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Abstract

This article examines the role of society and culture in shaping the opportunity structure and ambition formation of female gubernatorial candidates in all 50 states over a 40-year period. Using a new data set consisting of every woman who entered a gubernatorial primary from 1978 to 2008, the author analyzes how cultural factors and historical legacies—including the percentage of women in the workforce, higher education, and statewide elective offices—influence the opportunity structure and ambition formation of female candidates. The author argues that the female sociopolitical subculture within individual states heavily influences whether or not female candidates will enter and win their respective primaries and general elections. Rather than assuming that individual characteristics are the primary determinants of ambition formation, this research implies that it is necessary to analyze the political behavior within cultural contexts.

Keywords

campaigns, gender and politics, women governors, political culture

In the early 1970s, women ran for elective offices in state and federal legislatures in record numbers. Moreover, several female candidates won their respective races, thereby increasing the female seat share in state and federal legislative bodies. In 1975, only 8.2% of state legislators were women. By 2010, this figure had risen to 24.5% (Center for American Women and Politics [CAWP] 2010). The United States also witnessed an increase in the number of female candidates running for state executive offices. In 1974, Ella Grasso became the first female governor elected in her own right. In 2008,

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by contrast, there were eight sitting female governors. Female candidates from both major parties continue to seek election to state governorships. Despite the fact that the percentage of female candidates in gubernatorial primaries has increased over the past 40 years, scholars have failed to thoroughly explain the variation in female candidate emergence across states. The purpose of this research is to identify and analyze the state-level political and cultural characteristics that foster female candidate emergence in some states but not others.

The existing literature on female candidate emergence for statewide elective office is insufficient for analyses of state governorships on two fronts: the research focus is either too individualistic or primarily focused on state legislative bodies. First, analyses of female candidate emergence for statewide office focus on the characteristics of individual candidates and/or candidate pools. Although individual characteristics are undoubtedly influential in the development of female candidate emergence, I argue that state-level cultural characteristics also discourage or encourage women from running for public office (Diamond 1977). In other words, female candidates' decisions about whether or not to run for elective office are circumscribed by the political contexts they inhabit.

In addition, most research pertaining to female candidate emergence focuses primarily on state and federal legislatures (Fox and Lawless 2004, 2005; Fulton et al. 2006; Maestas et al. 2006). While analyses of female candidate emergence in state legislatures are incredibly important and insightful, focusing on state governorships would differ in two important ways. While analyses of state legislatures focus on legislative districts (which are relatively small, homogenous units of analysis), state gubernatorial elections offer a unique canvas for examining the behavior of female candidates through macro analyses of statewide cultural and political characteristics. A macro analysis that can account for a much larger and more diverse population will produce more generalizable insights about how women behave in political contests.

Second, analyses of state legislatures usually examine non-office holders who enter (or do not enter) the political arena for the first time (Fox and Lawless 2005). With this being the case, a theory of candidate emergence for the governorship centered around the established theories of ambition and party recruitment is not an appropriate approach. Higher level elective offices, such as the governorship, generally will not attract first-time candidates. Candidates for governor typically emerge from other statewide or other popularly elected offices and will not be evaluating themselves in the same manner as potential first-time office holders—they will be looking for opportunities to act on their upward political ambition. Their evaluation for running for office, therefore, will not be driven primarily by their personal self-evaluation but rather by the context and political climate within their respective state.

From a normative perspective, this analysis sheds light on the gendered cultural barriers that inhibit female candidate emergence and elections to statewide elective office. Currently, women constitute roughly 51% of the general population but only 12% of state governorships.¹ If the main barriers to female candidate emergence are indeed cultural—and relate to the position of women in society, their domestic and employment responsibilities, and attitudes about gender roles and stereotypes—this research may enable political actors to dismantle cultural barriers and think through policy

prescriptions that can best achieve representational equality. Theoretically, this analysis raises questions about political legitimacy and gender equality in state-level politics.

Given the aforementioned oversights and potential gains, my primary research question is, "How do statewide cultural and political characteristics affect female candidate emergence for state governorships?" More specifically, I hope to ascertain which statewide cultural characteristics are politically salient factors when female candidates decide to run for elected office. This research models the complete process of female candidate emergence in primaries, success in these primaries, and success in the general election. Modeling the entire process allows for greater insight into the political environment necessary for women to be successful when seeking their state's highest office. Utilizing a data set covering the years 1978 to 2008, I show the impact of female sociopolitical subculture as well as state-level political characteristics that lead to the emergence and success of female candidates in both primary and general elections.

Theories of Female Candidate Emergence

In the seminal book *Ambition and Politics: Political Careers in the United States*, Joseph Schlesinger (1966) outlined the prominent role of ambition in the behavior and goals of political actors in the United States. More recently, scholars interested in female candidates' behavior have extended Schlesinger's work to explore the factors that influence differences in ambition across gender lines (Carroll 1985; Farah 1976). Women's self-perceptions influence their ambition formation. Some scholars have analyzed surveys and argued that women are much more likely than men to deem themselves as not qualified to hold public office (Fox and Lawless 2004). For example, Fox (1997) contends that well qualified women are much less likely to consider running for office than their male counterparts. Furthermore, Carroll (1994 p.127) argues that women "perceive a greater need than men to be close to home and to have time to spend with their children and spouses." Moreover, women tend to be more risk averse than their male counterparts when running for higher offices. Fulton et al. (2006) find that women are more sensitive to the cost and probability of winning higher office when acting on their potential progressive ambition. That said, scholars continue to debate the degree to which ambition differs across gender lines.

Other explanations for lower levels of women's emergence as political candidates focus on the parties themselves, although the findings are mixed. Some scholars contend that parties act in a biased manner when recruiting candidates (Lawless and Fox 2005; Niven 1998; Sanbonmatsu 2002). Sanbonmatsu (2002) argues that both the level of party professionalization as well as the parties' view of the electability of a woman affect candidate emergence. On the other side of this argument, however, scholars suggest that parties are not biased against women when encouraging candidates to run for office (Burrell 1994, 2006; Darcy, Welch, and Clark 1994; Maestas, Maisel, and Stone 2005). Darcy, Welch, and Clark (1994) actually argue that parties seek out qualified female candidates to enhance their gender appeal.

