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California Elections?

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**Abstract**

Conventional wisdom suggests voters are biased against women candidates for public office. Reluctance to support female candidates is thought to depress the number of votes women receive, causing them to lose more elections than males. Despite reasons to expect bias against female candidates, it is rarely found in empirical analysis. This paper examines circumstances in which voters may be biased in favor of women candidates. Voters in low-information elections may rely on gender to determine their vote. We hypothesize that the dearth of information may cause certain voters to collapse their votes onto women candidates. Thus, women candidates will do better than males in low-information elections. A test of this hypothesis, examining election returns for the California State Legislature from 2000 to 2006, finds some support for a positive bias.

**Keywords:** women in politics, primary elections, cues and hueristics, California politics, gender bias, low-information elections

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## Glass Ceiling or Glass Elevator: Are Voters Biased in Favor of Women Candidates in California Elections?

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Despite the inauguration of the first female Speaker of the House in the 110<sup>th</sup> Congress, women are still vastly underrepresented in political office. The election of 1992 was thought to be a watershed event in opening the doors of Congress to women. The number of women in the House increased from 30 to 48 and the number of women in the Senate tripled, jumping from two to six (Amer 2006). Representation continues to increase since the Year of the Woman and the 111<sup>th</sup> Congress held a record number of women, yet, women still only made up 18 percent of the House and 17 percent of the Senate (CWAP 2010). In 2005 a record number of women held governorships, but this record-breaking percentage of women in these executive offices was only 18 percent. After the 2008 election, California's state legislature was composed of 33 percent women in the Assembly and 25 percent in the Senate. It seems at any level one looks in the United States, women are significantly underrepresented in elected office.

Often scholars look to bias against woman candidates as an explanation for the underrepresentation of women in Congress. Voters' hesitation in supporting female candidates is thought to depress the number of votes women receive, causing women candidates to lose more elections than their male counterparts. Despite reasons to expect voter bias against female candidates, rarely is bias found in empirical analysis of both primary and general election returns (Burrell 1992; Darcy and Schramm 1977; Gaddie and Bullock 1997; Pearson and Lawless 2006). This finding led scholars to look at other types of elections for bias. For example, Gaddie and Bullock (1997) expect to find bias against women in special elections where the shorter election cycle should benefit more politically connected and experienced candidates. Contrary to their expectations, they find no evidence of bias against women candidates even when "widow candidates" are excluded. Despite the more

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competitive campaign conditions women candidates often face (Pearson and Lawless 2006), comparable male and female candidates seem to do equally well among voters. The more difficult campaign conditions women face while receiving votes equal to that of male candidates suggest that women candidates may actually do better when campaign conditions are taken into account.

Systematically parsing out the effect of gender requires us to shift the level of analysis to lower information elections, where party cannot be used as a cue. In this paper, we explore the potential for positive bias in favor of female candidates that serves to cancel out the impact of their more difficult campaigns. Specifically, we examine the role of candidate gender in low-information elections (California State Legislative primaries elections from 2000 to 2006) and find some support of a positive bias toward women candidates.

### **The Role of Gender**

Many scholars study the cue gender sends to the voter with the hope of isolating what information the voter takes from a candidate's gender. Women, in general, may be viewed as possessing more liberal beliefs than men and thus voters may use candidate gender to infer ideology of the candidates (Huddy and Terkildsen 1993a; McDermott 1997). In both experimental studies and studies of elections, there is evidence that voters view female candidates as more liberal than male candidates (Koch 2000; McDermott 1998; McDermott 1997). Huddy and Terkildsen (1993a) find that while voters rate women candidates as more liberal, they are also more likely to assume women candidates are more supportive of "women's issues" (i.e., healthcare, the poor) and that male candidates are more supportive of "men's issues" (i.e., war, crime). Voters who care more about "women's issues" are more likely to vote for a woman candidate while voters who care more about "men's issues" are more likely to support a male candidate (McDermott 1998). Thus, gender may serve as an issue cue to voters signaling which candidate better represents them on the issues they care about most. Voters may also use gender to ascribe certain personality traits to candidates (Huddy and Terkildsen 1993a; 1993b; Fridkin and Kenney 2009). Voters may view women candidates as warmer, gentler, more caring, and more honest and male candidates as tougher, more aggressive, and more assertive. Thus, voters may use the desirableness of these personality traits for an elected official in determining which candidate they should support (Huddy and Terkildsen 1993a; 1993b; McDermott 1998).

Ideology, issues, and traits are all information voters may be able to estimate from knowing the gender of the candidate. And thus, much like party, gender may send cues to the voter as to which candidate more closely aligns to their issue positions and ideology and, like incumbency, gender could provide voters information

on which candidate may be more effective in representing their interests. Voters may also rely on gender in making their vote choice in ways that do not allow voters to establish which candidate best represents their individual interests.

An explanation along these lines can be found in the group-interest literature that was largely developed in the context of race. Female voters may vote for the woman candidate regardless of which candidate might better represent their views because, much like racial minorities, their shared history of discrimination influences women to think in terms of group unity rather than individual-level interests (Bobo 1983; Bobo and Hutchings 1996; Dawson 1994; Fox and Smith 2001; Paolino 1995; Zipp and Plutzer 1985). Thus, women might rely more on information that identifies which candidate better represents their group interest not their individual interest. Lacking the identity from shared-discrimination, male voters will not concentrate their vote on the male candidate in order to counter the support given to the woman candidate. Rather, lacking group interest motivations, male voters should distribute their support more evenly across candidates.

