Contextualizing the Gender Gap in Voter Turnout*

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Abstract

Overall women turn out to vote at a higher rate than men, yet few studies have examined the consistency of this finding across American electoral contexts. We use voter file data to compare turnout for men and women at the national, state, and district level from 2008 to 2018, focusing on variation in the gender turnout gap by electoral competition, candidate gender, and race/ethnicity. We find that the gender gap in turnout is largest in uncompetitive districts and presidential elections: exactly the contexts where women's increased turnout is unlikely to impact election outcomes. No relationship is found between the presence of a woman candidate and a relative increase in women's turnout. Finally, we show that the race/ethnicity of voters and racial/ethnic composition of districts structures much of the gender turnout gap, indicating future work on gender and voting participation must use an intersectional lens.

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Introduction

In the United States, as in many other democracies, women have voted at higher rates than men since the 1980s (Norris 2002; CAWP 2017). At the same time, however, women remain less likely to engage in other acts of political participation (Burns, Schlozman and Verba 2001), display lower levels of political ambition (Fox and Lawless 2004), and women continue to be underrepresented at nearly all levels of government (CAWP 2020). Thus, the consistent presence of a turnout gap favoring women is somewhat anomalous given the broader gendered distribution of political influence. Do women always vote more than men, or does this pattern appear only in the aggregate? Might the disconnect between a turnout advantage and political disadvantage stem from contextual variation in the gender turnout gap?

While there are well-document individual-level differences related to political resources (Burns, Schlozman and Verba 2001) and feelings of civic duty (Carreras 2018) that influence gender differences in voting rates, in this note we focus on the broader contextual factors that underlie the contemporary turnout gap in the United States. Scholarly treatments on the history of women voters have offered important insights into the consequences and nature of the historical gender gap in voter turnout (Corder and Wolbrecht 2006, 2016; Wolbrecht and Corder 2020), showing how factors such as electoral competition, geography, and time shaped state level turnout gaps. Furthermore, recent scholarship from European elections also probes whether women vote more than men across electoral contexts (Kostelka, Blais and Gidengil 2018).

Building on this previous work, we examine turnout data from the six most recent national elections to understand the contours of the contemporary gender gap in turnout. Unlike most discussions of the modern gender gap—which tend to focus on national trends—we use Congressional districts as the unit of analysis, which we argue offers a more nuanced and precise understanding of how context shapes differences in men and women's turnout.

We focus on four contextual factors that could feasibly shape the turnout gap at the

district level. First, like Kostelka, Blais and Gidengil (2018) we examine differences between "first" and "second" order elections—in our case presidential election years compared to midterm election years. Second, examine the role of electoral competition. Not only does partisan contestation structure much of contemporary American politics, but evidence from Corder and Wolbrecht (2016) indicates that turnout gaps after suffrage expansion were shaped by electoral competition. Third, we examine the critical role of race in shaping the turnout gap. Though Ansolabehere and Hersh (2013) show significant racial differences in the gender turnout gap at a national level our understanding of these dynamics at the subnational level is virtually nonexistent. Finally, we examine whether the presence of a female candidate shapes the turnout gap. Though previous work has examined the effect of women candidates on the individual decision to vote (Dolan 2006) or women's turnout in a single election (Broockman 2014), we are the first to examine how these candidates shape the turnout gap in the aggregate across multiple election years.

In order to examine how these four factors influence the turnout gap, we use voter file-derived data from 2008-2018. Though we are not the first to use voter files to examine women's turnout (Broockman 2014; Ansolabehere and Hersh 2013), we are the first to use this comprehensive information to leverage substate geographic variation—along a number of dimensions—to present one of the most detailed portraits of gender differences in turnout to date. We show that—like most electoral outcomes—the gender gap varies across time and space, and that while women outvote men (to varying degrees) in most places, in a significant number of districts men outvote women. The difference between men's and women's turnout is smallest in competitive elections and midterm elections, and does not appear to be shaped by the presence of a woman candidate. In addition, the gap is smaller among White voters and in heavily-White areas, indicating the importance of race/ethnicity and an increasingly diverse population on structuring the gender turnout gap. Our study presents a more comprehensive understanding of the single, yet important, form of participation where the gender imbalance is reversed, and provides insights into the dynamics that structure

gendered patterns in participation.

Before we continue, an important caveat is in order. Women are not a voting bloc nor do they hold uniform preferences. While women may not vote in lock-step with one another in elections, that does not mean the turnout gap is inconsequential in our understanding of electoral politics in the U.S.; indeed, understanding the dynamics that undergird the contemporary turnout gap provide important implications for the literature on political participation and voice and equality in American democracy.

Calculating the Turnout Gap

To calculate the gender gap in turnout we use vote counts from Catalist, LLC's voter file database (Hersh 2015; Broockman 2014; Fraga 2018). Catalist provides the self-reported sex of voters as indicated on voter registration forms; unlike race/ethnicity, gender is not imputed for individuals who do not indicate their sex on the form. Over 99.5% of individuals indicate their sex when registering to vote, and with Catalist estimates of overall voter turnout comparing favorably to state-provided estimates of ballots cast (McDonald 2017; Fraga 2018), we can be confident that the number of men and women voters as provided by Catalist closely approximates the true breakdown of voters by gender. Our denominator is based on yearly U.S. Census Bureau Population Estimates Program (PEP) and American Community Survey (ACS) estimates of the citizen voting-age population by sex, which are interpolated or extrapolated to November of each election year.[1][2]

To estimate of the turnout gap, we first aggregate the number of voters by gender for each Congressional district-year. The gender turnout gap is calculated by subtracting the turnout rate of men from the turnout rate of women: positive values indicate that women's

[1]Details regarding variable construction may be found in Online Appendix Section A1.

