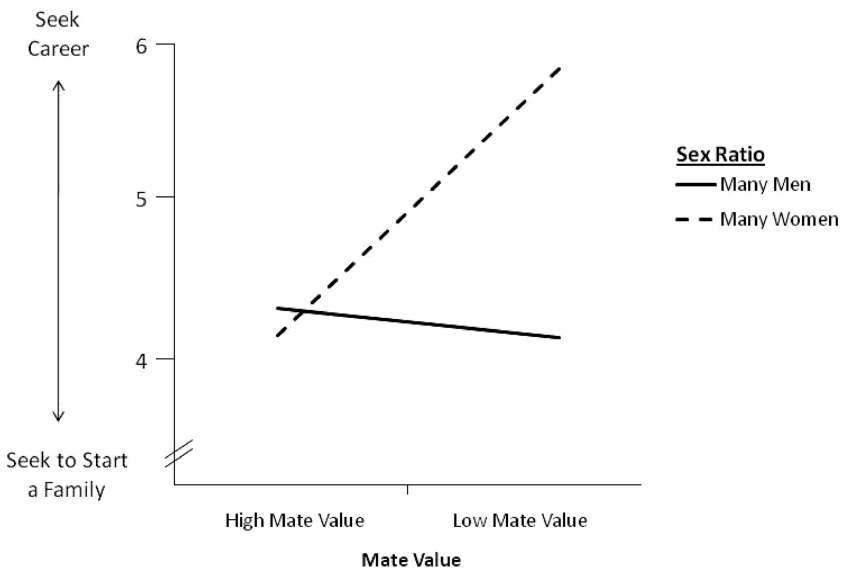

Figure 3. Women's desire for career versus family as a function of sex ratio and mate value (Study 4). Graphed means represent 1 *SD* above and below the mean for mate value.

desire for careers with higher pay ($p = .46$). Higher mate-value women did not experience increased motivation to pursue financial gains in a job when men were scarce.

Discussion

Study 4 tested which women are driving the effect of sex ratio on career aspirations. According to our model, sex ratio affects women's career aspirations by altering the mating market, whereby a scarcity of men makes it more difficult to attract desirable mates (Study 3). However, because women differ in their ability to attract mates (as indexed by their mate value), we predicted that a scarcity of men would produce the strongest desire for lucrative careers in women who are least desirable to men. Consistent with this prediction, the findings showed that sex ratio had different effects on career aspirations, depending on women's mate value. Although a scarcity of men did not alter the career aspirations of high mate-value women, it led low mate-value women to seek careers over family. Moreover, a scarcity of men led low mate-value women to be especially motivated to seek careers that offered financial rewards and higher pay, suggesting that sex ratio leads women to seek careers that enable them to support themselves financially. Viewed together, these findings indicate that the effect of sex ratio on women's career ambitions is driven by women who are lower in mate value. When there is a scarcity of men, such women are motivated to pursue high-paying careers.

General Discussion

Does the ratio of men to women in the local population influence women's career aspirations? Real-world archival data and a series of laboratory experiments suggest that the answer is yes: A scarcity of men leads women to seek more lucrative careers.

Examining patterns in all 50 U.S. states plus Washington, D.C., we found a strong relation between sex ratio and the percentage of women in the highest paying jobs (Study 1). As the number of marriageable men decreased, the percentage of women in the highest paying jobs increased. In addition, as the number of marriageable men decreased, women had fewer children, and when women did have children, they had them at later ages. Three experiments replicated these real-world effects, showing that exposing women to cues of a female-skewed sex ratio increased their desire to pursue a career rather than start a family. This robust effect occurred regardless of whether sex ratio cues were primed via photos (Study 2) or via news articles (Studies 3 and 4), suggesting that the local mating ecology has important implications for women's decisions to pursue a career and delay starting a family.

Focusing on the mechanism by which sex ratio influences women's career choices, we also found that sex ratio affects career aspirations by altering the mating market rather than the job market. That is, sex ratios do not simply change the supply of men and women in the job market. Instead, they alter the mating market, making it easier or more difficult to secure a desirable mate. Alterations in the mating market can have important consequences, such as changing women's career choices and the need for women to independently support themselves. As predicted, we found that the effect of sex ratio on women's career aspirations was specifically mediated by perceptions of the local mating market, whereby a scarcity of men indicated to women that it would be more difficult to find a mate (Study 3). Furthermore, a scarcity of men produced the strongest shift in desire for lucrative careers specifically in women who are likely to have a difficult time securing an investing, long-term partner (Study 4).