The novelty of a woman candidate in a male-dominated election could also increase the likelihood of a voter choosing the woman candidate (Koch 2002). If voters are unable to use party to identify which candidate or candidates will best represent them, they must use other information to differentiate between the candidates. A lone female candidate may benefit from possessing a clear distinction, which voters can easily see when examining their ballot, from the typical candidates. Thus, the novelty of female candidates may serve to increase their vote share. If novelty plays a role, we would expect a man running in a race with other female candidates to similarly increase their vote share.

When should we expect to see the strongest influence of candidate gender on vote choice? We argue that low-intensity elections provide the best environment for gender to operate as voting cue. In the congressional elections literature, scholars argue that intensity is critical to understanding voter response (Westlye 1991; Zaller 1992; Kahn and Kenney 1999; Gronke 2000). Westlye initially examined the role of intensity in senate elections, using the concept as “the level of information disbursement in a given Senate race” (1991, 17). Intensity measures contribute to understanding the determinants of individual voting choice (Westlye 1991; Kahn and Kenney 1999) and the amount of information respondents hold about the election (Zaller 1992; Squire 1992; Gronke 2000). Intense campaigns lead to a vibrant, mobilized, and knowledgeable electorate with sufficient information to evaluate candidates and less likely to rely on simple cues (Gronke 2000; Zaller 1992; Squire 1992; Westlye 1991).

In general, intensity is the noise of the campaign, and even at the level of congressional elections, races for the House of Representative are usually sleepy affairs that take place in a “low-information environment” (Zaller 19, 1992). The

intensity drops even more as we move to elections for state legislators and so-called “lower-ticket” races. For our purposes, we argue that gender as a voting cue will likely manifest itself in low-intensity elections where voters, lacking specific knowledge of candidate traits and issue stances, low-intensity elections, rely on cues and shortcuts. Moreover, primary elections for state legislative races provide an electoral environment both bereft of voter knowledge of candidates and lacking a party cue to distinguish amongst the candidates, further emphasizing the potential role for candidate gender.

### **Low-Information Elections**

Each election voters across the country are asked to make decisions on numerous races ranging from county coroner and district attorney to U.S. senator and the president. The level of information voters have about the different types of campaigns varies significantly (Delli-Carpini and Keeter 1996). Voters may know detailed personal and political information about both presidential candidates, including what they eat for breakfast, the names of their dogs, wives, and children, boxers or briefs, and their position on numerous political issues. The amount of information voters possess about candidates for other races decreases substantially once we move beyond presidential elections. Ferejohn (1990, 3) notes “Nothing strikes the student of public opinion and democracy more forcefully than the paucity of information most people possess about politics.” In fact, 70 percent of citizens cannot name their state’s U.S. senators and an even greater majority cannot recall the name of their representative in Congress (Delli-Carpini and Keeter 1996). Voters know even less about candidates in elections lower on the totem poll like those for state legislatures and nonpartisan local races. It is difficult for voters to become aware of state and local politics. High mobility, the lack of curriculum including state politics in schools, and the dearth of media coverage create high barriers to obtain knowledge about local and state level politics (Delli-Carpini and Keeter).

In these low-information elections, voters must rely on information printed on the ballot in making their vote choice (Nakanishi et al. 1976; Mueller 1970; Byrne and Pueschel 1974). In partisan elections, party, incumbency and occupation are specifically noted on the ballot. Additionally, a candidate’s name may allow voters to easily infer other characteristics of the candidate. Many studies examine how voters use these different cues in making their vote choice.

It is well known that voters rely heavily on party. Party provides voters with a fast, easy and well engrained cue as to which candidate they should support (Campbell, Converse, Miller and Stokes 1960). In low-information elections, voters are not presented with other campaign information, like personality traits or specific issue positions, which may outweigh the influence of the information they take

from party. In fact, Rahn (1993) notes that voters depend so heavily on party in their evaluation of candidates that they only seek and make use of other information when either party is not available or it is extremely inconsistent with other information about the candidate. Thus, it is important to look beyond the impact of party to see the role candidate gender plays in shaping vote choice. Examining primary elections allows researchers to remove party cues while still examining partisan races. In primary elections, all candidates on the ballot share the same party and thus voters cannot use party to distinguish between candidates.

Incumbency provides another strong cue to voters. Incumbents have a well-established advantage and are more likely to have out-party voters defect in their favor than challengers (Mann and Wolfinger 1980; Zaller 1992). Incumbency can send many cues to voters that can serve to increase their vote share (Hinckley 1980). Voters may associate incumbents with experience and seniority, which could increase the benefits to the district (Fiorina and Noll 1979). Incumbents also have greater name recognition stemming not only from their previous appearance on a ballot but also from casework and the franking privilege that comes along with elective office (Mayhew 1974). Additionally, risk-averse voters may simply be resistant to change unless they have reason to think the unknown candidate would be better than the candidate currently holding office. Thus, much like party, incumbency is a powerful cue in low-information environments where the voter is not familiar with the challenger. In open-seat races, no incumbent is running and voters must look elsewhere for helpful information.