[2]A comparison of how our turnout gap measure compares to estimates derived from the Current Population Study can be found in Online Appendix Section A2.

turnout was higher than men's turnout. Such a measure allows us to account for variation in turnout that is the product of forces impacting men and women equally, and serves as a nonparametric difference-in-differences estimate when examining variation across units at the same geographic level or over time (Fraga 2018). Thus, we avoid the need to model every variable that enters into individual decisions to turnout. Our interest is not in developing a new model of the individual decision-making, and as such, demographic factors that are known to be related to voter turnout *for everyone* are not included in the analysis. Instead, our dependent variable allows us to understand the difference in turnout and the degree to which this difference varies based on contextual factors.[3]

Though our primary interest is the turnout gap at the level of the Congressional district, we also construct a measure of state level turnout gaps as well. These state differences are presented visually in Figure 1 and indicate significant variation in turnout gaps across time and space. In midterm elections, for example, the turnout gap in Southern states is larger than the presidential year gap observed in Midwestern and Mid-Atlantic states. Moreover, while women outvote men on average in every state, there are three state-year observations in which we see a "reverse gap" with men voting at higher rates than women: Pennsylvania in 2010 and Indiana and Pennsylvania in 2014. This preliminary examination suggestions significant temporal and geographic variation in the turnout gap, and underscores the need for a more thorough understanding of the features that structure it.

Explaining the Turnout Gap

We now turn our attention to the turnout gap at the district-level. Variation in the gender turnout gap, becomes even more acute as we examine the sub-state level. Calculating the difference between turnout rates for women and men for each congressional district-year, we

[3]Section A4 of the Online Appendix provides a supplemental analysis separating men's and women's turnout.

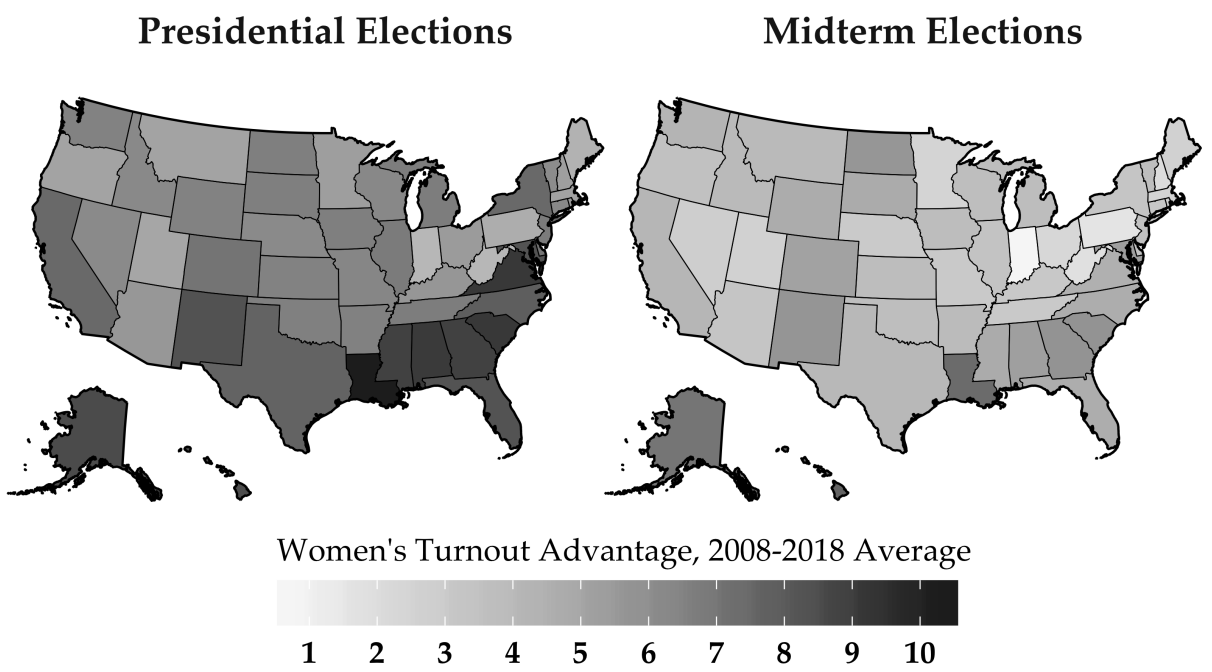

Figure 1: State-level Gender Gap in Turnout. State-level turnout gaps in the left panel are calculated by taking the average difference in turnout for women and men for each state in the years 2008, 2012, and 2016. The panel on the right illustrates state-level averages across the years 2010, 2014 and 2018. A value of 10 indicates that women's turnout was 10 percentage points higher than men's turnout on average, while 0, would indicate no difference between men's turnout and women's turnout in the state.

observe a reverse gap—men voting more than women—in 118 district-election pairs out of the 2592 district-election pairs from 2008 to 2018.[4] Leveraging the large number of observations and variation found at the Congressional district level, we model district-level turnout gaps as a function of several contextual factors that previous literature suggests could structure these differences, including predicted district competitiveness, predicted Democratic Party vote share, whether the district was in a swing state, whether it was a presidential election year, and the presence of a woman candidate on the general election ballot.[5]

[4]While this represents just under five percent of all cases, in any given election year partisan control of Congress hinges on a relatively small percentage of seats, making this observation potentially quite consequential.

[5]Details regarding variable construction may be found in Online Appendix Section A1.

	Dependent variable:									
	Full Gap		White Gap		Black Gap		Latina/o Gap		Asian Gap	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Competition	−0.028*	−0.012*	−0.007*	0.001	0.008	0.018	−0.007	−0.010*	−0.026*	−0.040*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.010)	(0.011)	(0.005)	(0.004)	(0.009)	(0.008)
Dem. Vote Share	0.058*	0.004	0.048*	0.018*	−0.032*	−0.042*	0.068*	0.038*	0.017	−0.051*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.009)	(0.010)	(0.004)	(0.004)	(0.008)	(0.009)
Woman Candidate	−0.008*	−0.006	−0.002	−0.001	0.00001	0.003	0.00002	−0.0003	0.026*	0.004
	(0.004)	(0.003)	(0.003)	(0.003)	(0.012)	(0.012)	(0.006)	(0.005)	(0.011)	(0.010)
Comp. × Woman Cand.	0.006	0.004	0.003	0.002	−0.004	−0.007	−0.001	−0.001	−0.031*	−0.007
	(0.005)	(0.004)	(0.005)	(0.004)	(0.016)	(0.016)	(0.008)	(0.007)	(0.014)	(0.013)
% White		−0.068*								
		(0.003)								
% Group				−0.037*		0.031*		0.090*		0.451*
				(0.003)		(0.012)		(0.005)		(0.022)
Presidential Election	0.023*	0.026*	0.025*	0.027*	0.019*	0.018*	0.004	0.007*	0.004	0.007
	(0.002)	(0.001)	(0.002)	(0.001)	(0.005)	(0.005)	(0.003)	(0.002)	(0.005)	(0.004)
Swing State	−0.001	0.004*	−0.004*	−0.001	0.005	0.004	−0.009*	−0.004	−0.004	0.009*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Presidential × Swing	−0.0004	−0.0003	0.002	0.002	0.003	0.003	−0.001	−0.001	0.001	0.0003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.006)	(0.003)	(0.003)	(0.006)	(0.005)
Constant	0.044*	0.103*	0.020*	0.052*	0.155*	0.149*	0.020*	0.024*	0.019*	0.040*
	(0.003)	(0.003)	(0.003)	(0.004)	(0.010)	(0.010)	(0.005)	(0.004)	(0.009)	(0.008)
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592
R^2	0.559	0.655	0.520	0.555	0.200	0.202	0.348	0.435	0.029	0.168

