

Gender, risk assessment, and political ambition

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ABSTRACT. In the United States, women have long held the right to vote and can participate fully in the political process, and yet they are underrepresented at all levels of elected office. Worldwide, men's dominance in the realm of politics has also been the norm. To date, scholars have focused on supply-side and demand-side explanations of women's underrepresentation but differences in how men and women assess electoral risk (the risk involved in seeking political office) are not fully explained. To fill this gap, I explore how evolutionary theory offers insights into gendered differences in political ambition and the evaluation of electoral risk. Using the framework of life-history theory, I hypothesize that both cognitive and environmental factors in human evolution, particularly as they relate to sexual selection and social roles, have shaped the psychology of ambition in gendered ways affecting contemporary politics. Cognitive risk-assessment mechanisms evolving in the hominid line came to be expressed differently in females and males, in women and men. These gendered expressions plausibly reflect differentiable environmental pressures in the past and may help explain behaviors in and barriers to women's electoral political activity in the present. If so, then the success of efforts to increase such activity — or, regressively, to suppress it — may be better understood.

Key words: Political ambition, gender differences, evolutionary theory, electoral risk assessment

Male officeholders are the norm in political representation both worldwide and in the United States in particular. Across the globe, gender parity in political representation is unusual, and instances of women's overrepresentation are extremely rare.¹ In the United States, women make up slightly more than half of the population and earned the right to vote and participate fully in the political process many decades ago. Nevertheless, in recent U.S. history, less than a quarter of state legislators have been women; women have held few state executive offices; and women have comprised less than 20 percent of the membership of the U.S. Congress.²

Proponents of greater gender equality in U.S. political representation continue to wonder why more women do not run for or hold political office when so many of the societal and structural barriers to their participation have diminished. The leading explanations tend to focus on candidate emergence and cultural

and psychological factors that contribute to men and women having different levels of political ambition.^{3,4} However, these theories do not address what I consider to be critical questions: What role does *electoral risk* play in political ambition, and can evolutionary theory provide insight into gendered differences in risk assessment and political ambition? I argue that the differences between women and men in electoral risk assessment likely have an evolutionary basis that is both cognitive, as the genders have experienced differential phenotypic adaptations specific to risk, and environmental, as the culture that frames the evaluation of risk in political office-seeking has responded to evolutionary pressures as well. Because it is dual faceted, reflecting both behavioral and genetic components, my argument invites feminist evolutionists and evolutionary psychologists to reconcile their views.

Supply-side and demand-side explanations of candidate emergence

Research on the gender gap in political representation frequently focuses on whether there is a lack of women candidates (supply side) or if electoral systems

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function in ways that do support the selection of potential women candidates (demand side).⁶ Ashe and Stewart note that scholars, even those studying the same system, have different impressions about which side matters more in representation.⁷ In the United States, it is important to recognize the significance of both sides. Undeniably, a variety of factors on the supply side limit the number of women candidates and depress women's representation. On the other hand, women's political ambitions are significantly affected by the environment in which they make calculations about whether to risk a candidacy.

Supply side factors

As the supply-side arguments recognize, individuals who consider seeking political office must personally calculate the risk associated with their choices. To learn how women and men make such calculations, scholarship has turned to examining candidate emergence.³ Researchers have pointed to a number of factors that tend to support the political ambition of men and/or depress that of women. An oft-mentioned consideration is that women's roles as wives and mothers take precedence over or create obstacles to their political ambitions.^{8,9,10,11,12,13,14,15,16,17} Others have argued that the perpetual scarcity of women at elite levels suppresses ambition because potential women candidates lack role models.^{18,19,20,21}

For those women who run and hold office, familial obligations do seem to weigh heavily in their calculations about their potential political careers. Gaddie finds that elected officials of both genders frequently cite the stresses of reconciling a political career and ambition with family, but women are more burdened than men by this conflict.²² Despite the obligations of their elected positions, female state legislators remain primarily responsible for housework and child care,¹² a concern that discourages them from seeking higher office.^{11,23} Silbermann found that women who lived farther away from their state capitols were less likely to run for state office.²⁴ Lawless and Fox suggest the women in the candidate pipeline are typically successful in their careers and have already overcome caretaking obstacles to professional success.⁴ Therefore, these women tend to have fewer conscious concerns about the effect of running for political office on their potential for reproductive success and/or continued parental investment. In a study of national party convention delegates, women were more likely than men to feel that their political involvement was limited by having

children.¹⁶ As a result, women were more likely to delay a run for office until their children were grown. A later study of potential candidates in four typical "pipeline" careers—lawyers, business professionals, educators, and activists—found that women whose children were older tended to be more likely to consider a run for office. In this study, women were not more likely than men to be deterred from running for office by familial obligations, but—at the same time—the women who considered political careers were in less traditional family arrangements than their male counterparts. The women in politics were “roughly twice as likely as men to be single or divorced, and they [were] 10 percentage points less likely than professionally similar men to have children.”²⁵