If party and incumbency are not available, voters have a much more difficult decision to make. The ballot does, however, provide other information about candidates. Nakamishi, Cooper, and Kassarian (1974) note “available information is relatively well represented by the variables on the ballot (such as occupation, ballot position, sex, and recognizable surname characteristics)” (36). Self-reported occupation is listed under the candidate’s name. Voters may use this as a cue in making their vote choice. Mueller (1970) finds that candidates with an education-related occupation receive a higher percentage of the vote for city school board than those with any other type of occupation.

The candidate’s name may allow the voter to easily infer some additional information about the candidate. In some cases, ethnicity may be evident from a candidate’s first and/or last name. This may influence vote choice, especially among voters who may see a candidate that shares their ethnicity and thus, if elected, would provide descriptive representation for the voter. Hannah Pitkin notes that descriptive representation does not involve representing the views of the voters but instead their characteristics (1967). But, descriptive representation may also serve to enhance substantive representation (Mansbridge 1999). Thus, voters could use the ethnicity of a candidate as a cue for which candidate may provide both more

descriptive and substantive representation. In addition to ethnicity, candidate gender can often be inferred by a candidate's name, which is the principle focus of this paper.

The cues sent to voters by candidate gender shape the theoretical underpinnings of why voters may be positively biased towards women candidates. First, if group-interest plays a role, women voters should collapse their vote onto the female candidate while male voters will not use gender as a group interest cue and should more evenly spread out their votes. Thus, women candidates of both parties should fare better than the male candidates they face. Second, if it is the novelty of women candidates that encourages voter support, women candidates who run in a male-crowded race should receive a higher vote share than the male candidates (just as male candidates who face many female candidates should receive more votes). Since women are the rarer type of candidate, they should generally fare better than their male opponents. In both these scenarios, women candidates in both parties should fare equally well.

If, on the other hand, voters take an ideological or issue cue from gender, Republican women should do worse than Democratic women in primary elections. It is well known that primary electorates are more extreme on both sides than voters in general elections (Abramowitz, McGlennon and Rapoport 1981; Crotty and Jackson 1985; Downs 1957; Ladd 1978; Lengle 1981; Polsby 1983). A candidate who is perceived as more liberal should fare much better among the liberal voters in the Democratic primary and worse among the conservative voters in the Republican primary. Thus, Republican women will receive a smaller vote share than women running in a Democratic primary. If voters use gender as an issue cue, we should expect a similar outcome. The issues that voters associate with women candidates tend to be most often linked to the Democratic Party. Women candidates may be seen as more supportive of social programs that help the poor, education spending, women's issues, and abortion; all of which make up a large part of the Democratic Party platform. Male candidates may be seen as more supportive of issues dealing with security and order, such as crime and defense, which are Republican dominated issues. Thus, women Democrats should do better than women Republicans in primary elections.

### **Hypotheses**

We develop the following hypotheses based on the above arguments concerning the effect of candidate gender on vote choice. The first hypothesis concerns whether gender is used as a cue by voters. If voters use gender as a cue, woman candidates will do better (or worse if there is a negative bias) when facing a male opponent than when facing a female opponent. When more than one female is in



the race, gender no longer provides any information to distinguish between the candidates. Thus, much like party in primary elections, voters are unable to use gender in determining vote choice.

**Gender as a Cue Hypothesis:** *A female candidate does better when facing all male opponents than when facing male and female opponents, because with more than one female in the race gender as a cue no longer provides useful information.*

To test whether the use of gender as a cue stems from the novelty of having a woman in the race, we will also examine how male candidates running against more than one female candidate fare.

**Gender Novelty Hypothesis:** *A male candidate does better when facing all female opponents than when facing male and female opponents, because the candidate with the distinct gender will draw more votes from voters seeking information which distinguishes one candidate from the others.*

For the *gender as a cue hypothesis* to be supported, it is not only necessary to find support for this hypothesis but also to be unable to reject the null of the *gender novelty hypothesis*. It is necessary for both hypotheses to be supported to conclude that the voters use the novelty of a candidate's gender in determining their vote choice.

Second, we seek to examine whether voters have a positive bias towards women candidates by comparing the vote share received by male and female candidates. If group interest is playing a role, as described above, women candidates should receive a higher vote share than their male opponents.

**Positive Gender Bias Hypothesis:** *Women candidates will receive more of the vote share than the male candidates they face.*

Finally, if voters are using gender as an ideological or issue cue, how well women candidates fare should be conditioned on which party's primary they run in. Democratic women candidates should do better among the more liberal voting electorate in their primary than Republican women candidates do among the conservative voters in their primary.

**Partisan Bias Hypothesis:** *Female candidates facing a male opponent in a Republican primary will do worse than their male opponent. Female candidates facing a male opponent in a Democratic primary will do better than their male opponent.*

## **Analysis**

### **Data**

To test these hypotheses, we examine election returns from California State Legislative primaries from 2000 to 2006. Examining primary elections removes the role party plays in cueing voters to differences between candidates and excluding races including incumbents also removes incumbency as a cue. Thus, voters must use other cues on the ballot to determine their vote choice. The following analysis seeks to explain the role of gender under these conditions.