Table 1: Analysis of District-level Gender Gap in Turnout. Table presents coefficients and standard errors from OLS models with the difference between women and men's turnout for each district-year as the dependent variable. * = p<0.05.

Table 1 presents regression results using our district-year dataset. Models 1 and 2 examine the gender turnout gap for all adult citizens. Consistent with our expectations—and past examinations of the national turnout gap—we see that presidential elections are associated with a greater turnout advantage for women. Examining electoral competition, we see a significant, negative association between competition and the size of the gender gap.[6] As competition increases, women's turnout advantage over men diminishes; in some cases this diminution is so severe that the gap reverses. We also find no evidence that the presence of a woman candidate generates an increase in relative turnout for women over men, and in fact, some evidence for the opposite effect in Model 1. The interaction term between woman candidate and district competition suggests that even the most visible or viable women candidates—who we would most expect to inspire female voters and where additional support from women might make the difference (Atkeson 2003)—do not shape gender differences in turnout. This pair of findings is particularly striking because it suggests that competitive elections—even without female candidates—create gendered dynamics in the electoral process.

We also incorporate information pertinent to racial/ethnic context in two ways. First, beyond modeling the overall turnout gap within congressional districts, we also use an intersectional approach that models the turnout gap among men and women for four racial/ethnic groups using modeled race estimates also provided by Catalist: [non-Hispanic] whites, African Americans, Latinas/os, and Asians.[7] Work by Hersh (2015) finds that the gender turnout gap at the national level varies by racial/ethnic group, and is generally larger among African-

[6]Here we use a measure of predicted competition based on normalized presidential vote. See Online Appendix Section A1 for more details, and Section A4 for an alternative analysis using actual *(ex post)* competition.

[7]For more details on how these estimates were generated see Online Appendix Section A1.

Americans.[8] Table 1 also includes a control for the racial/ethnic composition of the district in even numbered models. In the full model we control for the percentage of the district that is non-Hispanic white.[9] For the racial/ethnic group specific models, we control for the share of the district each group comprises. District racial/ethnic composition can play a powerful role in shaping racial/ethnic differences in turnout (Fraga 2018) which may have consequences for the gender gap.

After accounting for racial/ethnic context, some other electoral factors no longer consistently predict the gender gap in turnout. Overall, the presidential election effect now appears for all except Asian Americans. In Models 1 and 2 we found that as districts become more competitive the size of the turnout gap decreases. However, breaking this effect out by race complicates this narrative. For African Americans, we observe no change in the turnout gap in competitive districts. Competition does appear to be associated with a decreased gap for Latinas/os and Asians, especially after taking district composition into account. For whites, we observe a similar pattern, until we account for the racial composition of the district at which point this effect vanishes. This suggests that results in our main models may be driven by heavily non-white areas. Indeed, when we exclude majority-minority districts from our analysis, competition no longer impacts the turnout gap for whites. Because majority-minority districts also tend to be heavily non-competitive, this explains most of the overall pattern that we observe, and may also help us understand why partisanship of the district has inconsistent effects across racial/ethnic groups as well.

Racial/ethnic composition of a district also shapes the gender turnout gap. In Model 2, we observe that the whitest districts tend to have the smallest overall gender gaps in turnout;

[8]To illustrate differences in the turnout gap based on race/ethnicity, Section A3 of the Online Appendix presents national level trends in turnout for each racial/ethnic group.

[9]The inclusion of this variable helps to ameliorate some of the impact of felon disenfranchisement—which disproportionately impacts African American men—on our estimates of the turnout gap. See Online Appendix Section A1 for more information.

a similar pattern emerges within each racial/ethnic group. The turnout gap among whites shrinks in the whitest districts; for racial/ethnic minorities the turnout gap is larger when the percentage of co-racial/ethnic individuals living in the district is larger as well (necessarily meaning the district is becoming less white). Living in a heavily co-ethnic/racial district may have a mobilizing effect for minority women, leading them to participate at higher rates, thus increasing the turnout gap. Recent work by Fraga (2018) shows that district composition can play a powerful role in mobilizing racial and ethnic minorities; our findings suggest that there may be a gendered element to these dynamics.

Implications

In this note we offer new insights into the gender gap in turnout. We show that the gender turnout gap has significant temporal and geographic variation, which offers several important implications for our understanding of women's political participation. The overall turnout gap shrinks in the most competitive elections, so much so that the gap sometimes reverses in favor of men. The gap is also largest in heavily minority areas, and among racial/ethnic minority women who are more politically disadvantaged than white women. While women do turn out in greater numbers than men in presidential elections, overall our findings indicate that women's turnout advantage is smallest—even nonexistant—in the most pivotal elections. Thus, to the degree that women enjoy a turnout advantage, the consequences of that advantage are highly constrained. Though women may not necessarily act as a voting bloc, our findings underscore important gendered dynamics of American elections.

Race is also an essential component of the gender turnout gap. Many of the dynamics we highlight vary across racial groups. We observe that district racial/ethnic composition seems to have a stronger mobilizing effect for women of color than men of color, leading to larger race-gender gaps in more diverse districts. These districts tend to be among the least

competitive, again highlighting the constrained nature of any advantage women might have. More generally, our analysis highlights the racialized nature of the gender gap, and demands an intersectional lens for future work on gender and political participation.