Demand-side factors

On the demand side of the equation, sexual discrimination likely contributes to the paucity of woman elected officials.^{26,27} Although there is little evidence of certain overt forms of gender discrimination such as voter bias in contemporary electoral contexts,^{18,28,29,30,31,32,33,34,35,36,37} women continue to face stereotyping by voters,^{38,39,40,41,42,43,44,45,46} in the media's treatment of them,^{39,47,48,49,50,51,52,53} and in political recruitment.^{4,18,44,54,55,56,57,58}

Institutional and structural factors in the political system also matter. For example, the advantages of incumbency in U.S. politics serve as a deterrent to all emergent candidates—regardless of gender⁵⁹—and therefore help perpetuate the overrepresentation of men in elected offices. Furthermore, because U.S. women are underrepresented in local and state political offices as well as key professions such as business and law that tend to be the launching point for political careers, there are fewer women than men in the pipeline for higher political offices.

In the United States, the systems used to choose and elect candidates also limit the demand for women candidates. For example, candidate emergence is entrepreneurial, meaning candidates put themselves forward to compete, typically in a primary. In contrast, in many parts of the world where women are more likely to be candidates, such as Europe, there is a party loyalist model—candidates are picked by party elites.⁶⁰ This selection process has been shown to increase the number of women candidates.⁶¹ Many of these same systems also have a proportional representation (PR) system, where candidates are placed on party lists and multiple candidates from these lists are chosen based

on the proportion of the vote each party receives. As a result, PR system elections are primarily party-focused, taking the spotlight (and the potential burden of risk) off the individual candidates.

Across the world, many political systems also employ gender quotas of some kind. While the type and success of these quotas varies, scholars generally agree that they have increased the number of women holding elected office.⁶² Because the U.S. system does not employ quotas, an electoral gatekeeper (such as a party leader) has greater leverage to oppose the selection of a woman candidate.^{44,58}

The U.S. political system also has cultural dimensions that affect the likelihood that women will seek political office, although perhaps in ways that are difficult to measure. The two-party system in the United States tends to provoke polarization and negativity, whereas parliamentary systems (such as those found in much of Europe) feature multi-party systems that not only encourage coalition and consensus but also require cooperation to function. Given that men are more likely to have a higher social dominance orientation⁶³ and women are more likely to exhibit political ambition when primed with communal frames,⁶⁴ potential female candidates are likely to find the combative political culture less welcoming than potential male candidates do.

Research by Schneider and her colleagues demonstrates that men and women are both more likely to perceive political careers to be more aligned with male life-strategy goals—power seeking for self-promotion and competition.⁶⁴ When careers are framed in a more egalitarian or communal way, women become more ambitious.⁶⁴ This finding is consistent with the Darwinian feminist perspective that women would theoretically be more likely to pursue and hold political leadership in an egalitarian society.⁶⁵

The gap in understanding the ambition gap

Clearly, myriad demand-side influences help explain women's underrepresentation in politics, and Lawless and Fox^{3,4} and others have carefully outlined the critical factors that depress the supply side of female candidates. Interestingly, Lawless and Fox identify gender differences in the self-efficacy of potential candidates/elected officials as important factors in determining whether a potential candidate ultimately seeks office. Women's lack of self-efficacy has thus been touted as a main reason for their lack of political ambition. However, this explanation falls short—it

seems unlikely that tremendously successful women in pipeline professions have sufficient confidence to pursue these challenging careers but do not believe they could also succeed in the political arena. I therefore argue that the gender gap in political ambition is, in part, attributable to gendered differences in risk perception and risk aversion. If men, on average, are less likely than women to perceive or be deterred by the risk in a particular electoral environment (electoral risk), they are more likely to emerge as candidates. While research has uncovered numerous factors contributing to the gender gap in political ambition, scholars have only just started to consider risk perception and risk aversion.^{66,67,68}