Focusing solely on state legislative races is advantageous for two important reasons. First, these races are conducted in a truly low-information environment. While some voters are familiar with the congressional campaigns in their district, very few voters are exposed to their state legislative campaigns. Thus, focusing on state legislative races allows researchers to remove much of the information voters receive outside of the ballot which may confound the impact of candidate gender on vote choice. Additionally, state legislative races tend to have more open seats. This allows researchers to more fully examine the role of gender independent of incumbency.

Examining California state legislative races has both advantages and some possible disadvantages. The California state legislature shares some important characteristics with the U.S. Congress. First, the dearth of competitive districts in the U.S. House is similar to that of the California Senate and Assembly. As a result of the partisan make-up of the districts, few seats are up for grabs by the out party in both congressional and state legislative districts. If general election competition matters, this similarity in competitiveness serves to make voter behavior in California legislative races more similar to that in congressional races. Finally, California is a highly professionalized legislature. Thus, the motivations and characteristics of the candidates are more similar to candidates for Congress than those running for a less-professionalized legislature. This again serves to keep the results potentially more generalizable to low-information congressional elections.

There are some disadvantages to focusing on California legislative races over that of another state. Of most concern is that California may be friendlier to women candidates than the rest of the nation. California was the first state to have two women senators serve together; a distinction currently held by only two other states. In 2010, women made up 27.5 percent of California's state legislature while only 22 percent of Ohio's legislature, 17 percent of the U.S. Congress, and 24.5 percent of all state legislatures (CAWP- Fact Sheet). On the other hand, despite Meg Whitman's well-funded 2010 attempt, California has yet to have a woman governor while 23 other states have had a woman hold their highest executive office. And 16

other states currently have a greater percentage of women serving in their legislature than does California (CAWP). The greater representation of women in California elected office (as opposed to much of the nation) may suggest that California voters are more likely to have a positive bias in favor of women candidates. In Fox and Smith's (1998) experimental study of bias against theoretical female candidates among UCSB and Wyoming students, they find that the California students are not biased against the female candidate but Wyoming students are 10 percent less likely to support a female candidate than an identical male candidate. They attribute their findings to regional differences that influence bias against women.

Even if it is the case that Californians are generally less biased against women than people in other states, examining California still allows for gaining some traction on how gender operates as a cue. If voters see gender as an ideological or issue cue, voters in both parties should operate similarly in California as they would in other states, with Republicans less willing to support a candidate they see as more liberal. California's races also provide information on whether it is the novelty of gender that influences vote choice. Additionally, if no positive bias is found it is unnecessary to look elsewhere. But, if a positive bias is discovered it may be interesting to extend the analysis to a state with lower levels of representation of women candidates.

### **Model Specification and Variable Operationalization**

It is necessary to discuss the operationalization of some of our variables. First, the primary causal variable is candidate gender. As the ballot makes no explicit mention of candidate gender, in coding candidate gender we rely on the name of the candidate as listed on the ballot. Specifically, candidates who have an obvious female name are coded as a woman and candidates who have a masculine name are coded as a man. If the name is gender ambiguous, the race is dropped from our analysis. If we cannot determine gender from the name, it seems reasonable that many voters would also be unable to. Thus, including these cases would add noise to the analysis. In Appendix 1, we do, however, test the above hypotheses using the candidates' actual gender. Using the candidates' actual gender does not change the substantive results.

The control variable for occupation also requires explanation. While there is much variation in the occupations candidates list on the ballot, we operationalize occupation by a dummy for prior-officeholding. We may be losing some of the influence of occupation by only looking at prior office, but prior office is likely to have the strongest impact on vote choice (see the work of Jacobson, e.g., Jacobson 1989). Voters may rely on prior officeholding as cue for experience and competence and thus treat it much the same way as incumbency. Other occupations may

have district-specific effects. Farmer and Rancher is a common candidate occupation for candidates in the central valley while these types of occupations are rare in San Francisco area districts. Additionally, using prior officeholding may serve to capture a measure of political skill that may increase vote share.

We also include a measure of candidate spending. The expenditure variable is created using the expenditure reports available from the secretary of state. To control for the effect of outliers in the regression model, we take the log of the expenditures variable. Before logging, 1 is added to the true expenditure which allows candidate who spent nothing (0) to be included while still preserving the true zero.

The following model tests the gender as a cue hypothesis.

**Model 1:** % Vote of Women Candidates =  $\beta_0 + \beta_1$  Lone Female +  $\beta_2$  Prior Office +  $\beta_3$  Candidate Campaign Expenditures +  $\beta_4$  Number of Candidates

The variable of interest here is the lone female dummy. A positive coefficient will support the hypothesis that female candidates do better when they are the only female in the race. The number of candidates in the race is included to control for its impact on vote share of individual candidates. This variable should be negative as the percentage of the vote received by a single candidate should go down as more candidates enter the race.

In order to test whether it is the novelty of women candidates driving any finding in the previous model, we run the following model:

**Model 2:** % Vote of Male Candidates =  $\beta_0 + \beta_1$  Lone Male +  $\beta_2$  Prior Office +  $\beta_3$  Candidate Campaign Expenditures +  $\beta_4$  Number of Candidates

A positive coefficient on the lone male variable in Model 2 and the lone female variable in Model 1 provides support for the gender novelty hypothesis. A null effect of Lone Male and a positive effect of lone female would provide stronger support for the gender as a cue hypothesis.