Overall, these explanations based on the general candidate ambition of women and the functional role of candidate recruitment are inadequate in fully explaining candidate

emergence and success because they fail to situate candidates within the larger political culture in which their political ambition develops. Verba (1965 p.513) describes political culture as “a system of empirical beliefs, expressive symbols and values, which defines the situation in which political action takes place.” At its most basic definition, therefore, political culture is understood to be the embodiment of a given society’s values and attitudes. Moving beyond this general definition of political culture, several scholars contend that subcultures divided along social cleavages exist within larger political cultures. For the purposes of this article, I argue that the female sociopolitical subculture of a given state is the primary factor influencing female candidate emergence. The female sociopolitical subculture consists of two major dimensions—social and political. I will further elaborate on these components in detail when describing the operationalization and measurement of the political culture variable. For now, one can understand the female sociopolitical subculture of a state to reflect demographic trends in gender participation in education, the workplace, and political life.

I argue that the upward political ambition of women is the by-product of a conducive environment that encourages women to participate in politics at higher levels, run for lower level offices, and work their way up through the political ranks. In states where women are seen as equal in capabilities and given ample opportunities, women show higher levels of political efficacy and are more likely to run for higher level political office (Atkeson and Carrillo 2007). These states with a more progressive female sociopolitical subculture have a history of treating women as equal to men and have a nontraditionalistic view of women in general. States with a traditional female sociopolitical subculture do not foster an environment that allows females to run for political office and pursue careers that will eventually allow them to run for governor. In states with strict gender roles and traditional gender stereotypes, women are not seen as qualified public servants.

In other words, one must first understand these social constraints to predict an individual potential candidate’s behavior. More specifically, female sociopolitical subculture affects two essential components of candidate emergence for governorships—the candidate pool and the opportunity structure. States with a historical pattern of electing women to lower level offices will have a larger qualified candidate pool for female gubernatorial candidates. On the other hand, states that boast low levels of female participation in public service will have a limited candidate pool for women to emerge as gubernatorial candidates.

If the female sociopolitical culture within the state allows for the existence of an experienced candidate pool, previous office holding and the current political climate will predict whether a female candidate acts on her progressive ambition and runs for her party’s nomination for governor. This opportunity structure within a state is characterized by a political environment that is favorable not only to female candidates in general but also to female candidates of the favored party in the state. I argue that female potential candidates will evaluate the current political climate when deciding to act on their progressive ambition. When evaluating the opportunity structure within their respective state, female potential candidates will look specifically to low information cues, the state political mood, the gendered makeup of state legislative bodies, and the type of gubernatorial election (open or incumbent) they may be faced with.

First, potential female candidates will evaluate low information cues based on the political makeup of the state electorate, elected offices, and general mood of the state at election time. Potential candidates are aware of the career cost involved in running for governor and will run only when the electoral climate is favorable to them. Moreover, female candidates will be more risk averse compared to male candidates when considering the political climate.

In addition, female potential candidates respond to the political mood of the state population and behave in a strategic manner to maximize their potential of winning the election. Numerous scholars (Arceneaux 2001; Norrander and Wilcox 1998; Sanbonmatsu 2006) have shown that states that favor a more liberal mood tend to elect more women to state legislative seats. When a state becomes more liberal, women will enter their parties' primary, whereas states that are more conservative will not see women emerge as candidates for governor.

In the individuals' evaluation of the state political climate, female potential candidates will look at the makeup of their state legislative bodies. A major indicator of female legislative candidates is the percentage of female legislators already in the state legislature (Ondercin and Welch 2005; Sanbonmatsu 2006; Thomas 1994). States that have higher levels of representation in their state legislatures are more likely to support future female candidates for political office. Female potential candidates for governor will specifically look at the composition of their own party within state legislatures. The makeup within each party in both chambers provides an excellent shortcut to how conducive the individual party is for electing female candidates. Chambers with low levels of women representatives give the cue of a political environment within both the party and the state that is not conducive to electing a woman governor.

Female potential candidates for governor will also be strategic when deciding which type of seat will offer the highest probability of success. One of the largest barriers for entering public office for female candidates is the incumbency advantage enjoyed by male elected officials (Andersen and Thorson 1984). Incumbents are reelected at such a high rate that removing these barriers through term limits and redistricting significantly increases the probability of success for female candidates (Pritchard 1992). Burrell (1994) supports these claims, arguing that retirement aids in the creation of potential seats for female candidates. A female candidate for governor is more likely to emerge when the situation is more favorable to her victory. With this being the case, women will increase their probability of being a candidate when the governor's seat is open.

Understanding Female Sociopolitical Subculture

The role of political culture and its impact on political systems and outcomes are undeniable in the American states (Abramowitz 1980; Almond and Verba 1963; Elazar 1974, 1994; Pye 1965). Almond (1956) argues the main components of political culture consist of a "cognitive orientation," "affective orientation," and "evaluational orientation," meaning within society there needs to be knowledge, beliefs, feelings, and evaluations of the political systems in which individuals live. Although the theoretical

understanding of the role of political culture has been debated over the years (Almond and Verba 1963, 1980; Elazar 1994; Pye and Verba 1965), little has been done to systematically model the explanatory abilities of a measure of political culture, particularly in the United States.

Almond and Verba (1963) and Elazar (1974) offer the most widely cited notions of the role of political culture in the United States. Their evaluations of political culture are based on survey responses (Almond and Verba 1963) or geographical patterns of historical migration (Elazar 1974). Abramowitz (1980) convincingly argues the Almond and Verba's classification of political culture in the United States was based on a period of history not representative of the true cultural backbone of American society. Therefore, Elazar's understanding of the political subcultures based on traditionalistic, moralistic, and individualistic behavior appears to have validity in the general understanding of political culture in the United States.