The psychology of risk assessment

Given how inherently risky it can be to run for political office, it is notable that neither political science nor psychology has investigated electoral risk. A few seminal studies in political science suggest the importance of a rational cost-benefit calculus in progressive ambition,^{69,70} and a few scholars have tangentially alluded to elements of risk when revealing gender differences in the decision to run.^{11,71} However, individual risk calculations, particularly in terms of nascent ambition, have not been incorporated into the literature on the ambition gender gap. Kanthak and Woon have used an economic model to introduce the concept of election aversion,⁶⁶ but no psychological study has looked directly at electoral risk. Nevertheless, the field of psychology offers considerable evidence of gender differences in risk assessment. This research has identified many areas where men and women exhibit significant differences in how they respond to risk scenarios, and this literature provides a solid basis for expecting gender differences in electoral risk assessment specifically.

Considering the emphasis that psychologists put on the context of a particular risk,^{72,73} a discussion of electoral risk as a discrete form of risk is well justified. Researchers classify many risk contexts into a number of domains and find that gender-based differences in risk taking vary across these domains.^{74,75} Although electoral risk does not seem to fit clearly into any of the domains identified, the theoretical perspective would suggest that there is the potential for differences in the electoral context as well.

More general evidence of psychological differences between men and women is well documented. In an exhaustive meta-analysis of thousands of diverse research

studies on gender differences, Macoby and Jacklin conclude that there are gender-based differences across the life cycle and in a number of areas of human psychology.⁷⁶ Subsequent studies have since contested, diluted, or confirmed these findings.

Specific to risk, studies have revealed men's propensity to be bigger risk takers than women,^{77,78,79} as well as women's likelihood to perceive greater risk across threat types.^{80,81,82} Across different risk types (or domains of risk), meta-analysis reveals that gender differences exist in virtually every area of risk study.⁷⁴ The body of psychological literature on gender and risk thus supports two hypotheses: First, there are good reasons to look at the risk inherent in the unexamined context of elections, and, second, it is likely that gender-based differences in this realm exist. Intersectional research in political science and biology is starting to nip at the edges of these questions.

Genes, hormones, and political behavior

While political scientists have yet to use evolutionary theory to discuss the nature of political ambition, the influence of biology upon human political attitudes and behavior has been the focus in recent years of a growing body of research.^{83,84,85,86} The only research within political science arguing for a direct link between biological factors and power seeking is a series of studies Madsen conducted in the 1980s. Although the definition of power seeking could include running for political office, Madsen defines it more simply as "the pursuit of social dominance."⁸⁷ In an experimental setting, he identified the neurotransmitter whole blood serotonin (WBS) as being connected to power seeking *in men*. Among the study participants (all of whom were male undergraduates), those with power-seeking dispositions, on average, had higher levels of WBS.⁸⁷ This finding mirrored those from studies of other primates with propensities for socially dominating behaviors.^{88,89,90,91,92} In a subsequent experiment, Madsen found that men with higher levels of WBS tend to have different physiological responses than those with normal or low levels of WBS when faced with competitive situations.⁹³ Although Madsen's experiments are not related directly to political power seeking *per se*, his findings suggest that men who are biologically inclined to seek power also tend to be better-equipped hormonally to function in stressful and/or competitive environments.

These findings may be critical to evaluating the biological connection to behavior in politically compet-

itive environments, but it is also crucial to recognize a significant limitation of Madsen's research: His subjects were exclusively men, and thus the experiments offer no insight into whether these same processes affect women with orientations toward social dominance or in competitive environments. Research on genes, their connection to hormonal influences, and the resultant cognitive mechanisms could and should be extended to analyses of candidate emergence.

Evolution and risk in political behavior

A growing body of both theoretical and empirical research uses evolutionary theory to help explain human psychology. The theories remain piecemeal so that none applies systematically, but recent efforts have included forays into examining political behavior.^{85,87,93,94,95,96,97,98} With respect to political behavior, the topic of risk assessment has become an important focus in evolutionary psychology. For example, McDermott, Fowler, and Smirnov have written about the evolutionary roots of prospect theory,⁹⁹ which argues that people make decisions based on their calculation of the potential risk or loss involved in their choice—valuing the potential gain much more significantly than the potential loss.¹⁰⁰ The theory is one of the most powerful and oft-employed tools in the social sciences and has been widely applied by political psychologists to such topics as the effects of framing¹⁰¹ political decision making,^{97,102,103,104,105} public policy,¹⁰⁶ comparative politics,¹⁰⁷ and the behavior of state actors in international relations.^{103,108,109,110,111,112,113,114}