In order to test the positive gender bias hypothesis only races with one female and one male candidate are examined.<sup>1</sup>

**Model 3:** % Vote Share =  $\beta_0 + \beta_1$  Female Dummy +  $\beta_2$  Prior Office +  $\beta_3$  Candidate Campaign Expenditures

A positive coefficient on the female dummy provides support of a positive bias towards women candidates. A negative coefficient is evidence of a negative bias. The positive gender bias hypothesis is supported if there is a positive coefficient on

the female dummy. To further examine this hypothesis it is important to examine differences between the parties.

To test whether the parties' bias varies and test the partisan bias hypothesis, we separate the sample and run Model 3 for both parties. A negative coefficient on the female dummy for Republican primaries indicates that Republican voters are less likely to support a woman than a male candidate. A positive coefficient on the female dummy for Democratic candidates would indicate Democratic voters are more supportive of women candidates than male candidates and provide support for the partisan bias hypothesis.

## Results

Table 1 presents the results for the gender novelty hypothesis and the gender as a cue hypothesis.<sup>2</sup> The results show some weak support for the gender as a cue hypothesis. It appears that women who face only male challengers do about four percentage points better than women candidates who face other women candidates. These results reach significance at the .05 level. In order to test whether these results are driven by the novelty of a women candidate and not by cues voters take from the gender of female candidates, the same model is run examining how male candidates do when they are the only male in the race and face more than one female candidate. The results indicate no difference in vote share of a male candidate running against all females and a male candidate who faces other males. This suggests some support for the idea that voters are using the gender of female candidates to help shape their vote choice.

The results for the positive gender bias hypothesis are presented in Table 2. Model 1 shows the bivariate relationship between vote share and candidate gender. Female candidates do about 13 percentage points better than their male opponents. Model 4 is the fully specified model. Model 4 shows that when controlling for candidate quality, women candidates do about 11 percentage points better than their male opponents. It is interesting to note that the inclusion of prior-office holding seems to provide no additional traction. This may seem surprising given its role in the Congressional literature. The models run in Appendix 2 show that prior office holding does matter when one candidate has held prior office and the other has not. However, running the models testing the *Partisan Bias Hypothesis* with the difference in prior office rather than a dummy for prior office does little to alter the substantive conclusions. These models are presented in Appendix 3.

Table 3 presents the results for the *partisan bias hypothesis*. While the model run on both Republican and Democratic primary candidates indicates support for the positive gender bias hypothesis, the models splitting the sample allows a clearer look at how gender is operating. Female Democratic candidates appear to do 23 per-

**Table 1. Gender as a Cue or Gender Novelty  
Regression of lone (fe)male on (fe)male vote share**

	Female	Male
Lone Female	.044* (.022)	---
Lone Male	---	.003 (.022)
Prioroffice	.023 (.024)	.071*** (.017)
Expenditures	.007*** (.001)	.009*** (.001)
# of Candidates	-.089*** (.011)	-.083*** (.007)
Constant	.590*** (.044)	.531*** (.025)
N:	167	445
Cluster (Race):	132	217
R-squared:	.544	.381

OLS estimates with clustered standard errors

\*P < .05

\*\*P < .01

\*\*\*P < .001

Two-tailed test

centage points better than the male candidates they face when controlling for candidate quality and expenditures. The results further indicate that there is no difference between how Republican women and men fare in their primary elections.<sup>3</sup> Taken together these findings provide both some support for the Partisan bias hypothesis but also raise questions about the mechanisms at work. As expected, Democratic women fare much better than their male opponents. This finding is consistent with

**Table 2. Positive Gender Bias Model**  
**Effect of candidate gender on vote-share in 1 female v. 1 male races**

	Model 1	Model 2	Model 3	Model 4
Female	.137** (.049)	.128* (.047)	.110** (.044)	.110** (.045)
Prioroffice	---	.075** (.036)	---	.012 (.042)
Expenditures	---	---	.009** (.002)	.009** (.002)
Constant	.432*** (.024)	.405*** (.028)	.392*** (.026)	.391*** (.026)
N:	104	104	104	104
Cluster (Race):	52	52	52	52
R2:	.131	.169	.215	.215

OLS estimates with clustered standard errors

\*P < .05 two-tailed test

\*\*P < .01

\*\*\*P < .001

the idea that the liberal voters making up the Democratic primary electorate use gender as an issue or ideological cue signaling that female candidates may better represent their views. If this is the message voters take when dealing with a female candidate, Republican voters should act in the opposite way and avoid casting their vote for the candidate they perceive as more liberal. This, however, is not supported by the findings. Republicans seem to not be biased in either way toward women candidates.