Numerous scholars (Hill 1981; Johnson 1976; Monroe 1977) have attempted to further explain the basic foundation of Elazar's (1974) seminal work on the structure of political culture in the United States. One of the shortcomings of most explanations of political culture is the overemphasis of the static nature of political culture and a limited discussion on the role of gender norms in defining the culture of a state. The purpose of this section is to expand the understanding of a dynamic political culture while taking into consideration the cleaving role of gender as a political subculture.

Scholars who view culture as a static mechanism and account for no change in the behavior of people, groups, or nations are incomplete in their general understanding of political cultures. Elazar (1994 p.229) himself states, "Culture is not static. It must be viewed dynamically and defined so as to include cultural change in its very nature." Societies, norms, beliefs, and behaviors over time change and adapt to the environment that is presented. Believing the culture of a state or nation will not change does not take this into consideration.

Furthermore, the lack of consideration gender has received in the development of understanding political culture is also a major omission of scholarly work in this area. The role of gender itself creates a unique challenge when gauging the general culture of states. Linton (1949) as well as Almond and Verba (1963) would classify gender as a "strata of subjects and parochials" that create unique "subcultures" within the overarching political cultures. A politically salient female sociopolitical subculture has wide-reaching political ramifications within the United States.

This subculture has not been systematically examined as its own indicator; however, other scholars have alluded to this in previous research by recognizing the importance of gender in understanding the general political culture of the nation. Diamond's (1977 p.29) analysis of the role of culture notes the importance of a favorable environment for women to be elected to public office. She argues, "Where favorable conditions exist more women are likely to be elected . . . but if women are elected in states where these conditions do not exist, new condition will have to be created." Diamond's understanding of political culture in the states and its implications for electing women officials lead to what appears to be a dynamic process of political culture changing over time—but including an underlying argument that gender considerations need to be made.

Cook (1980) offers a more complete attempt at understanding the female culture within a state. Cook's explanation of a gendered culture focuses on the intersections of three major subcultures—social culture, political culture, and legal culture. Her theoretical understanding of political culture focuses on the attitudes and opinions of the population, political structures of the state, and behavioral variables. Although the theory behind the impact of female political subcultures is comprehensive, Cook's operationalization of political culture remains limited. She relies on only four indicators of culture—number of trial courts, selection of judges, number of women attending the national convention in 1976, and number of services for women in the community.

Hill (1981) also offers an early attempt to systematically test important indicators of political culture that focus on sexual equality while explaining female representation. Hill breaks down political culture into two separate factors—those relating to cultural factors in the state and structural factors of the state government. He shows a direct impact of traditionalistic culture on the level of female representation in state legislature for 1972–1973. Hill offers a unique and early attempt to conceptualize political culture. Hill's explanation, however, includes only four indicators of culture—legislative compensation, constituency size, previous female representatives, and traditional culture scores.

Conceptualizing the dynamic nature of political culture within individual states over time will lead to an increased understanding of gendered political outcomes, whether it be policy oriented or representational issues. To date, however, there has been no attempt to fully understand the structure and variability of a political culture on the basis of gender. Rather than focusing primarily on the general political culture of individual states, it is necessary to evaluate gender as a cleaving line that allows for the development of subcultures in the United States. The measure of female sociopolitical subculture I develop takes into consideration the political structures of the state by including the historical access women have had to political offices as well as the equality in society women have gained. Furthermore, the overarching cultural indicators outlined by Elazar are included to control for higher level cultures affecting the subcultures. The construction of the measure is outlined briefly in Figure 1.

I first take into consideration the historical access women have had to elected offices within each state. States with a more progressive female sociopolitical culture view participation by women as a crucial element of participation in a society that is equal (Atkeson 2003). With this being the case, states that have elected higher levels of women in a historical setting are more likely to form a culture conducive to advocating higher level offices for women to attain. I include four separate indicators of the level of political representation by women. I utilize the percentage of female state senators, lower chamber representatives, statewide elected executives, and U.S. congressional delegation separately.

Dummy variables indicating traditionalistic and moralistic political culture as the dominant culture within a state are also included. These dummy variables account for the higher level cultures affecting the formation of the gendered subcultures. A dummy variable for individualistic states is excluded to avoid perfect multicollinearity when calculating the variable.

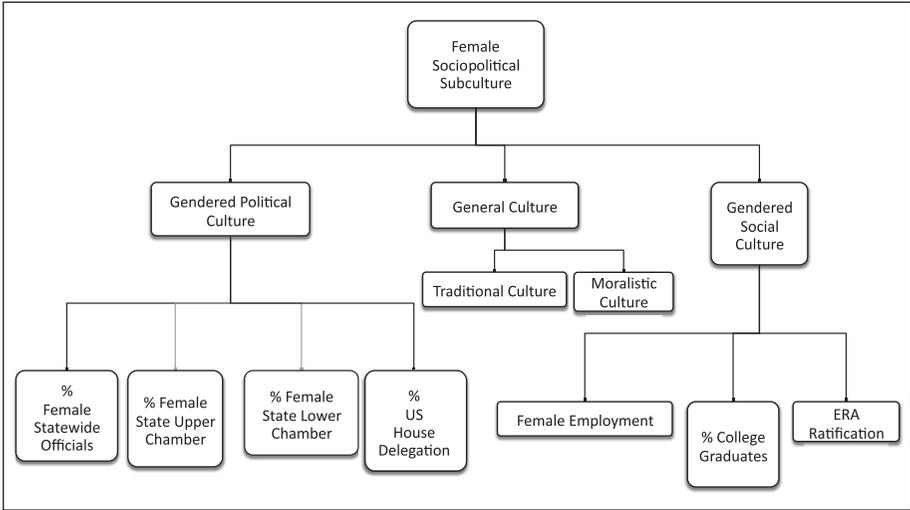


Figure 1. Indicators of female sociopolitical subculture

To measure the level of equality in society, I include three measures on equality in society based on educational attainment, work force inclusion, and general feelings toward statewide equality. Following the logic of Hill (1981), I utilize two measures of female employment. The first is the proportion of females in the work force (Current Population Survey), which is calculated by dividing the number of female workers by the number of male workers. Next, I include the proportion of female workers among females within the state. By multiplying these two scores together, I replicate Hill's measure called "the female employment score." In addition, I incorporate a similar score for the ratio of college graduates who are women (Current Population Survey). The education and employment scores represent a state's general attitude of the perceived role of women in society. States with higher female employment scores and proportion of female graduates are more liberal in terms of their female sociopolitical subculture. Finally, I include a dummy variable for ratification of the Equal Rights Amendment within state legislatures without later rescinding the passage. The variables included in the measure are outlined in greater detail in Table 1.