McDermott and coauthors offer an evolutionary explanation for the risk-taking and risk-aversion patterns explained by prospect theory. They theorize that cognitive mechanisms that evolved to help our ancestors to make life and death decisions are still in place and help people today to make decisions. Models of politics, they argue, need:

Greater sensitivity to *ecological rationality* [emphasis original] ... How a person thinks, and what constitutes rational behavior, depends on the situational and environmental context in which that individual operates. An ecologically valid model of political behavior, or any other behavior, involves the interaction between both individual characteristics and specific situational aspects of the environment.¹¹⁵

These authors also note that in decision making in general and prospect theory specifically, gender-based differences exist. This conclusion is supported by experimental research by Fagley and Miller that found that women participants were affected by positive and negative framing of a threat, while men were not.¹¹⁶ These gender-related differences in framing effects were also found in a later study that looked at the nature of risk domain—again the frames affected women more significantly than men.¹¹⁷

Evolution and differential risk assessment between women and men

There are strong evolutionary arguments for differences between men and women in risk assessment. At the evolutionary root of gender differences in risk assessment are sex-related differences in the life history strategies—the timing of various forms of reproductive effort over a lifetime, including phenotypic effort, mating effort, reproduction, and nepotism.¹¹⁸ The allocation of these various efforts over a lifetime is shaped by natural selection to maximize inclusive fitness, a measure of the success an individual has in transmitting genetic materials to the next generation. There are two components to inclusive fitness: first, an individual's own reproduction and, second, aid given by the individual that enhances their relatives' reproduction, since an individual shares a fraction of identical genes with those relatives. Life history strategies can vary somewhat between the sexes due to sexual selection—a special type of natural selection that occurs due to competition among males for mates and because of female choice in mates.¹¹⁹ Sexual selection results in sexual dimorphism (differences in traits between females and males). Cognitive processes can be subject to sexual selection, leading to differences in risk perception and risk taking between the sexes.¹²⁰

The life history strategies of human females differ from those of human males. Females mature at a younger age, and their mating effort is considerably less than for males. Most importantly, females must invest far more in reproduction (sex cells and gestation) than males and nearly always invest far more than males in parental care. Human males, on the other hand, mature at a later age and their mating effort can be considerable, especially in competition with other males to attract more and better quality mates. Compared to other species, human males also invest considerably in

parental care, but doing so can involve tradeoffs that reduce mating effort.¹¹⁸

From an evolutionary standpoint, males who are successful in competing with other males garner reproductive benefits. On the other hand, males who do not compete successfully may fail entirely in attracting a mate and fathering children. Competition among males for mates may explain why, as prospect theory notes, individuals tend to engage in very risky behavior when threatened with losses.⁹⁹ If males have few resources and find it difficult to attract and hold onto a mate, they will go to extreme risks to guard what few resources they do have (such as their reputations). Compared to human females, human males would likely have evolved to benefit from greater risk propensity, since the payoff in terms of reproductive fitness when making riskier choices would be much greater for males than for females. In summary, being a male involves riskier life strategies.

Along these lines, I posit that there is an evolutionary origin for the decision-making process (that is, risk assessment) that influences candidate emergence in democratic political systems. Because women and men have been subject to different evolutionary pressures, they have evolved different cognitive mechanisms of risk assessment. Environments in the ancestral past and the risks associated with those environments looked very different for women and men, and thus supported sexual selection for differences in traits between the sexes for dealing with these different environments. Furthermore, cultural responses to environmental pressures, associated with many gender-based differences in politics, continue to reflect this history of sexual selection. Thus, some gender-based differences that seem irrelevant in the modern environment may persist despite great efforts to overcome them because they reflect sex differences in evolution.

Anyone thinking critically about whether or not to seek public office must consider the specific risks in doing so. I hypothesize that those individual calculations of risk are gendered in important ways that have, in part, an evolutionary origin. My theoretical framework for the existence of gendered assessments of electoral risk and their subsequent effects on candidate emergence assumes the connection between politics and the control of resources and is thus rooted in life history theory, which argues that decisions about risk taking will be made in the context of decisions about resources in an effort to maximize survival and reproduction over the course of an individual's life.^{121,122}

Life history theory is now frequently used to explain human behavior, specifically variations in strategies used by individuals.^{123,124,125,126,127,128} Increasingly, researchers have been employing life history theory to empirically test how strategy variations influence risky decision making.¹²⁹ My theoretical discussion of a particular type of risk (electoral risk) is dual-faceted. The first dimension of my argument considers *cognitive* forces inherent to individual biology that prompt women to calculate risk in different ways than men. It reflects the evolutionary history in which the human psyche evolved. Although this history includes selective forces that would have had a similar impact both women and men, there were also selective forces surrounding risk that had a different impact on women than men. The second dimension of my argument considers *environmental* forces. It examines evolution's impact on cultural environments and identifies factors in economic, social, and political environments that shape and differentiate the risks for women and men of running for political office.