Finally, our results clearly indicate that the gender turnout gap is *dynamic* and influenced by contextual features of U.S. elections. Recent work in comparative politics also demonstrates that decontextualized understandings of gendered participatory distortions may imply greater equality than exists in reality (Kostelka, Blais and Gidengil 2018). Moreover, historical analyses of elections following the expansion of suffrage similarly indicates that contextual features must be taken into account (Corder and Wolbrecht 2006, 2016). The analysis presented here is a first step towards a deeper understanding of how structural features of contemporary American elections may limit women's political voice. Moving forward, we urge future research to not take the gender turnout gap as a given, but rather use the findings presented here to question assumptions about the consequences of who participates in contemporary politics.

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Online Appendix for "Contextualizing the Gender Gap in Voter Turnout"

Table of Contents

A1 Details of Variable Construction

Below we provide additional details regarding the turnout and contextual variables we use in our analysis.

A1.1 Dependent Variables

As noted in the main text, our dependent variable is constructed via a combination of voter file-derived data and U.S. Census Bureau estimates. The numerator in our turnout calculations is drawn from Catalist, LLC's database of individual-level voter registration records. All states provide space on voter registration forms for individuals to indicate their sex or gender.[1] We drew estimates from Catalist's database of the number of individuals nationally, in each state, and in each congressional district who were marked in state voter files as having voted in the 2008, 2010, 2012, 2014, 2016, or 2018 election. For estimates of differences in the gender turnout gap by race/ethnicity, we also use Catalist's estimate of individual race/ethnicity, in line with previous work using voter file data to study racial differences in voter turnout (Fraga 2018).

The denominator in our turnout calculations is based on a combination of U.S. Census Bureau products. We begin with the Census Bureau's Population Estimates Program (PEP) estimates of the 18+ population by sex nationally and for each state in July of each year. We then examine contemporaneous data on the ratio of citizens to non-citizens by sex using American Community Survey data for each year, relying primarily on 1-year estimates. Multiplying the PEP estimate by the ACS ratio allows us to calculate the citizen voting-

[1]There is an important difference between self-reported sex and gender, with many individuals indicating that they would place themselves in between binary "masculine" and "feminine" gender categories (Bittner and Goodyear-Grant 2017). However, in the absence of data regarding self-reported gender identity, we rely on self-reported sex as a proxy for gender.

age population (CVAP) by sex for the midpoint of each year. We then interpolate (for years 2008-2016) or extrapolate (for 2018) these estimates of the CVAP to November of the corresponding election year. For congressional districts, where PEP estimates are not available, we rely on the ACS's measure of the voting-age population and multiply this by the citizen to non-citizen ratio instead. For models where racial/ethnic differences in the gender turnout gap are explored, we use the above datasources for estimates by sex and race/ethnicity.

The CVAP is the most commonly used metric of the voting eligible population. However, there are restrictions on the franchise beyond citizenship and age. Felon Disenfranchisement, incarceration, and other state-determined policies disenfranchising citizens disproportionately impact men (Manza and Uggen 2008), and likely contribute to the gender gap in turnout. These differences are not accounted for in our analysis as yearly national, state, and congressional district level information about felon disenfranchisement is not available. Thus the estimates of the gender turnout gap that we provide likely overestimate women's relative turnout level, conditional on eligibility.

A1.2 Independent Variables

To better understand what factors explain variation in gender turnout differences, we estimate the effect of a set of contextual factors on congressional district-level measures of the gender turnout gap. Electoral competition is included as a continuous variable indicating how evenly split the district is likely to be between Democratic and Republican candidates.[2] This measure is based on the normalized presidential vote, which is the share of the two-party vote won by the Democratic Party's presidential nominee in the most recent presidential election in the district, subtracting the overall national popular voteshare won by the Democrat (Abramowitz, Alexander and Gunning 2006). Essentially, this measure captures how much

[2]A prediction is used since observed outcomes in congressional elections may be influenced by candidate factors that also impact the gender turnout gap.

more (less) Democratic (Republican) a particular district is compared to the nation as a whole. This variable was scaled to range from 0-1. The following operation was used to create a continuous variable capturing competition, ranging from 0 (least competitive) to 1 (most competitive): $Competitiveness = 1 - |(DistrictDemocraticness - 0.5) * 2|$. Thus, a value of 0 on this measure represents races where the winning party would be expected to win 100% of the votes, while a score of 1 represents a race where votes would be expected to split evenly between the parties.

We also include a measure of the predicted Democratic Party vote share in a given year, again based on the normalized vote.[3] Since women are disproportionately likely to belong to the Democratic Party, this measure allows us to examine whether the gender gap in turnout is larger in districts and states where the Democratic Party tends to perform well. We further include a binary indicator for whether districts are in states that have traditionally been considered "Swing States" in presidential election years. State classified as swing states for our analysis are: Colorado, Florida, Iowa, Michigan, Minnesota, Ohio, Nevada, New Hampshire, North Carolina, Pennsylvania, Virginia, and Wisconsin. The presence of a woman candidate is operationalized as a binary indicator capturing whether a woman candidate was on the congressional general election ballot. This indicator was generated from the Center on American Women and Politics at Rutgers University's database/fact-sheets on women congressional candidates in the election years included in our analysis. Finally. we also include an estimate of the racial/ethnic composition of the state and congressional district as a control variable, operationalized as the percent of the citizen voting-age population (using ACS data) that is non-Hispanic White.

[3]Results when using an *ex post* measures of partisan contestation based on actual election results are substantively similar and featured in section A3 of the Online Appendix.

A2 National Turnout Gap: Catalist vs. CPS

Figure A1 displays the gender turn out gap at the national level from 2008-2018. We present estimates from the commonly used Current Population Survey Voting and Registration Supplement (CPS) and our measure based on Catalist and Census data. In both datasets we find that women's turnout is consistently higher than men's turnout, but the gender gap is larger in presidential election years than midterm years. The CPS also appears to provide an underestimate of the gender turnout gap in presidential years, finding a 2-3 percentage point difference in the gap across election cycles versus a 5-6 point difference with voter file-derived data. Indeed, the Catalist data indicates that women's turnout is approximately 7 percentage points higher than men's turnout in presidential elections, but 2-5 percentage points higher in midterms. Figure A1 thus highlights the need for a deeper understanding of the contextual factors producing variation in the gender turnout gap.