To construct this measure of female sociopolitical subculture, I perform a factor analysis on these 10 indicator variables.² The results of the factor loadings are presented in Table 2. Data for this measure are included for 49 states across the time period 1978 to 2010. The indicator variables vary by year to allow for the female sociopolitical subculture of the state to be measured as a dynamic process. Figure 2 shows a number of examples of how the process varies within individual states as well as across states.³ As this figure shows, all eight example states began the series with female sociopolitical subculture scores below the mean level. As time has progressed, however, some states drastically increased their female sociopolitical subculture to a more liberal and equal status (i.e., Washington, Vermont, and Colorado), while others, particularly in the South, remained very low (i.e., Mississippi and West Virginia).

Table 1. Variable Descriptions for the Measure of Female Sociopolitical Subculture

Variable	Definition	Source
% female statewide elected officials	Female statewide elective executive / total positions	Center for American Women and Politics: State Fast Facts Sheet
% female state senate	Female state senators / total senators	Center for American Women and Politics: State Fast Facts Sheet
% female state house	Female lower chamber representatives / total lower chamber representative	Center for American Women and Politics: State Fast Facts Sheet
% female U.S. Congress	Female U.S. Representatives + U.S. Senators / total state delegation	Center for American Women and Politics: State Fast Facts Sheet
Traditionalistic political culture	Dummy to account for states defined as traditionalistic as the dominant political culture	Elazar (1974)
Moralistic political culture	Dummy to account for states defined as moralistic as the dominant political culture	Elazar (1974)
Female employment score ^a	Measurement of the number of women active in the workforce	Current Population Survey 1978–2006
% female college graduates	Percentage of women college graduates compared to all college graduates	Current Population Survey 1978–2006
ERA ratification	Dummy variable to account for states adopting ERA	National Organization of Women

ERA = Equal Rights Amendment.

a. Hill (1981) first utilized this measure in his analysis of political culture.

Table 2. Measure of Female Sociopolitical Subculture

Variable	Rotated factor loading	Uniqueness
Traditionalistic culture	-.6649	.5579
Moralistic culture	.5275	.72717
% female statewide elected officials	.4717	.7775
% female state senate	.8283	.3140
% female state house	.8370	.2994
% female U.S. Congress	.4173	.8258
Female employment score	.6697	.5515
% female college graduates	.4456	.8805
ERA ratification	.4935	.7564
Eigenvalue	3.3153	
Percentage of variance explained	78.50	

ERA = Equal Rights Amendment.