Taken together, this consistent pattern of findings indicates that the ratio of men to women in the local environment alters the mating market, making it less likely that some women will be able to secure an investing, long-term mate. This can, in turn, alter women's psychology and behavior, leading a substantial proportion of women to seek lucrative careers. When men are scarce, women who are lower in mate value (i.e., less able to attract a desirable mate) are more motivated to shift their career motivations and pursue their own financial resources. This strategy enables them to obtain material resources in the absence of an investing partner. A desire for a lucrative career not only enables women to support themselves but it also hedges against the possibility of not being able to ever secure an investing mate.

Results from the studies presented here, which mirror results in the nonhuman animal literature, suggest that sex ratio has important effects on human behavior. Recently, Griskevicius et al. (2012) demonstrated that male-biased sex ratios can have important effects on men's financial decision making. Here, we have extended this work to show that a female-biased sex ratio can have theoretically complementary effects on women's behavior—it can lead some women to invest in lucrative careers. In addition to documenting this novel effect, we find that sex ratio does not simply influence women's career choices by changing the supply of men and women in the labor market. Instead, it alters women's psychology by changing the mating market, leading women to seek lucrative careers when it will be difficult to secure a mate. This research has important ramifications not only for many aspects of women's (and men's) lives but also suggests that whether a woman chooses a briefcase or a baby—whether she invests heavily in a career or in starting a family—is related to the local mating ecology and the availability of mates.

The Sexual Paradox and the Effects of Women's Economic Success

The effects of sex ratio on women's career choices highlight some of the difficult life decisions confronted by many modern women, which can lead to a sexual paradox (Pinker, 2008). A fundamental challenge faced by all of our ancestors—and continued to be faced by humans today—is raising offspring (Kenrick, Griskevicius, Neuberg, & Schaller, 2010). Because human offspring require an immense amount of time, attention, and care over many years of development, humans have historically solved this challenge through pair-bonding processes such as marriage (Geary, 2000). Such pair bonds allow a couple to pool their time, energy, and resources to raise children successfully (Marlowe, 2001). However, because females are the only sex that can gestate offspring and provide early nutrition via lactation and nursing, there has been considerable division of labor by sex within human cultures historically. Whereas men have typically contributed more economic resources to families (e.g., money, hunted game), women have contributed more direct offspring care (Hurtado, Hill, Kaplan, & Hurtado, 1992; Kaplan et al., 2000; Marlowe, 2003).

This division of labor, with men contributing more economic resources and women contributing more direct childcare, conferred a survival advantage to most offspring (Geary, 2000; Hurtado & Hill, 1992).

Today, this historical division of labor by sex is only one of several options for women. The last five decades have witnessed tremendous strides in the education and economic independence of women in Western societies. Contemporary women now achieve as much education as most men, with a large number of women now garnering more education than men. In the United States, for example, 72% of female students graduate from high school, whereas only 65% of male students do (Greene & Winters, 2006). Women are much more likely than men to go to university, with the vast majority of colleges having more women than men. A consideration of evolutionary biology, mating psychology, and sex ratio suggests that these changes may lead to mating challenges among women.

First, despite changes in their economic independence, modern women continue to place great importance on economic resources and status when choosing long-term mates (Buss, 1989; Li, Bailey, Kenrick, & Linsenmeier, 2002). In fact, as women become more educated and economically independent, their mating standards tend to increase. Educated women who earn a good salary usually desire to marry educated men who earn even more than they do (Townsend, 1989). Yet as single women gain more education and climb the economic ladder, the pool of men who are acceptable as marriage partners shrinks considerably. Thus, as single women continue to climb the economic ladder, their chances of finding a mate who meets their standards quickly diminish.

Second, while women who climb the corporate ladder continue to place a premium on the financial status and earning power of their prospective mates, men who are wealthy and well educated do not place a premium on the earning power, wealth, education, or status of women when selecting a long-term mate (Buss, 1989; Buss & Barnes, 1986; Li et al., 2002). Thus, men often prefer to marry women who have less financial resources and education than themselves—with many men marrying women who have little to no financial resources. Because wealthy men are not seeking women of similar wealth, this further shrinks the pool of long-term mates for single women who continue to climb the economic and corporate ladder.