Cognitive influences: Evolved traits and individual behavior

A fundamental assumption of behavioral genetics is that there are genetic influences underlying all behaviors¹³⁰ and evolutionary processes throughout our ancestral history have shaped behavior, like other traits. The causal pathways may be lengthy, complicated, and difficult to ascertain, but they exist. Genes are sections of DNA that get translated, leading eventually to the production of distinct enzymes. Without genes, there is no development, no nervous system or brain, and, as a result, no behavior. Through these behaviors, human culture has also evolved.¹³¹

The process of natural selection is the process responsible for adaptations—traits that better enabled their bearers to survive and reproduce in the environments of prehistory and history. Malthus¹³² and Darwin¹²⁰ argue that because far more organisms are born in any generation than could be supported by the resources available in the environment, individuals inevitably compete for those resources. Individuals with traits best adapted to the particular competitive environment will thrive and produce offspring who are likely also to carry the traits that made the parents successful.¹²⁰

Two critical issues determine whether a trait will be favored: First, does the trait favor the acquisition of resources used for survival and reproduction? Second, does the trait favor the acquisition of one particularly

important resource—more and higher quality mates? Genes will be transferred to the next generation only if those initially carrying them possess both the resources to survive and have access to mating opportunities. A gene will increase in frequency, generation after generation, only if it is found in bodies that compete successfully for reproductive resources, including mates. There are thus two sets of intertwined selective pressures at work: Shortages of resources encourage competition for them, and shortages of mates and higher quality mates favor competition for access to them.¹²⁰ Risk is inherent to many calculations that individuals must make in both managing resources and reproduction. Trimpop argues that mate selection is inherently a form of social risk taking.¹³³ It involves competition both for resources (used to attract mates) and for the mates themselves.¹³⁴ Both competition for resources and for mates favor risk taking, and some of these risks are inherently political, with implications for power seeking.

Consider the adaptive traits that modern humans have and the selective pressures that would have favored them. Evolutionary theorists make a strong case that the Pleistocene Era is the most convincing place to look for the origins of more recently evolved human behaviors that distinguish modern *Homo sapiens* from their ancestors (such as *Homo erectus*). The theoretical justification for this focus is simple: 99 percent of the history of *Homo sapiens* occurred within hunter-gatherer (HG) societies,¹³⁵ so most traits distinctive to modern humans would be traits that favored survival and reproduction in environments typical to a HG society. These are almost certainly the traits that modern humans possess.¹³⁷ By this logic, the political environment associated with HG societies has influenced how modern humans cope with their own political environments. Cultural anthropologists have argued that not only has the political nature of HG societies affected human nature, but human nature has also affected modern politics.^{136,137}

In HG societies, male and female humans worked together to obtain resources needed for survival,^{138,139} and the division of labor between the sexes has been identified as the origin of traditional gender roles.¹⁴⁰ Women often focused on collecting localized vegetation that, in terms of calories and nutrients, made up the largest portion of the HG diet. For their part, men fished, hunted, and scavenged for meat. While the nutrients obtained from vegetation were mainstays of the diet, meat provided a greater concentration of fat and protein. Skill was needed to obtain this often scarce

and unpredictable resource, and those who shared meat with others in the community achieved significant reputational benefits.¹⁴¹ Successful hunters were therefore likely to wield significant influence within their social group and, as a result, male authority became the norm.¹³⁶ For this reason, humankind's earliest politicians, headmen, were likely exclusively men.¹⁴² Because HG societies had little variation in wealth, they tended to be predominantly egalitarian, with leaders emerging to solve conflicts when authority and leadership were required.⁶⁵ Apart from the headman (and perhaps a few skilled and successful hunters), very few men were able to attract and support more than one mate and their children.¹⁴³ Therefore, while these societies were predominantly ecologically monogamous (a condition that would offer its own set of evolutionary pressures), a few men with greater ambition would succeed in becoming a headman, and be able to attract and support additional mates, father more children, and achieve greater personal reproduction. Their traits, including those that supported their ambition, would increase in frequency in the population, encouraging a tendency toward power seeking in future generations of men.