A3 Distribution of District-level Turnout Gaps

As we noted in the body of the text, we observe larger gender gaps in presidential election years as opposed to midterm elections. This is consistent with recent work on Canada and European nations which argues that women vote at equal or higher rates than men in "first-order" elections, while generally voting less frequently in "second-order" elections (Kostelka, Blais and Gidengil 2018). Indeed analyses presented in a later section of this appendix (Section A4) illustrate that the changes in the gender gap we observe between presidential and midterm elections are the result of women being *more* mobilized by presidential elections (relative to their midterm participation) than men. As illustrated in Figures 1 and 3 of the main text, this finding was consistent at the national level and across racial groups with the exception of Asians. Figure 2 in the main text showed this effect also held at the state level. In general the same pattern was observed using districts (Table 1 in main text): gender gaps tend to be larger in presidential election years. To better illustrate this at the district level,

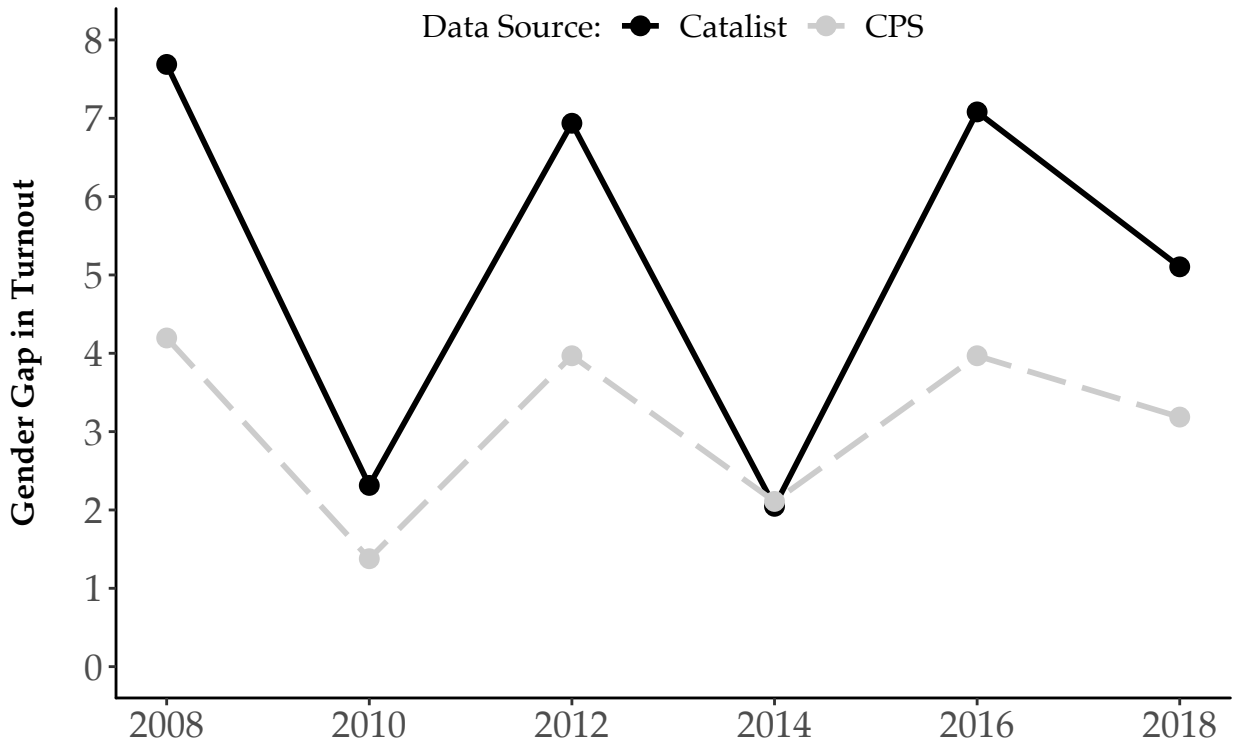

Figure A1: National Gender Gap in Turnout. Gender gap calculated as rate of turnout for citizen voting-age women minus rate of turnout for citizen voting-age men, expressed in whole percentage points. "CPS" indicates estimates from the Current Population Survey's Voting and Registration Supplement, removing non-respondents from the denominator. "Catalist" indicates estimates using Catalist's count of votes by sex as the numerator and Census PEP/ACS estimates of the CVAP by sex for the denominator.

Figure A2 presents the distribution of turnout gaps in all districts included in our dataset across both types of elections.

As we noted in the main text, there are several instances of districts in our dataset where we observe a "reverse gap" with men voting at higher rates than women. Interestingly, there are no occurrences of men voting at higher rates than women in presidential elections; all of the observed instances of reverse gaps occur in midterm elections. This further underscores the role that election type plays in shaping the magnitude—and presence—of the gender turnout gap, calling further attention to the need to understand how electoral systems and campaign dynamics structure this gap.