An explanation for the results found may be that Democratic voters are more sensitive to issues of equality. Thus, these voters may support women candidates not because they are seen as more liberal but instead to correct for the inequality seen in elective office. Republicans, on the other hand, do not go out of their way to avoid increasing equality but simply do not consider it when making their vote choice. This may be similar to Leftist parties in Europe adopting candidate gender

**Table 3. Partisan Gender Bias Model**  
**Effect of candidate gender on vote-share in 1 female v. 1 male races**

	Full Sample	Dem	Rep
Female	.110** (.045)	.235*** (.054)	-.008 (.073)
Prioroffice	.012 (.042)	.044 (.051)	.062 (.085)
Expenditures	.009** (.002)	.007** (.002)	.004 (.005)
Constant	.391*** (.026)	.313*** (.043)	.466*** (.036)
N:	104	52	50
Cluster (Race):	52	26	25
R2:	.215	.504	.073

OLS estimates with clustered standard errors

\*P < .05 Two-tailed test

\*\*P < .01

\*\*\*P < .001

quotas. Studies have found that the strongest predictor of whether a party adopts a gender quota is the party's leftist values (Caul 2001). Caul attributes these findings to the more egalitarian ideology of leftist parties.

The impact of the control variables is also interesting. Despite the well-established role prior office plays in congressional campaigns, it seems to have no effect when one male and one female candidate face each other in the state legislative primaries examined. We argue that the lack of an effect here might be due to the type of prior office these candidates hold. Unlike congressional candidates (many of whom were in the state legislature), these prior officeholding state legislative candidates generally have held some type of local office. These local offices, school board member or city councilmember for example, may not serve the same function state legislative office holding does in congressional elections. Thus, the type of prior office candidates hold may play a role in candidate quality.



The results for the Republican primaries are curious as it seems nothing is explaining candidate vote share. As with Democrats, prior office has no effect. But, neither does expenditures. While a positive effect of candidate gender was not expected, the finding of no effect is a little puzzling. What then does determine candidate vote share in Republican primaries? It may be necessary to expand the way occupation is coded. Republican voters may be more responsive to candidate occupation, independent of prior office holding.

### **Conclusions and Future Research**

The findings of a bias in favor of Democratic women and no effect of candidate gender among Republicans is interesting. Much of the literature on candidate gender is focused on voter bias against female candidates yet, like many other empirical studies, no bias against women is found in this analysis. The type of elections analyzed in this paper allows the role of gender to be magnified. Voters who know little about the candidates and are unable to use incumbency or party to distinguish amongst them must use other information in making their vote choice. Thus, the use of gender as a cue is ripe for voters in these types of elections. The finding of no bias against women candidates under these conditions is troubling for scholars who seek to explain underrepresentation of women candidates by voter bias.

Elections where one female candidate runs against one male candidate make up 16 percent of the races with more than one candidate running and nine percent of all the California state legislative races from 2000 to 2006. While this may seem like a study of a fairly rare type of election, the implications of the results apply to many other types of elections. Women candidates run in 63 percent of the races with more than one candidate for the California state legislature. The findings in the one-female-running-against-one-male races can provide insight on the impact of candidate gender in many races where a woman candidate is running. For example, voters are asked to select a candidate in numerous nonpartisan elections that operate in a similar low-information environment where voters are unable to use party as a cue. Gender should operate in a similar manner in these elections and Appendix 2 presents results indicating that it does. The results presented in Appendix 2 examine how women candidates fare relative to male opponents in races with more than two candidates. The substantive conclusion remains the same, but in these races the positive bias among Democrats drops to 15%.

Some may take the Rahn (1993) finding that gender only matters in the absence of party to mean that these circumstances are less important than those studying gender claim. This would be an unfortunate conclusion as primary elections for both state legislatures and the U.S. Congress are often de facto determinants of the general election winner. That is, most congressional and California state legislative

districts are drawn in such a way that one political party has an overwhelming majority among the voters in each district. Thus, in these one-party districts, the general election often serves to only confirm the winner of the favored party's primary. This may have some troubling implications for democracy. These primary elections often operate under the radar of the media and the public yet, it is within this context that the general election winner is often all but officially elected. Thus, understanding how voters determine their vote choice in primary elections is crucial.

This study provides numerous avenues for future research. First, a more thorough examination of vote choice among Republicans is necessary. None of the traditional factors, including gender, seem to play a role in vote choice. An analysis that includes a more specific examination of the role occupation plays may provide some answers. Additionally, it may be important to expand the analysis to another state, maybe one that has historically lower levels of women's representation than California. A finding among Democrats, in a more conservative state, of positive bias towards women candidates may help to further bolster support for the hypothesis. Finally, an examination within California's Democratic primaries may help to further develop the findings. For example, the degree of liberalness of the district may lead to a greater bias in favor of women in some districts.

### **Appendix 1: Coding Gender and Real Gender Robustness Check**

An underlying assumption of this project is that voters rely on the information printed on the ballot in determining their vote choice in low-information elections. As a result, candidate gender is not coded as a candidate's actual gender but instead the gender presented by the information included on the ballot. Primarily, the candidate's first name was used to determine gender. When the candidate's first name is gender ambiguous, the coder looked to other information on the ballot. On several occasions, the candidate's middle name served in determining gender. For example, E. Denise Smith is coded as a female while F. Aaron Smith and S. David Freeman are coded as male. On rarer occasions, a candidate's occupation supplied the information used to determine gender. Some of the candidates, whose names were determined to be gender ambiguous, listed occupations such as "businessman" or "businesswoman." The gender of these candidates was then coded to reflect the gender listed in their occupation. For example, Blair Knox listed "businessman" under occupation and thus is coded as male.