As Darwinian feminists would surely point out, women in HG societies also have had their own sets of ambitions and a role in political life. Women in HG societies are frequently described as being cooperative,¹⁴⁴ particularly in their gathering duties,^{138,139} but these societies provided opportunities for female competition and power seeking in other aspects of communal life. Low, in her examination of traditional peoples around the world where women have a notable amount of power, identifies numerous ways that women exert their ambition and strength.¹²⁶ She notes that within the Creek Nation, for example, when a woman was cited for bravery, her son would receive a war title. The Saramacca of Guyana had a dual political structure where women held positions of authority in the realm of women's affairs, while men did the same in more general communal affairs—an arrangement that may seem familiar to women in positions of power in contemporary democracies. Furthermore, although the fabric of egalitarian HG society was secured in part by a delicate balance between men's limited political authority and women's aversion to power seeking, women played a "counterdominance" role in society.^{65,145,146} Women's counterdominant behaviors would include their approval or disapproval of leaders and their actions, economic efforts, and the absolute dependency of men on women's childbearing and rearing efforts.

As applied to humans, evolutionary theory suggests that individuals will be inclined to pursue political power (emerge as candidates) to the extent that political power can contribute to their reproductive success or, more specifically, their inclusive fitness,¹⁴⁷ and evolutionary theory further supports the argument that men are able to derive potentially significant reproductive benefits from being politically ambitious, whereas women derive far fewer benefits from the same behavior. In theory, men can make a virtually unlimited contribution to the future gene pool through polygamous marriages, serial monogamy, taking concubines, and philandering, but the genetic contributions of women are limited by the number of children they are able to successfully gestate, bear, and raise. Therefore, men will be inclined to participate in activities that gain them reproductive opportunities. Namely, competing successfully for power will increase their access to additional resources and these resources can be used to attract mates and help support these mates and any offspring. Indeed, history is full of accounts of wealthy and powerful men with harems full of concubines or, at least, multiple wives and higher than average numbers of children (for example, Genghis Khan, the Ottoman sultans, and the Tiwi elders of Northern Australia).¹⁴⁸ Unlike men, women who use resources to attract multiple mates are not favored by natural selection. Instead, women are primarily predisposed by evolution to behaviors that give them access to resources that will help them raise healthy children.¹²⁶ Women carry the reproductive burden of pregnancy and, in most cases, they have been tasked with most of the early burden of caretaking.^{149,150} Thus, the sex-differentiated benefits of ambition and caretaking have favored the emergence of traditional gender roles and help explain the evolutionary roots of gender differences in political ambition that we see today: One reason that women are less politically ambitious than men is because, in the environments of our ancestors, there were fewer benefits for females in taking the risk to seek political power.

Environmental influences: Social and cultural environmental expression of evolutionary factors

By this point, one dimension of my argument should be clear: Natural selection has favored men, but not women, who seek power, and this evolutionary reality is reflected in human history up through modern society. Geary summarizes this point:

Men in all cultures are highly motivated to attain social status and control of culturally significant resources. The resources are those needed to support survival and attract a mate or mates and can vary from land to herds of cows to a large paycheck. Whatever the form of resource, the outcome is the same. Women prefer culturally successful men as mates, and thus these men have more reproductive options.¹⁵¹

Chagnon and Irons offer empirical support of this argument by documenting the importance of “cultural success” for men.¹⁵² Cultural success is the fulfillment of conscious aspirations, and these authors argue that its importance is a cultural universal. Humans in evolutionary history, traditional societies, and modern cultural environments would all consciously strive toward proximate goals (such as wealth) that would improve their inclusive fitness. For men, cultural success would often be defined in terms of access to and control over resources, and the conscious drive associated with this control could be defined as ambition. Although the ambitious men throughout history who have struggled to achieve cultural success were probably ignorant to the concept of inclusive fitness, most were likely aware of their own culture’s definition of success and knew that there were ample rewards to be had from achieving it. There is typically a close correspondence between gendered cultural definitions of success and factors that are associated with reproductive success. For example, for much of U.S. history, women who were born into wealthy families married at younger ages and gave birth to more children than women who were not from wealthy backgrounds.¹⁵³

The fact that there is cultural variation in how ambition is defined and recognized is a crucial point that brings attention to the second facet of my evolutionary argument about electoral risk. Genetic dispositions are merely dispositions and must be activated by the social environment. Depending upon the characteristics of specific social environments, such dispositions may be expressed fully, expressed in attenuated form, or not expressed at all. For example, the political ambition of men in HG societies, if successful, was often rewarded by the ability to attract and keep several wives. However, the political ambition of men in modern societies, if successful, is not rewarded the same way because polygamy is widely prohibited by law. In the context of electoral risk assessment, the environment in which individuals are considering the risks of running for

political office is at least as meaningful as genetic factors in shaping how they assess those risks.