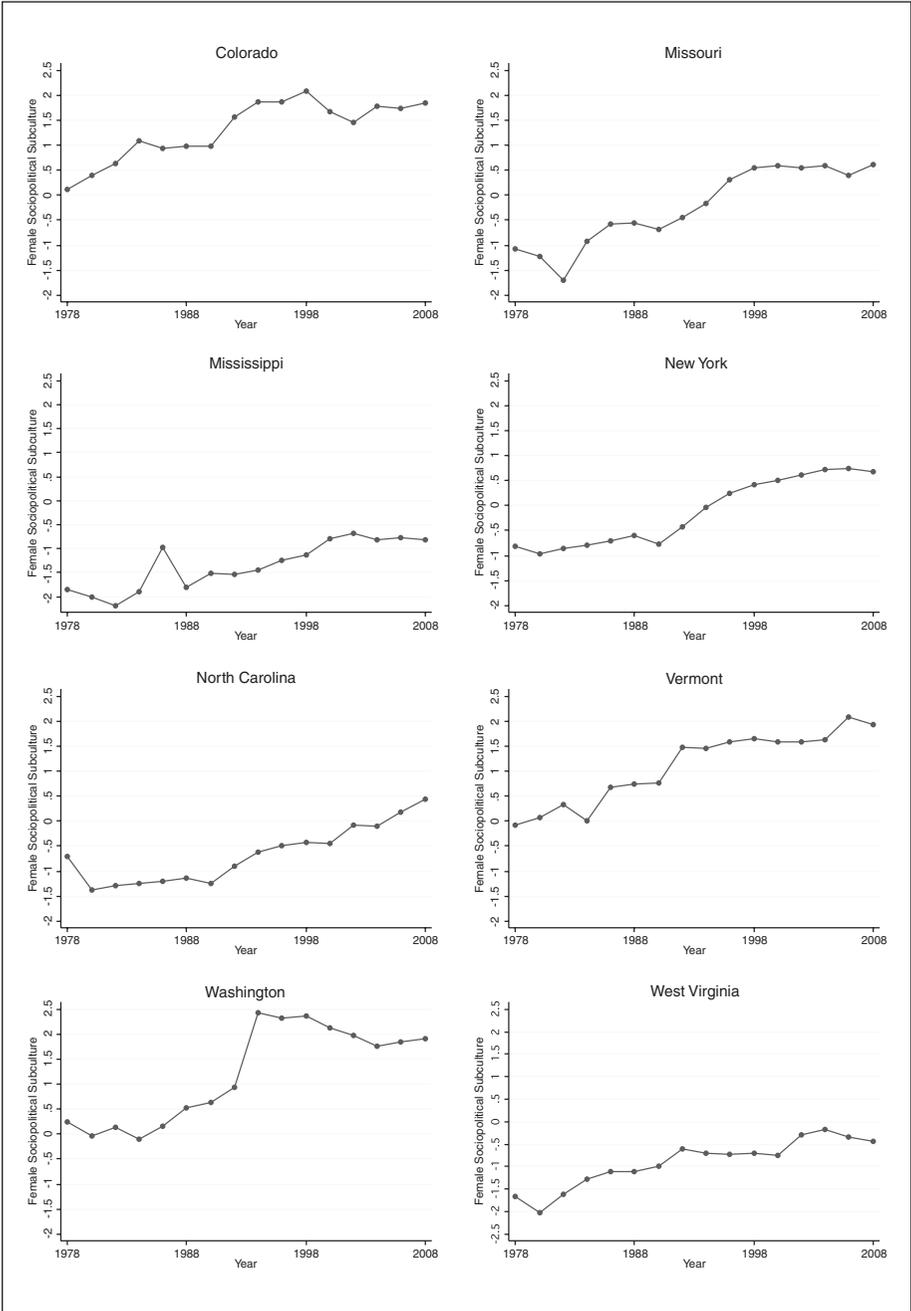


Figure 2. Sample female sociopolitical subculture scores over time

Data and Method

The data set used in this study covers all gubernatorial primary and general elections in 49 states from 1978 to 2008.⁴ Female primary candidates were identified through the Gubernatorial Campaign Expenditures Database (Jensen and Beyle 2003) compiled by Jennifer Jensen and Thad Beyle. This data set provides the names and campaign expenditures for all primary candidates for a state's governorship. By cross-referencing the names of female candidates with LexisNexis newspaper searches within individual states, certainty on the gender of candidates is obtained. The status of a state's office and the quality candidate measure are also taken from this data set. The female candidates for general election were compiled from the CAWP "Statewide Elective Executive Women," p. 11. (CAWP 2006) as well as whether or not a woman won her respective primary and general election. The composition of the legislature and female elected officials are compiled from the CAWP "State Facts Sheets."

The dependent variable for the first stage of the model is a dichotomous variable coded 1 if there was a woman in a major party primary and 0 if only men were in the primaries. The dependent variable in the second stage of the model is a dichotomous variable coded 1 if a female candidate won her respective primary and 0 if the female candidate lost the primary. Finally, the third stage's dependent variable is a dichotomous variable for whether or not the female general election candidate was successful: this variable is coded 1 for a victorious female candidate and 0 if the candidate lost.

The first set of explanatory variables is included to test the impacts of state culture and the political environment on the emergence of female candidates in the primary. The primary explanatory variable of interest is the measure of female sociopolitical subculture outlined above. In addition to measuring the culture, I also include measures of citizen mood as computed by Berry et al. (1998).⁵ This measure is included to test whether or not the policy mood of the state affects the emergence of female candidates and the probability of these candidates winning their respective races. This measure of state mood is based on a scale from 0 to 100, with 0 being the most conservative and 100 being the most liberal.

The second set of characteristics included in the three models explains variables within the individual state's institutional structure. In this study, rather than using the total percentage of women in each legislative chamber, I calculate the percentage women legislators for each party within both the lower and upper chambers. In the first stage of this model, the figures are assigned to their corresponding parties' primary. In the final two stages predicting candidate success in the primary and general election, the partisanship of the female candidate is linked with her party's female makeup.

The third set of characteristics included in this analysis identifies individual candidates' office holding experience in stages 2 and 3 of the model. Quality candidates—regardless of gender—should increase their probability of being successful when running for higher office. I include a dichotomous variable coded 1 for female candidates who have held previous elected office (regardless of level) and 0 for those who have no prior elective office experience. The incumbency advantage has also been shown to affect women at the same level as men (Dolan 1994; Fox 2006). I include a

Table 3. Summary Statistics of Variables

Dependent variables				Total count
Women entered primary				212
Women won primary				85
Women won general election				32
Independent variables	Min	Max	M	SD
Female sociopolitical subculture	-2.2	2.33	0.021	0.923
Women party in upper chamber	0	36.7	6.93	6.67
Women party in lower chamber	0	28.4	8.82	5.92
State mood	9.751	95.97	48.30	16.13
Office holding experience				Total count
Incumbent				16
Quality candidates				136
Open-seat elections				124

dummy variable identifying incumbent female governors. Summary statistics for all of the independent and dependent variables are included in Table 3.

Heckman (1979) notes that selection bias arises for two reasons: self-selection by the individuals being investigated and sample selection by the analyst. In this research, the self-selection occurs because of the nature of political elections. For a female candidate to win the general election, she must win her respective primary and enter the primary to begin with. The nature of this process is one that may introduce selection bias and non-random samples into the second and third stages of the models. To account for this selection bias, I use the Heckman three-stage probit model. The first two stages of the model are estimated simultaneously. The third stage of the model is estimated while including the inverse Mills ratio from the first selection model to account for the bias.

The first stage examines whether or not a major party primary had a female candidate. In 18 primaries, multiple women entered a single primary. With this being the case, the party primary is the unit of analysis. The independent variables included in this analysis are only those that measure state-level characteristics.

The second stage predicts success for female candidates when running in the primary. In this second stage of analysis, the individual candidate-year is the unit of analysis. All state-level and individual-level variables are included in this model.

The final stage of the selection model predicts success for women in the general election. This model includes all state and individual office holding characteristics. In this model, the 2002 gubernatorial election in Hawaii is not included in the analysis because both parties' candidates were women, ensuring a female governor. To account for the potential nonindependence of observations from state to state and year to year, the standard errors for all three models are clustered around state-year.