Third, women today are getting married later in life and having children at significantly later ages than they were 50 years ago. The median age at first marriage for women in the United States has increased more than 25% since 1970, moving from 20.8 years of age in 1970 to 26.5 years of age in 2009 (Elliott & Simmons, 2011). The average age at which women have their first child has also increased dramatically, rising to 25 in United States, 27.8 in France, 28 in Canada, and 29.2 in Japan. Moreover, a sizable proportion of women are delaying reproduction until much later, and an increasing number are not even having children (Mathews & Hamilton, 2009). And, more than ever before, many single women are becoming first-time mothers by choice. For example, the support group Single Mothers by Choice doubled the number of new members from 1995 to 2005, and approximately two thirds of the patrons of the California Cryobank—the largest sperm bank in the United States—are single women (Reproductive Science Center of the San Francisco Bay Area, 2007; Shapiro, 2010). According to the Centers for Disease Control, approximately four in 10 babies in the United States were born to single mothers in 2005 (Reproductive Science Center of the San Francisco Bay Area, 2007). By the time many modern women have their first child, they are also more likely to find themselves in high-ranking, high-demanding jobs and facing a critical decision about how to best allocate time between career and family.

While the career and family planning options for modern women have changed considerably, human evolutionary biology has not. Although men can and do invest in parenting (Geary, 2006, 2007), women across all societies tend to invest much more in offspring care, well beyond gestation and lactation (Ichino & de Galdeano, 2005; P. J. Stone, 1973). Even in societies in which men spend relatively more time with children, women still spend 5 times more time with their children than men do (Ramey & Ramey, 2010). When it comes to careers, having children forces women to make important life decisions. Unlike most men, women must decide whether to juggle both parenting and a demanding career or focus more on childrearing.

The current studies suggest that sex ratio is likely to exacerbate the ironic effects of women's economic success. Most college campuses, for example, currently have more women than men. As a result, college-aged women are less likely to find a mate, and this skewed sex ratio should motivate a substantial portion of women to seek high-investment careers. In addition to delaying reproduction, climbing up the economic ladder will make it even more difficult to find a desirable mate as women's mating standards continue to rise while the pool of available mates continues to shrink. This may lead more women to end up childless, end up in undesirable relationships, or become single parents. Ultimately, although sex ratio motivates women to seek higher paying careers, it simultaneously leads them to confront tough choices later in life, such as choosing briefcase over baby.

Limitations and Future Directions

Our findings contribute to and complement the growing literature on evolution and social cognition (e.g., Ackerman et al., 2006; Cosmides, 1989; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Haselton & Nettle, 2006; Kenrick et al., 2010; Maner et al., 2003; Navarrete et al., 2009). Much recent research has found that priming sexual/romantic cues, such as seeing photographs of attractive opposite-sex individuals, has important influences on cognition and behavior (e.g., Anderson et al., 2010; Durante, Griskevicius, Hill, Perilloux, & Li, 2011; Griskevicius et al., 2007; Hill & Durante, 2011; Maner et al., 2005; Roney, 2003; Sundie et al., 2011; Wilson & Daly, 2004). The current studies are different from this past research because we highlighted women's sensitivity to a particular feature of the social environment—the relative availability of potential romantic partners.

There are, of course, important differences between cues that indicate the presence of a potential mating opportunity and cues that denote the nature of the mating market. Cues to a mating opportunity (e.g., women seeing photos of desirable men) are likely to activate mate-attraction motives and increase mating effort in that situation. On the other hand, cues to local sex ratio (e.g., women seeing desirable men in the context of many vs. few women) indicate how likely a given woman is to attract a man and how much effort will be needed to do so. Future research needs to

examine the differences and similarities in how the mind uses cues of potential mating opportunities and cues of sex ratio.