Perhaps the most important environmental consideration is the long-standing cultural norm in most human societies that politics is men’s business.¹⁶ This is the norm of public man, private woman. The dominance of public man in human society is reflected in the history of patriarchal institutions, such as legislatures, political parties, courts, businesses, religious organizations, and the media, which have been structured so as to hinder women’s ability to gain access to them and to exercise influence within them.¹⁵⁴

The history of male domination in the political/public sphere and its primary institutions holds implications from a socialization perspective as well.¹⁵⁵ Patriarchal institutions serve to create what Fox and Lawless refer to as a “masculinized ethos.”³ Where a masculinized ethos exists, so does an inherent bias against women and their issues. This bias creates a “gendered psyche,”^{3,4} which serves to make traditionally male realms such as politics feel like a man’s world, rather than a woman’s world or a gender-neutral environment. Women may be deterred from participation, and, if they do enter politics, they may conclude that they do not belong, are less effective than men, and cannot exercise influence. It is easy to presume that the differential burden of parenting that persists in human societies would be associated with women’s diminished ambition in general and political ambition in particular. In reality, the effect of the differential burden of parenting on ambition is not clear cut. As many evolutionary theorists have identified,¹²⁶ gender-related traits can almost always be placed on a spectrum full of shades of grey, rather than arranged in a stark binary. In the context of candidate emergence, this means that while men *on average* tend to be more politically ambitious than women, there will always be exceptions to this tendency—and the overlap on the spectrum may be significant.

When thinking about ambition and gender, it can be useful to consider the prevalence of gender-dominated careers other than politics. In the United States, Census data indicate that men dominate architecture and engineering careers, where they outnumber women two to one.¹⁵⁶ At the same time, women dominate personal care and service occupations by an even greater margin.¹⁵⁷ Of course, there may be reasons why biological differences between the sexes would support such culture-based career preferences.^{158,159} For example, as the primary caregivers of children, the professions of nursing or early childhood education may be

marginally more attractive to women than men simply because, throughout human history, women's life history strategies have been more nurturing. Similarly, a career in electoral politics, with its emphasis on power seeking and resource control, might seem less attractive to women because of evolutionary influences. However, overly simplified evolutionary explanations of the disproportionate representation of women and men in different careers cannot account for the near-global phenomenon of advancement toward gender parity in many careers. In most developed societies, the participation of women in the public sphere has increased. These advancements are often attributed in large part to women's diminished fertility and the lower burden of child care due to modern birth control methods that give women greater control over their own fertility.¹⁶⁰ While this argument is certainly true, there has not been enough time for human behavior to adapt, as a result of natural selection, to birth control.^{161,162} Therefore, we do not know how traits like ambition may evolve.

Ultimately, the risk involved in emerging as a candidate for political office is distinct from the risks associated with other pursuits and, as such, may activate different adaptive responses regarding whether to exercise political ambition. Political scientists frequently employ a rational choice operationalization of electoral risk (the risk associated with pursuing political office), which identifies the probability of winning, cost of running, and level of office as the major variables in play in decisions to run for (higher) office.⁷⁰ However, deciding whether to seek political office involves a plethora of risk assessments. Obvious and quite general risks include one's political party backing a different candidate, a better candidate(s) running for the same office, failure to get on the ballot, one's potential ineffectiveness as candidate/officeholder, failure to be re-elected, dislike for public office, or loss of a campaign. Other risks may feature resource considerations, such as one's capacity to secure financial support to run an effective campaign, the investment of one's own resources (financial and otherwise) in a candidacy, and the potential loss of income from other employment sources while running for or holding political office. Risks may also involve aspects of the individual's personal life and well-being. Running a campaign and holding a political office can take time away from other important obligations (family, job, and so on) and have the potential to harm familial relationships. Family members may also be subjected to negative media attention as well as other forms of stress. Robbins and Dorn theorize that political

leadership can have dramatic health consequences.¹⁶³ Specifically, they argue that the stressors of politics may be hard on politicians and their families and lead to addictions and stress-related health issues. Some risk assessments will be unique to the particular office being considered. Scholars of U.S. Congressional elections have examined from many angles how candidate quality affects the cost-benefit analysis that someone considering a candidacy will make, including the incumbency advantage,^{164,165,166} party support of a candidacy,¹⁶⁷ and fundraising capacity.^{168,169,170,171}