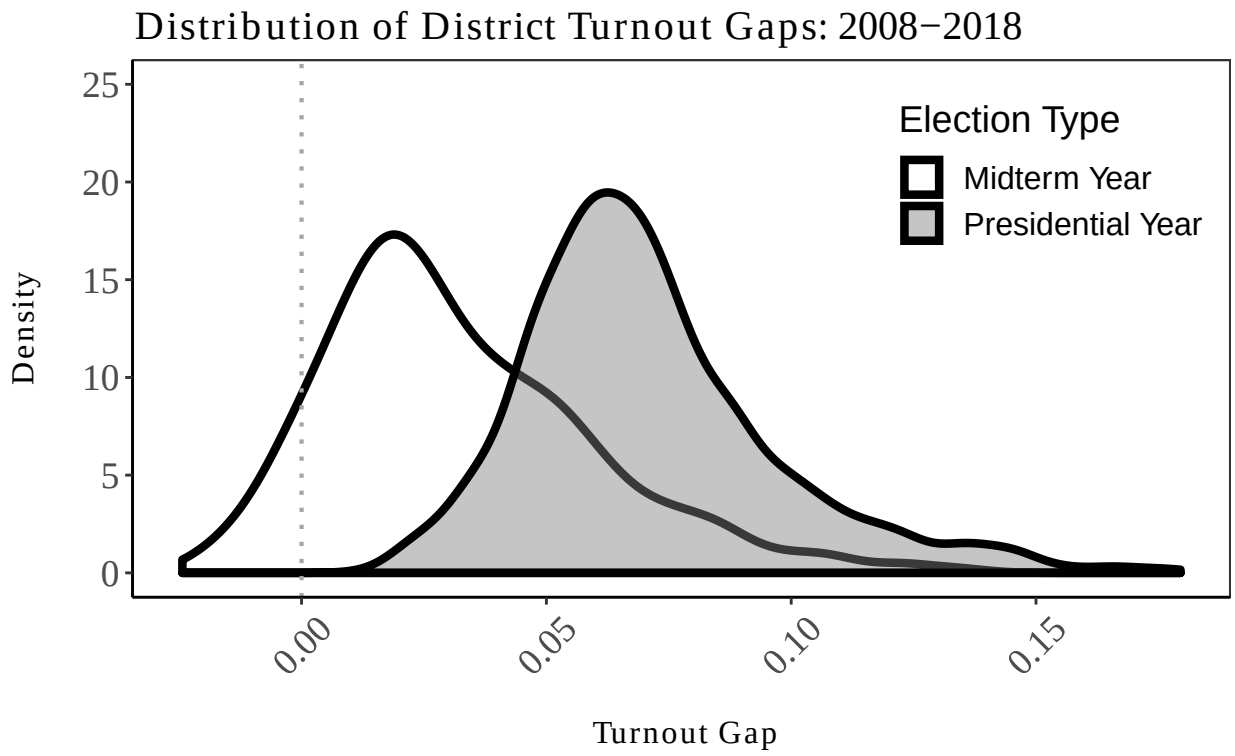

Figure A2: Density plot of District Turnout Gaps. Figure presents the distribution of congressional district-level gender turnout differences in presidential and midterm elections. Positive values on the x-axis indicate districts where a larger advantage in favor of women was observed.

A4 National Turnout Gap by Race and Ethnicity

As we discuss in the main text, previous research by Hersh (2015) shows that the national level turnout gap varies considerably based on race and ethnicty. We explore this variation in our analysis of district level turnout. Here we provide readers with a visual representation of the national turnout gap based on race and ethnicity over our set of elections to underscore how drastically the turnout gap can vary by racial/ethnic group (see Figure **??** Where Black women turn out 10-18 percentage points mores than Black men, white and Hispanic women turn out slightly more than white and Hispanic men, respectively, and the gender turnout gap for Asian Americans is almost nonexistent. Given this variation it is crucial to examine how electoral context operates differently across racial groups as we do in Models 3-10 in Table 1 of the main text.

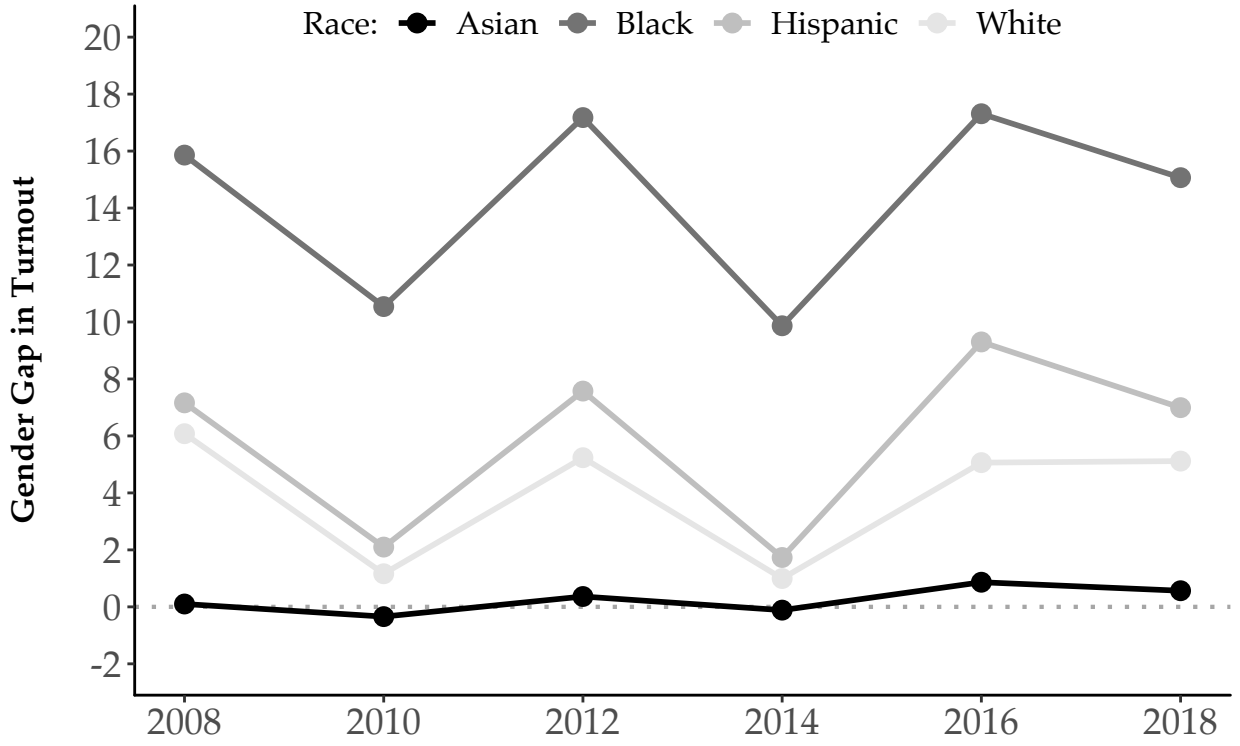

Figure A3: National Gender Gap in Turnout by Race/Ethnicity. Gender gap calculated as rate of turnout for citizen voting-age women by racial/ethnic group minus rate of turnout for citizen voting-age men, expressed in whole percentage points. Estimates use Catalist's count of votes by race/ethnicity and sex as the numerator and Census PEP/ACS estimates of the CVAP by race/ethnicity and sex for the denominator.