Sex ratios may also be an important ecological cue in human development, leading to diverging adult behaviors depending on the sex ratio in local childhood environments. For example, a scarcity of boys may lead some girls to invest in reproductive effort at earlier ages, potentially leading to earlier female sexual maturation (Ellis, 2004). Alternatively, a scarcity of girls may generate heightened aggressive or competitive behavior in young boys. As boys and girls reach puberty, environmental cues suggesting how each may fare on the mating market are likely to be especially critical. The time when individuals reach sexual maturity and make important decisions about a possible career path tend to occur close to one another within the human life course. Thus, it is possible that the abundance or scarcity of mating opportunities available when individuals enter the mating market—usually in the teenage years—plays an important role in guiding career paths. This may explain some of the individual variation witnessed in career choices. For example, a scarcity of young men may lead some women to pursue medical school and others to settle down and start a family at an earlier age. Future research examining the precise influence of sex ratio on men's and women's psychology, physiology, and behavior is likely to be highly fruitful.

One important limitation of the current work concerns the population from which the samples were drawn. Participants were female undergraduates from universities in the United States, and many of them have (or at least perceive) the option to pursue a high-paying career as an alternative strategy to acquiring paternal investment for offspring. Women in other settings (e.g., impoverished neighborhoods in the United States; rural villages in Asia; foraging societies in equatorial regions) may not have this "career" option and may instead pursue other alternative strategies. For example, they may form closer intrasexual alliances, or they may rely more heavily on extended kin for childrearing.

Conclusion

Many people believe that the economic independence of women began in the late 20th century. Even though this period in history marked significant advancements for women, there have been other historical periods when women entered the economic workforce in relatively large numbers, resulting in societal changes. The 12th century in Europe was one of several such periods (Guttentag & Secord, 1983). During these periods, the careers and opportunities of women may have been driven as much—if not more—by operational sex ratios than by political agendas or social ideology. The fact that sex ratio has pronounced effects on women is not surprising when one considers theory in evolutionary biology and past research on operational sex ratios in numerous species. The relative number of available mates serves as a powerful environmental cue that signals what the current local environment holds in store for a given individual, particularly in light of his or her mate value and, therefore, future mating opportunities. This environmental condition, which has been of interest to social scientists for years (Guttentag & Secord, 1983), deserves much more theoretical and empirical attention.

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(*Appendix follows*)

Appendix

News Article Used in Studies 3 and 4

Below is the text of the news article women read in the many women condition. The article in the many men condition was identical, except that the argument was reversed.

Austin-American Statesman
statesman.com

Fewer Men for Every Woman for Today's Students

By MORGAN K. JAMESTON, Senior Writer

There was once a time when the average college student could look around campus and expect to see an even number of males and females in a class. Those times are changing rapidly, however, according to new sociological research. Whether it's in class, at work, or at the bar, college-aged women today should expect to see more women for every one guy.

The U.S. Department of Education recently released statistics of current enrollment patterns at national universities. The trends show that significantly more than half the incoming students across the country are women. "It's astounding," says Susan Rice, chief admissions officer for the University of Texas system. "College campuses are overflowing with young women."

Across the universities of the Big 12, for example, many co-ed dorms have more women than men. "We've had to turn some of our boy's bathrooms into girl's bathrooms," notes Taylor Bryan, a residential coordinator at Baylor University. "Whenever I walk around the dorms now, I always see some guy surrounded by a group of single girls."

Interestingly, most students do not appear to notice the skew unless it is made explicit to them. At the University of Texas, for example, several students were asked to observe people around them for five minutes. Christina Jenkins, a first-year student, quickly noticed the trend. "Everywhere I looked, there were groups of women," said Jenkins. "I was intrigued that there were so many single girls and so few men. I guess I need to get used to this."

Demographers note that this trend will continue into the near future. "Looking at high schools right now," observes Ryan Connick, a professor at Texas A&M, "it's pretty clear that more women will be applying to college in the next few years." Connick notes that this trend is a result of the number of males and females born in a given year. "We had a series of years a while back when more women were born. There is nothing wrong with this, but it will have an impact on people's lives."

The high numbers of women are likely to influence both the academic and the recreational lives of women and men. But it's important to realize that the sex ratio is a lasting generational phenomenon. As the current generation of college students gets older, there will continue to be more women than men of similar ages. "When women graduate from college a few years from now, they will see the sex ratio follow them into their jobs," points out Connick. "I wouldn't be surprised if a woman ends up working in an office filled with single women and only a few men."

Researchers across the country note that the sex ratio has looked different in the past and will likely look different again in the future. People who are college age right now, however, should expect to be surrounded by an abundance of women.

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