This categorization of risk types is not, by any means, a comprehensive description of every potential risk consideration that an individual evaluates whether or not to seek political office. The crucial point is that electoral risk offers distinct risk-based considerations for someone considering running.

Furthermore, in many contemporary political campaigns, risks, potential risks, or perceived risks can be gendered. In particular, women candidates face the possibility of sexism in media coverage^{39,47,48,49,50,51,52,53} and recruitment,^{57,58,172} online harassment,¹⁷³ violence,¹⁷⁴ or fundraising, where women have to work much harder to raise similar amounts as men.^{11,175} Women may also face problematic voter stereotypes associated with their fertility¹⁷⁶ or lack thereof,¹⁷⁷ or how old their children are.¹⁷⁸ Women and men may also face different economic risks by entering the political arena. Sanbonmatsu, for example, finds that women are more likely than men to run for office in districts where the pay for office is lower because women are less likely to play the role of breadwinner in their families.¹⁷⁴ For these reasons, women interested in political office will assess the electoral risk differently than men in the same position.

Conclusion

A political-ambition gender gap persists despite dramatic social change, women still expressing less interest in running for political office than men express.⁶⁴

According to the logic presented here, a component of the gender gap in candidate emergence may be attributed to the differential ways that men and women evaluate the risks associated with running for political office, and these differential ways in turn reflect evolved differences in psychology between men and women. In HG society, women and men pursued distinctively different strategies to achieve success. These strategies involved different components of risk, and, presumably,

somewhat distinctive mental modules to assess those risks. Throughout most of evolutionary history, men who enjoyed political success—who took the risk and succeeded in the public sphere—would have benefited in ways that enhanced their reproductive fitness. There would have been little (or perhaps no) incentive for women to take such risks to gain and hold on to power in the public sphere. External to the individual, the cultural environment has also been shaped by evolutionary history. Since the agricultural revolution, societies at different levels of sociocultural development have tended to reinforce evolved gender-based differences that have their origins in HG society, including that men's ambitions are directed toward achieving success in the "public" sphere whereas women's ambitions are directed toward achieving success in the "private" sphere, especially through establishing personally and often mutually beneficial bonds and interactions with close family and friends. As such, there are compelling reasons to believe that the mechanisms that evolved in our ancestors to handle risk assessment scenarios would be used today to evaluate modern scenarios, including the decision about whether or not to seek elective office.

The more complete understanding presented here of psychological causes of women's lesser ambition offers insights that could help researchers better tailor empirical examination of gendered candidate emergence—perhaps reshaping the nature of experimentation or analysis. Researchers who are interested in connecting genetics to political behavior should begin to consider empirical studies that might identify variance in political ambitions. Updating the experiments of Madsen^{87,93} to incorporate more advanced knowledge of neurobiology and to include women could be a seminal start, particularly if studies are designed to make the risk environment variable.

Research in this area could assist practitioners of politics who are interested in recruiting, promoting, and electing women candidates. A greater understanding of the factors that contribute to women's electoral risk aversion can lead to insight into factors that may mitigate those risks. For instance, researchers and practitioners alike may want to consider more specific strategies of recruitment that better entice women to consider running for office, as they may respond differently to the risks posed by those recruitment efforts. For those interested in narrowing the gender gap in political representation (governments, political parties, interest groups, and so on), these observations also suggest institutional changes that, if implemented, have the potential

to make the systems themselves less risky for women candidates. Some changes, such as gender quotas, may not be tenable in the U.S. political system, but political culture change that promotes a more consensual model of politics could perhaps be achieved by thoughtful leadership. Political party chairs could, for example, make it explicitly known that they are interested in recruiting and supporting women candidates for particular seats, thereby reducing the risk involved for a woman interested in putting herself forward as a candidate for that position. Regardless, a deeper understanding of why men and women consider participating in electoral politics (or not) can offer important insights as to why politics stubbornly remains a male-dominated realm.

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Gender, risk assessment, and political ambition

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Gender, risk assessment, and political ambition

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