A5 Tests with *Ex Post* Competition and Partisanship

In the main text we focus on results using an *ex ante* measure of competition and partisanship, as even small changes in the turnout rates of women and men may influence actual election outcomes. However, we also examined results when using an *ex post* measure based on the actual Democratic vote share in each district election. We use a transformation similar to the one described in Section A1.2; like the *ex ante* measure, our *ex post* measure ranges from 0 to 1. A score of 0 on this measure represents races where the winning candidate received 100% of the votes, while a score of 1 represents a race where votes were evenly split between candidates. In models using the *ex ante* measure of competition, our measure of Democratic vote share is based on the normalized presidential vote metric used to construct *ex ante* competitiveness. In models using the *ex post* competition measure, this is the observed percent of the two-party vote won by Democrats in the general election. In Table A1 we replicate Table 1 when using ex post competition and partisanship.

By in large the results using the *ex post* measure of competition and Democratic vote share produce results consistent with those presented in the main text. The largest difference in these results is that using an *ex post* measure of Democratic vote share, we observe that this variable is associated with a significant increase in the size of the gender gap even after controlling for district demographics. Because our *ex post* measure uses actual votes cast, this difference makes intuitive sense. As women disproportionately belong to the Democratic party, we would expect an unexpected increase in women's turnout (relative to men) to translate into greater Democratic voteshare in a manner that would not be picked up by a projected measure of district partisanship. We also find some evidence using the ex-post measure that in contrast to other racial groups, competitive elections are associated with *larger* gender turnout gaps favoring women among African American voters. However, any or all of these differences from the *ex ante* results may be due to post-treatment bias induced by using outcome data influenced by changes in the value of the dependent variable itself.

	Dependent variable:									
	Full Gap		White Gap		Black Gap		Latina/o Gap		Asian Gap	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Competition	−0.018*	−0.005*	−0.004*	0.003	0.012	0.017*	−0.010*	−0.007*	−0.008	−0.012*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.007)	(0.003)	(0.003)	(0.006)	(0.005)
Dem. Vote Share	0.039*	0.005*	0.029*	0.007*	−0.017*	−0.024*	0.038*	0.021*	0.014*	−0.020*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.007)	(0.007)	(0.003)	(0.003)	(0.006)	(0.006)
Woman Candidate	−0.0001	−0.003	0.00001	−0.002	−0.007	−0.007	0.006	0.007	0.016	−0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.009)	(0.009)	(0.005)	(0.004)	(0.009)	(0.008)
Comp × Woman Cand.	−0.002	−0.0002	0.001	0.002	0.003	0.003	−0.007	−0.010	−0.018	0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.013)	(0.013)	(0.006)	(0.006)	(0.012)	(0.011)
% White		−0.068*								
		(0.002)								
% Group				−0.043*		0.025*		0.096*		0.431*
				(0.002)		(0.011)		(0.004)		(0.021)
Presidential Election	0.020*	0.025*	0.025*	0.028*	0.020*	0.020*	0.003	0.006*	0.001	0.004
	(0.002)	(0.001)	(0.002)	(0.001)	(0.005)	(0.005)	(0.003)	(0.002)	(0.005)	(0.004)
Swing State	−0.001	0.004*	−0.004*	−0.0003	0.005	0.004	−0.009*	−0.003	−0.007	0.005
	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Presidential × Swing	0.0001	−0.0001	0.002	0.002	0.003	0.003	−0.001	−0.001	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.006)	(0.003)	(0.003)	(0.006)	(0.005)
Constant	0.043*	0.097*	0.026*	0.060*	0.146*	0.144*	0.035*	0.028*	0.008	0.007
	(0.002)	(0.002)	(0.002)	(0.003)	(0.007)	(0.007)	(0.003)	(0.003)	(0.006)	(0.006)
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592
R^2	0.525	0.653	0.491	0.553	0.199	0.201	0.322	0.428	0.017	0.155

Table A1: Analysis of District-level Gender Gap in Turnout using *ex post* Variables. Table presents coefficients and standard errors from OLS models with the difference between women and men's turnout for each district-year as the dependent variable. Models use an *ex-post* measure of competition and the observed vote share of the Democratic Party. * = p<0.05.

A6 Separating Turnout for Women and Men

The gender gap in turnout is shaped by the political behaviors of *both* men and women. Changes in the gap could be the result of changes in women's voting behavior, men's voting behavior, or some combination of the two. In this supplemental analysis, we model men and women's turnout rates as a function of the same set of independent variables used in the main text, allowing us some insight into how men and women's turnout patterns are helping to structure the gender turnout gap. As in the main text, we also model the turnout out of men and women separately for four racial/ethnic groups to better understand any racial/ethnic dynamics at play in the patterns we observe: whites, African Americans, Latinas/os, and Asians. Results for men and women overall may be found in Table A2, and results broken down by racial/ethnic group are presented in Table A3.[4] However, we urge caution in drawing definitive conclusions from these supplemental analyses. First, we do not offer full models of the individual-level turnout decision, instead favoring a difference-in-differences design that accounts for observable and unobservable contextual factors that influence the decision to vote across groups. Furthermore, many of the dynamics that we observe are partially rooted in the interplay between turnout rate for racial/ethnic groups as a whole and the dynamics of the turnout gap for each group. In other words, the overall gap in men and women's turnout can shift even when the underlying dynamics of men's and women's behavior in each group in isolation remain stable. For example, in less heavily white districts, African Americans and Latinas/os make up a larger share of the population and vote at higher rates; thus, differences in the size of the turnout gap for African Americans could shift the overall turnout gap in areas where African Americans make up a larger share of the population.

In our main text analyses we found that the gender turnout gap tends to be significantly

[4]Results presented in Table A3 include only models that include a control for the demographic characteristics of the district, mirroring even numbered models in Table 1 in the main text.

larger in presidential as opposed to midterm elections. Results in Table A2 suggest that while both men and women vote at higher rates in presidential election years, the effect is larger for women, thus contributing to the gender gap. This is consistent with recent work by (Kostelka, Blais and Gidengil 2018), which suggests that differences in participation between "first-order" and "second-order" elections in Europe and Canada are more pronounced for women. The shrinking of the the gap as a result of competition, seems to result from men being especially likely to vote in competitive districts, though there is a significant effect of competition on both gender groups. We further note that while both men and women turnout at higher rates as their district becomes increasingly white, the shrinking of the gap observed in the main text appears to be the result of men being more mobilized in these districts than women, rather than women being demobilized.