Table 4. Three-Stage Heckman Probit Model of Female Candidate Emergence and Success

Variable	Predicting primary candidate		Predicting primary success		Predicting general election	
	Coeff.	Pred Prob	Coeff.	Pred Prob	Coeff.	Pred Prob
Female sociopolitical subculture	0.078 (0.92)	4.66	0.366 (2.32)	25.12	0.681 (1.78)	34.22
State mood	0.002 (0.60)	1.82	0.008 (0.87)	9.12	-0.011 (-0.72)	-11.94
Party	0.308 (2.50)	9.36	0.403 (1.61)	14.68	0.524 (0.84)	16.39
% partisan women lower	0.036 (2.79)	13.08	-0.039 (-1.48)	-18.84	-0.087 (-1.51)	-34.48
% partisan women upper	-0.002 (-0.06)	-3.0	-0.004 (-0.17)	2.22	0.031 (0.73)	15.00
Open seat	0.307 (3.05)	9.55	0.028 (0.13)	5.8	1.242 (2.57)	40.42
Incumbent			1.446 (2.64)	50.81	4.153 (4.22)	91.28
Quality candidate			1.422 (5.07)	47.62	1.795 (1.03)	30.99
Cons	-1.468 (-6.43)		-1.578 (-2.87)		-3.854 (-1.01)	
Total observations	766		188		85	
Pseudo-R ²	.063		.299		.342	
ρ			.059		-.977	

Note: z scores for one-tailed test reported in parentheses. Standard errors clustered around state and year. Stages 1 and 2 Wald test ($\rho = 0$): $\chi^2 = 0.14$, Prob > $\chi^2 = .7089$. Stages 2 and 3 Wald Test ($\rho = 0$): $\chi^2 = 1.32$, Prob > $\chi^2 = .2509$.

Results and Analysis

The three separate models are similar in many of the characteristics used to predict candidate emergence and success, but differences arise in the explanatory variables depending on the unit of analysis. For the models predicting candidate emergence, I focus solely on statewide indicators of female sociopolitical subculture, institutional structure, and electoral settings alone, while the models predicting candidate success in the primary and general election include personal variables describing the individual candidate's experience.

The results of the Heckman three-stage probit model are reported in Table 4. As indicated by this table, there is not a significant selection effect in these models. Moreover, the impact of not utilizing the selection model is minimal. The appendix shows probit estimates of the same models, without the selection model and differing

marginally from the Heckman three-stage model. However, accounting for this potential selection bias is an important consideration when dealing with this type of analysis where there is potential for selection bias.⁶

A second note of caution is the power of these models based on sample size. In stage 3 of these models, the observations drop to 85. Although this is a result of the limited number of women who have won their parties' primaries, caution must still be given to the robustness of the model. Long (1997) notes the risky nature of using maximum likelihood models with fewer than 100 observations. In this case, however, both the characteristics of the model and the nature of the data allow for small-sample estimation with the probit model. In stage 3, only eight explanatory variables are included in the model, and there is high variation in the outcome variable in the data—two characteristics Long (1997) notes are necessary for small-sample estimation.

In Table 4, along with the probit coefficients, the predicted probabilities for each independent variable are also reported. These predicted probabilities were calculated by measuring the change from 0 to 1 in the dichotomous variables and moving from the mean to one standard deviation above the mean in the continuous variables. The predicted probabilities were calculated while holding the continuous variables at the mean and the dichotomous variables at the mode.

The results of the regression in stage 1 indicate support for the strategic consideration for female candidates to enter open-seat primaries. This is evident by the positive and statistically significant relationship between candidate emergence and open-seat elections. Women increased their probability of entering a primary by 9.55 percentage points when the governorship was open. There is also a partisan component when women decide to run in primary elections. Women were 9.36 percentage points more likely to enter Democratic primaries than Republican primaries. The theoretic claim of the partisan female makeup of legislative chambers offers mixed evidence in the initial emergence stage. The female partisan makeup of the lower chamber offers a statistically significant 13.08 percentage point change in predicting a woman's presence in a party primary, but the senate equivalent is statistically insignificant. Stage 1 offers limited evidence supporting the claim of female sociopolitical subculture driving candidate emergence. Although the variable is positive, it remains statistically insignificant. This finding is a result of including all candidates, regardless of the feasibility of their candidacy. Since the data include all candidates for a primary, over 50 are nonviable candidates—single-issue candidates, political extremists, adult entertainers, and so on. Excluding candidates with no prior electoral experience or less than 2.5% of the primary vote yields a positive and statistically significant prediction of the impact of the female sociopolitical culture measure.⁷ However, conditioning the qualifications to be included in the first stage affects the ability of the Heckman model to converge in the second stage. The results of this model are included in the appendix. Figure 3 plots the predicted probability of women entering the primary based on the female sociopolitical subculture. As evident in the graphic, there is a limited increase in the probability of women entering the primary.

The second stage of this process reports results of the selection model predicting whether or not a woman is successful in her attempt to become her party's nominee for governor. The results of this analysis strongly support the claim of a culture driven

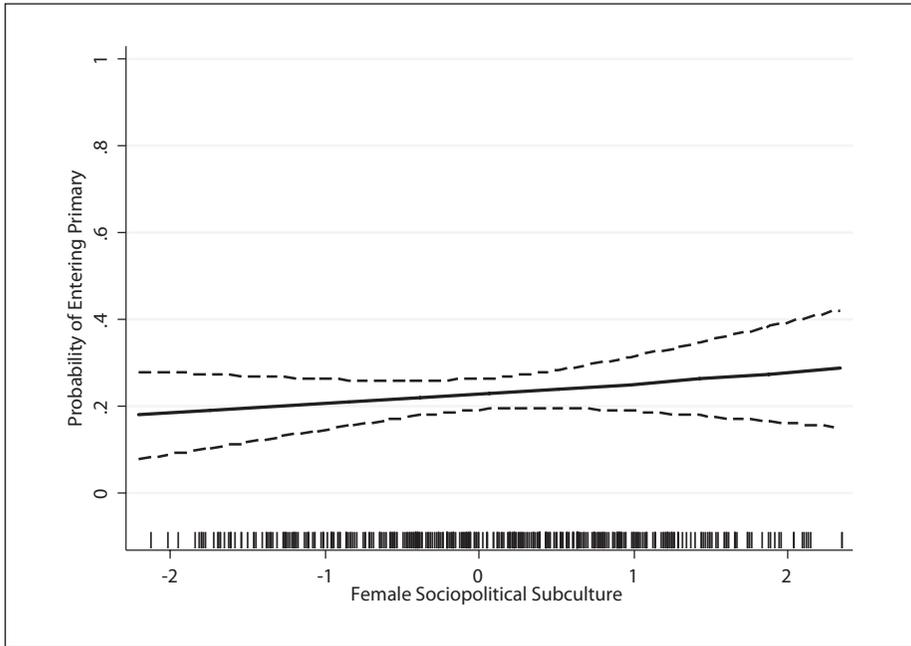


Figure 3. Impact of female sociopolitical subculture on predicted probability of women entering primary