There are three types of names coded as gender ambiguous. The first consists of traditional names that are common for people of both sexes. Candidates who fall in this category include Alex Easton-Brown, Terry Coleman, and Pat Krueger. The second type of gender ambiguous name includes nontraditional names that are not clearly associated with one sex or the other. For example, "Starchild" is the name of

the 2000 Libertarian candidate in State Assembly District 13. The final type of gender ambiguous name includes names that may be common among some cultures, but are unfamiliar to the coder. Khalil Khalil and Gangadharappa Nanjundappa are candidates who fall into this category. The coder is unable to determine the gender of these candidates but voters who are familiar with the culture and/or the ethnicity from which these names originate may be able to easily determine gender. These names may be the most problematic for the project and may deserve different coding rules in determining gender. There are only a small handful of names that fall into this category and for now are left as gender ambiguous.

Of the 641 candidates, 25 were dropped due to a gender ambiguous name. These cases are removed from the analysis with the hope that there is nothing systematic about them that might impact the results if they were included. This should not be a significant problem for this project as the candidate's gender is important only if voters can identify the gender of the candidate from the information that appears on the ballot. The gender ambiguous names do not seem to fall into races that differ greatly from all other races, they are found in both Republican and Democratic districts and are spread fairly evenly throughout the state. The main difference between these cases and other races is that the mean number of candidates is 4 while it is only 2.77 among all the races. This makes sense as the number of candidates running in a race increases, the likelihood that one of the candidates has a gender ambiguous name also increases.

Instead of dropping cases with gender ambiguous names, another possible solution would be to code all gender ambiguous names as male. The underlying assumption would be that, unless cued otherwise, voters assume candidates are male. With female candidates the exception, a voter may be likely to assume a candidate is male unless they are provided explicit information to the contrary. The problem with this assumption may lay with the nature of the gender ambiguous names. For example, Alex Rooker and Alex Padilla are both gender ambiguous candidates in the dataset. In fact, the former is a female and the later a male. But, voters may assume the sex of each of these candidates based not on their underlying assumption of candidate sex but instead on their experience with the name. If ones wife is named Alex, an assumption of female is probably more likely. If one's father is named Alex, an assumption of male likely occurs. In all, a small number of cases are dropped and the impact of these missing cases should be minimal.

### **Results Using the Candidates Real Gender**

The following tables present the results of the analysis using both the gender as coded by the candidates name and the candidates' actual gender. Overall, using the

candidates' real gender does not change the substantive results. Only in Table 1A did a significant finding become insignificant. This finding was the weakest of all findings and the change in the size of the coefficient between candidate's name and candidate's real gender is very small. Interestingly in all the models run with the candidate's real gender, the size of the coefficient on the gender variables shrinks. This is consistent with the assumption that voters are relying on the information on the ballot to determine characteristics of the candidates. Thus adding the gender ambiguous cases into the analysis adds noise and reduces the effect of gender.

**Table 1A. Gender as a Cue or Gender Novelty  
Regression of lone (fe)male on (fe)male vote choice**

	Gender as Name		Real Gender	
	Female	Male	Female	Male
Lone Female	.044* (.022)	---	.037 (.022)	---
Lone Male	---	.003 (.022)	---	.006 (.022)
Prioroffice	.023 (.024)	.071*** (.017)	.023 (.023)	.073*** (.017)
Expenditures	.007*** (.001)	.009*** (.001)	.008*** (.001)	.009*** (.001)
# of Candidates	-.089*** (.011)	-.083*** (.007)	-.091*** (.011)	-.084*** (.007)
Constant	.590*** (.044)	.531*** (.025)	.592*** (.045)	.534*** (.024)
N:	167	445	173	461
Cluster (Race):	132	217	135	220
R-squared:	.544	.381	.541	.398

OLS estimates with clustered standard errors

\*P < .05

\*\*P < .01

\*\*\*P < .001

**Table 2A. Positive Gender Bias Model**  
**Regression of candidate gender on vote-share in 1 female v. 1 male races**

	Name as Gender	Real Gender
Female	.110** (.045)	.096* (.043)
Prioroffice	.012 (.042)	.013 (.041)
Expenditures	.009** (.002)	.008** (.002)
Constant	.391*** (.027)	.401*** (.027)
N:	104	112
Cluster (Race):	52	56
R2:	.216	.168

OLS estimates with clustered standard errors

\*P<.05

\*\*P<.01

\*\*\*P<.001 Two-tailed Test.

**Table 3A. Positive Gender Bias Model by Party**  
**Regression of candidate gender on vote-share in 1 female v. 1 male races**

	Gender as Name		Real Gender	
	Dem	Rep	Dem	Rep
Female	.235*** (.054)	-.008 (.073)	.196*** (.054)	-.009 (.070)
Prioroffice	.044 (.051)	.062 (.085)	.034 (.047)	.062 (.084)
Expenditures	.007** (.002)	.004 (.005)	.008** (.002)	.004 (.005)
Constant	.313*** (.043)	.466*** (.036)	.338*** (.042)	.468*** (.035)
N:	52	50	58	52
Cluster (Race):	26	25	29	26
R2:	.504	.073	.412	.072

OLS estimates with clustered standard errors

\*P < .05

\*\*P < .01

\*\*\*P < .001 Two-tailed Test.