In the main text we found no evidence that women candidates meaningfully shape the gender turnout gap, and indeed some evidence that their presence might be associated with a decrease in the gap. In Table A2 we find some evidence that after controlling for district racial composition women candidates are associated with *decreased* turnout among women; though this is potentially mitigated by viable women candidates. However, this effect seems to primarily the product of idiosyncracies rooted in race and district characteristics. Examining this effect across racial groups the only group for whom we see any effect are Asians. Moreover, when majority-minority districts are excluded from the analysis the effects observed in Table A2 disappear entirely.[5] Given this, along with the findings in the main text, we are even more confident in our conclusion that women candidates are not associated with *increases* in the gender turnout gap.

Table A3 shows a fairly consistent pattern of presidential elections increasing turnout

[5]In our model of the gender turnout gap in Table 1 in the main text the decrease associated with women candidates is diminished with the exclusion of majority-minority districts, and disappears all together the analysis is restricted to districts that are more than sixty-five percent white

	Dependent variable, Turnout for:			
	Men	Women	Men	Women
	(1)	(2)	(3)	(4)
Competition	0.121*	0.093*	0.055*	0.043*
	(0.010)	(0.010)	(0.008)	(0.009)
Dem. Vote Share	−0.006	0.052*	0.223*	0.227*
	(0.009)	(0.009)	(0.010)	(0.010)
Woman Candidate	−0.008	−0.015	−0.015	−0.021*
	(0.012)	(0.012)	(0.010)	(0.010)
Comp. × Woman Cand.	0.014	0.021	0.023	0.027*
	(0.016)	(0.016)	(0.013)	(0.014)
% White			0.285*	0.217*
			(0.008)	(0.008)
Presidential Election	0.035*	0.058*	0.023*	0.049*
	(0.005)	(0.005)	(0.004)	(0.005)
Swing State	0.050*	0.049*	0.028*	0.033*
	(0.005)	(0.004)	(0.004)	(0.004)
Presidential × Swing	0.018*	0.018*	0.018*	0.017*
	(0.006)	(0.006)	(0.005)	(0.005)
Constant	0.420*	0.464*	0.170*	0.273*
	(0.010)	(0.010)	(0.010)	(0.011)
Year Fixed Effects	✓	✓	✓	✓
Observations	2,592	2,592	2,592	2,592
R^2	0.615	0.709	0.751	0.772

Table A2: Analysis of District-level Turnout, Separating Men and Women. Table presents coefficients and standard errors from OLS models with turnout for men or women as the dependent variable. * = p<0.05.

for both men and women. One exception is for whites, where white men do not appear more likely to vote in presidential elections after controlling for other contextual factors. We also note that men and women voters both appear to turnout at higher rates when they live in districts where a larger share of the population shares their race/ethnicity. However, for white voters this effect is stronger for men; for minority voters the effect is stronger for women. These dynamics account for why we see a shrinking of the white gender turnout gap in whiter districts and an expansion of the gender turnout gap among minorities in more diverse districts. Examining competition, we see that after controlling for district demographics white men and women are similarly impacted by competition; when a control for district racial competition is excluded white men are more responsive to competition than white women, accounting for the decreases gap observed among whites in Model 1 in Table 1 in the main text. We observe that both African American men and women and Latinas/os all vote at higher rates as races become competitive; Latinos respond to this dynamic more so than Latinas, explaining the decreased turnout gap observed for this group in the main text. Though the coefficient for competition fails to reach statistical significance for Asians, we note the the sign of the coefficient is positive for men, negative for women which may help to account for the decreased gap we observe among this group in more competitive elections.

	Dependent variable, Turnout for:							
	White Men	White Women	Black Men	Black Women	Latinos	Latinas	Asian Men	Asian Women
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Competition	0.115*	0.116*	0.048*	0.066*	0.070*	0.059*	0.020	−0.019
	(0.010)	(0.011)	(0.014)	(0.018)	(0.009)	(0.011)	(0.023)	(0.028)
Dem. Vote Share	0.213*	0.231*	0.106*	0.064*	0.217*	0.254*	−0.056*	−0.107*
	(0.012)	(0.013)	(0.013)	(0.017)	(0.009)	(0.011)	(0.023)	(0.028)
Woman Candidate	0.012	0.010	0.017	0.019	−0.007	−0.008	−0.079*	−0.075*
	(0.012)	(0.013)	(0.015)	(0.020)	(0.011)	(0.014)	(0.028)	(0.034)
Comp. × Woman Cand.	−0.006	−0.005	−0.019	−0.026	0.017	0.016	0.093*	0.085
	(0.016)	(0.017)	(0.020)	(0.027)	(0.015)	(0.018)	(0.036)	(0.045)
% Group	0.144*	0.107*	0.477*	0.508*	0.228*	0.317*	2.638*	3.090*
	(0.009)	(0.010)	(0.015)	(0.020)	(0.009)	(0.012)	(0.059)	(0.073)
Presidential Election	−0.008	0.019*	0.057*	0.076*	0.041*	0.049*	0.040*	0.047*
	(0.005)	(0.006)	(0.007)	(0.009)	(0.005)	(0.006)	(0.012)	(0.015)
Swing State	0.016*	0.016*	0.023*	0.027*	0.014*	0.010*	0.073*	0.082*
	(0.004)	(0.005)	(0.006)	(0.008)	(0.004)	(0.005)	(0.010)	(0.013)
Presidential × Swing	0.015*	0.017*	0.022*	0.025*	0.015*	0.014*	0.010	0.011
	(0.006)	(0.007)	(0.008)	(0.010)	(0.006)	(0.007)	(0.014)	(0.017)
Constant	0.327*	0.379*	0.120*	0.269*	0.041*	0.065*	0.019	0.059*
	(0.013)	(0.014)	(0.013)	(0.017)	(0.009)	(0.011)	(0.023)	(0.028)
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Observations	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592
R^2	0.648	0.686	0.559	0.531	0.621	0.650	0.482	0.453

Table A3: Analysis of District-level Turnout for Men and Women by Racial/Ethnic Group. Table presents coefficients and standard errors from OLS models with turnout for men and women in each racial or ethnic group as the dependent variable. * = p<0.05.