explanation of female candidate success. As the female sociopolitical subculture becomes more favorable in a state, there is a drastic increase of 25.12 percentage points in the probability of a successful female primary candidate. Figure 4 shows the impact of the subculture measure on the probability of women winning their respective primary. The impact of the individual candidate's experience are also significant indicators of success in the primary. Incumbent female governors increase their probability of winning the primary by 50.81 percentage points. Likewise, female candidates who have previously held elective office see a positive increase in their probability of winning their respective primary by more than 47 percentage points. In contrast, the percentage of women of the same party in both chambers of legislature has no meaningful impact on the probability of candidate success. The coefficient estimates are both negative, which is counter to my expectation, but these coefficients do not come close to approaching statistical significance.

Much like the model predicting primary success, the model predicting general election success for female candidates supports the argument of a female sociopolitical subculture driven explanation of electing female governors. An increase from the mean female sociopolitical culture to one standard deviation above the mean results in a statistically significant increase in the probability of a women winning the general election by more than 34 percentage points. Figure 5 graphically shows the drastic increase in the probability of women winning the general election. The sharpest increase occurs in states with the most conducive female sociopolitical subculture.

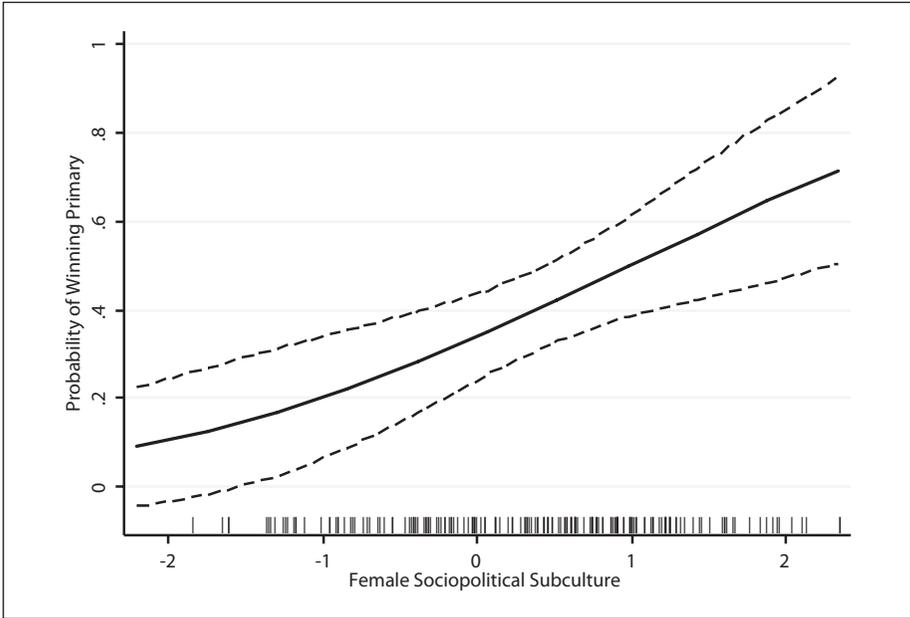


Figure 4. Impact of female sociopolitical subculture on predicted probability of women winning primary

Similarly, open seats and incumbent status both yield positive and statistically significant predictors of women's success when running in general elections. Incumbent status of female governors yields the largest increase in the probability of success with an increase of nearly 92 percentage points in the probability of success. Women also increase their probability of success by 40.42 percentage points when running in open seats.

Throughout the three stages of this model, there is little evidence to support the claims of state mood affecting the emergence and success of female candidates for governor. Likewise, there is no consistent pattern in the gender makeup of shared partisans in either chamber of the legislature. In models predicting electoral success, both the upper and lower chamber show little impact in the hypothesized direction.

Conclusion

In this research, I considered the ways in which numerous cultural, political, and individual political experiences affect the success or failure of female candidates running for and winning their respective primary and general election contests. Moreover, this research has importantly expanded the discussion of ambition of women beyond the normal arena of analysis—state legislatures. One must consider the way in which political culture affects the distinct candidate pool and opportunity structure for governorships.

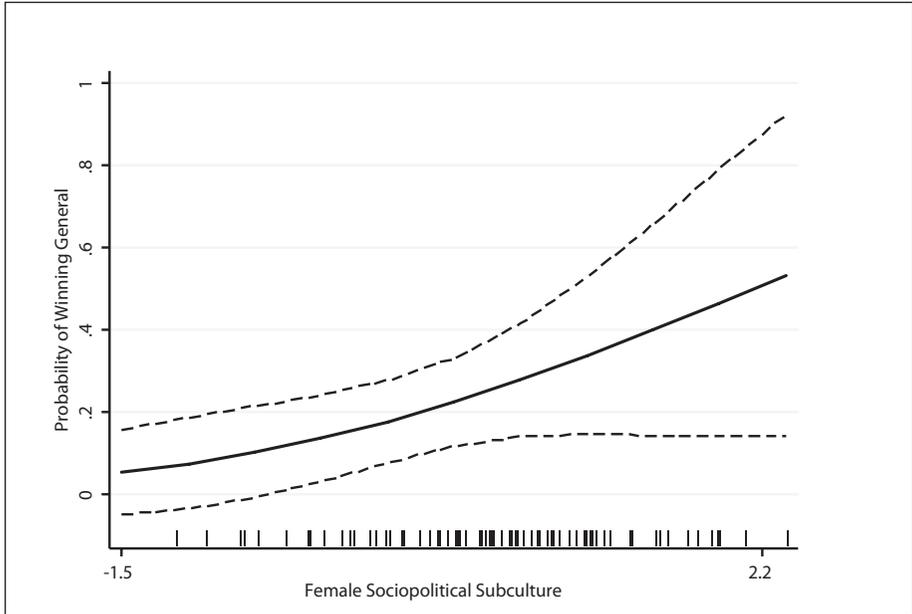


Figure 5. Impact of female sociopolitical subculture on predicted probability of women winning general election

The statewide indicators that drive female candidate emergence and success are driven primarily by the cultural history and views of gender equality in the individual states.