**Appendix 2: Results with 1 Female Candidate v. n+1 Male Candidate(s)**

**Table 4A. Partisan Gender Bias Model**  
**Effect of candidate gender on vote-share in races with 1 female and n+1 male candidates**

	Full Sample	Dem	Rep
Female	.089*** (.025)	.146** (.034)	.018 (.038)
Prioroffice	.052** (.023)	.062* (.031)	.070* (.031)
Expenditures	.006*** (.002)	.007*** (.002)	.003 (.002)
# of Candidates	-.090*** (.013)	-.104*** (.011)	-.085*** (.011)
Constant	.553*** (.040)	.539*** (.043)	.589*** (.039)
N:	255	132	121
Cluster (Race):	95	49	45
R2:	.432	.520	.413

OLS estimates with clustered standard errors

\*P < .05 Two-tailed test

\*\*P < .01

\*\*\*P < .001

**Appendix 3. Results with Prior Office Difference**

**Table 5A. Partisan Gender Bias Model**  
**Effect of candidate gender on vote-share in 1 female v. 1 male races**

	Full Sample	Dem	Rep
Female	.099* (.045)	.232*** (.052)	-.038 (.074)
Prioroffice (difference)	.064 (.034)	.073 (.043)	.099 (.052)
Expenditures	.008*** (.002)	.007** (.002)	.004 (.002)
Constant	.407*** (.025)	.339*** (.030)	.496*** (.039)
N:	104	52	50
Cluster (Race):	52	26	25
R2:	.258	.555	.145

OLS estimates with clustered standard errors

\*P < .05 Two-tailed test

\*\*P < .01

\*\*\*P < .001

**Appendix 4. Results without Interdependent Dependent Variable**

Some readers may be concerned over the interdependence of the vote share variable. While the standards errors are treated to overcome some of the problem, the following model is also run to remove the interdependence all together. The following model examines the *Positive Gender Bias Hypothesis* and the *Partisan Bias Hypothesis*.

**Model 6A:**

% Vote of Women Candidates =  $\beta_0$  +  $\beta_1$  Prior Office Difference +  $\beta_2$  Campaign Expenditures Difference +  $\beta_3$  Democratic Dummy

**Table 6A. Dependent Variable  
Female Vote Share in 1 Female v. 1 Male Races**

	Model 1	Model 2
Prior Office Diff	.078** (.034)	.092** (.033)
Expenditures Diff (Tens of Thousands)	.002** (.0008)	.0001 (.0009)
Democratic	-----	.110** (.048)
Constant	.552*** (.023)	.501*** (.032)
N:	51	50
R2:	.196	.277

OLS estimates with clustered standard errors

\*P<.05

\*\*P<.01

\*\*\*P<.001 Two-tailed test

In this analysis, the constant provides evidence of a bias. If the constant is at .50, there is no bias. If it is greater than .50, there is a positive bias towards female candidates and if it is below .50 there is a negative bias towards female candidates. Model 1 shows that there is a positive bias towards female candidates. Consistent with the analysis in the body of the paper, Model 2 indicates that this bias is only held in Democratic primaries. Another interesting thing to note is that, in this analysis, prior office holding has an effect. This indicates that it is not just holding prior office that matters but if one candidate holds prior office and the other does not.

The results indicate that Democratic women do about 11 percentage points better than do Republican women candidates. While not strongly significant, these results provide further support for the *partisan bias hypothesis*.

### Appendix 5. Results of Interactive Model

#### Model 7A:

$$\% \text{ Vote Share} = \beta_0 + \beta_1 \text{ Dem*Female} + \beta_2 \text{ Female} + \beta_3 \text{ Dem} + \beta_4 \text{ Prior Office} + \beta_5 \text{ Expenditures}$$



**Table 7A. Positive Gender Bias Model**  
**Regression of candidate gender\*Party on vote-share in 1 female v. 1 male**  
**racers**

Dem*Female	.247**
	(.090)
Female	-.007
	(.068)
Dem	-.144**
	(.049)
Prioroffice	.049
	(.043)
Expenditures	.006**
	(.002)
Constant	.461***
	(.034)
N:	102
Cluster (Race):	51
R2:	.325

OLS estimates with clustered standard errors

\*P < .05

\*\*P < .01

\*\*\*P < .001

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## Notes

<sup>1</sup> Appendix 2 presents results for testing the hypothesis for races with two or more candidates as long as one candidate is a woman. The results of these models are substantively similar to those presented in Table 3.

<sup>2</sup> All coefficients are estimated with OLS. When the errors are correlated across observations, OLS standard errors can either over or underestimate the variability of the coefficient estimates. Thus the standard errors are clustered on each race to correct for correlation across the error term. The analysis presented in Appendix 2 removes the interdependence of the dependent variable all together. These models provide the same substantive results as those presented in the body of the paper. The Vote Share variable is scaled from zero to one. Female, lone female, lone male, and prior officeholding are all dummy variables. To create the expenditures variable, one is added to the true expenditures which is then logged to control for outliers. One is added to allow candidates who spent nothing to be included while still preserving a true zero.

<sup>3</sup> Appendix 3 provides results of an interactive model allowing a comparison between the coefficients in the Democratic model and the Republican model. The results indicate that there is a significant difference between the female coefficient in the Democratic and Republican models.