I demonstrate that the female sociopolitical culture within each state is a significant indicator of whether or not female candidates will win the primary and general elections they enter. More specifically, the findings suggest that states with a tradition of gender equity (in educational institutions, workforce participation, and political representation), progressive views of the role of women, and a history of women winning electoral office are much more likely to see women succeed in primary and general elections.

The overall impact of women in the electoral contests is unavoidable. In the past three decades, female candidates have continued to throw their hats into the political ring at increasing rates. Women are increasing not only their seat shares in state legislative bodies but also their state governorships and other statewide elective offices. As women continue to run for their state's highest office, the overall level of female representatives in government will continue to increase. By looking at the characteristics that are conducive for female candidates to initially run for office and be successful, I shed light on the environmental characteristics that are more or less favorable for female candidates. As time passes, state cultural boundaries should become more relaxed and a more even distribution of candidates should emerge, specifically in the South.

Appendix

Table A1. Female Governors in the United States Elected in Their Own Right

Name	Years served	Party	State
Ella Grasso	1975–1980	D	CT
Dixy Lee Ray	1977–1981	D	WA
Martha Layne Collins	1983–1987	D	KY
Madeleine Kunin	1985–1991	D	VT
Kay Orr	1987–1991	R	NE
Joan Finney	1991–1995	D	KS
Ann Richards	1991–1995	D	TX
Barbara Roberts	1991–1995	D	OR
Christine Todd Whitman	1994–2001	R	NJ
Jane Dee Hull ^a	1997–2003	R	AZ
Jeanne Shaheen	1997–2003	D	NH
Judy Martz	2001–2005	R	MT
Ruth Ann Minner	2001–2009	D	DE
Linda Lingle	2002–2010	R	HI
Jennifer Granholm	2003–2011	D	MI
Janet Napolitano	2003–2009	D	AZ
Kathleen Sebelius	2003–2009	D	KS
Jodi Rell ^a	2004–2011	R	CT
Christine Gregoire	2005–present	D	WA
Sarah Palin	2006–2009	R	AK
Bev Perdue	2009–present	D	NC

a. Initially succeeded to governorship with resignation of governor; subsequently elected.

Table A2. Total Female Gubernatorial Candidates by Census Region

Region	Number of states	Primary candidates	Won primary	Won general
Northeast	9	48	25	10
Midwest	12	36	14	5
South	17	64	16	6
West	13	64	30	11

Table A3. ANOVA Test of Female Sociopolitical Subculture

Variable	Partial sum of squares	F
Model	736.71	181.88
State	491.91	159.39
Year	244.79	253.82
R ²	.9409	
Adj. R ²	.9357	

Table A4. Probit Model Predicting Female Candidate Success in Primary Election

Variable	Coeff.	z score
Female sociopolitical subculture	0.421	2.72
State mood	0.004	0.47
Party	0.356	1.44
% partisan women lower	-0.033	-1.31
% partisan women upper	-0.005	-0.23
Open seat	-0.011	-0.05
Incumbent	1.357	2.69
Quality candidate	1.284	4.50
Cons	-1.387	-2.67
Total observations	188	
Pseudo- R^2	.2692	

Table A5. Probit Model Predicting Female Candidate Success in General Election

Variable	Coeff.	z score
Female sociopolitical subculture	0.439	1.86
State mood	-0.016	-1.44
Party	0.241	0.60
% partisan women lower	-0.064	-1.45
% partisan women upper	0.034	0.82
Open seat	1.210	2.54
Incumbent	3.378	4.25
Quality candidate	0.801	1.56
Cons	-1.731	-1.73
Total observations	85	
Pseudo- R^2	.4482	

Table A6. Predicting Female Candidate Entrance in Party Primary (Only Realistic Candidates)

Variable	Predicting primary candidate		
	Coeff.	z score	Pred Prob
Female sociopolitical subculture	0.304	3.57	13.56
State mood	0.006	1.76	0.026
Party	0.394	3.02	17.54
% partisan women lower	0.024	1.93	0.082
% partisan women upper	-0.009	-0.72	0.042
Open seat	0.334	3.02	14.9
Total observations	766		
Pseudo- R^2	.096		

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Notes

1. For a complete list of women governors by state as well as a breakdown of women candidates by region, see the appendix.
2. To test the reliability of the measure, I calculated the measure excluding each type of variable with little change in the output of the variable. The correlations between the different variables are all above .858.
3. The appendix contains ANOVA tests of the subculture variable that show high levels of both within state variation as well as variation over time.
4. Nebraska is not included in the analysis because of the nonpartisan and unicameral legislature.
5. A discussion on the validity of this measure as an indicator of ideology within states has been argued (see the special issue of *State Politics & Policy Quarterly*, 2007, vol. 7, no. 2). For the purpose of this analysis, I attempt to measure the mood of the state as a whole. As Berry et al. (2007) show, the correlation of their measure of state public mood highly correlates with that of Stimson (1991) from the national level. Other measures of citizen ideology do not perform as well when attempting to measure mood. The Berry et al. measure allows for fluctuations over time, whereas other measures (Brace et al. 2004; Erikson, Wright, and McIver 1993) remain stable over time.
6. I have also estimated these models by party affiliation and decade to note any party- or time-related effects driving these results. The small-sample problem is enhanced in these tests, making statistical significance difficult to obtain, but the models generally predict the same direction in the coefficient estimates across all stages of the models, showing the consistent pattern.
7. Although 2.5% is reported as the cut point, in testing this analysis I have allowed this figure to vary from 1% to 10% with no difference in the elimination of nonviable candidates. For states that limit ballot access, 2.5% is the mean percentage for third parties to remain on ballots.

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Bio

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