

# The Roots of the Gender Gap in Political Knowledge in Adolescence

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**Abstract** Why do men score better than women do on tests of political knowledge? We consider the roots of the gender gap in political knowledge in late adolescence. Using a panel survey of high school seniors, we consider the differences between young men and young women in what they know about politics and how they learn over the course of a midterm election campaign. We find that even after controlling for differences in dispositions like political interest and efficacy, young women are still significantly less politically knowledgeable than young men. While campaigns neither widen nor close the gender gap in political knowledge, we find important gender differences in how young people respond to the campaign environment. While partisan conflict is more likely to promote learning among young men, young women are more likely to gain information in environments marked by consensus rather than conflict.

**Keywords** Political socialization · Gender · Knowledge · Learning

Political knowledge is arguably one of the most useful resources that people hold in executing the responsibilities of citizenship. Political information helps voters connect their preferences to the slate of candidates (Gelman and King 1993; Lau and Redlawsk 2006) and drives the criteria that voters use to select their preferred

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candidate (Basinger and Lavine 2005; Sniderman et al. 1991). Those who hold greater political knowledge demonstrate greater attitude consistency and stability (Delli Carpini and Keeter 1996). People seek out those with knowledge and expertise when discussing politics (Huckfeldt 2001) and knowledge helps translate political attitudes into action (Popkin and Dimock 1999).

Thus the finding that women are less politically knowledgeable than men (Delli Carpini and Keeter 1996, 2000) raises a number of normative concerns. If men hold greater stocks of political information than women, then they are better poised to practice good citizenship behaviors. Because political knowledge can help people pursue their interests in politics, these knowledge differences mean that men will be advantaged in terms of political influence. When the interests and issue preferences of men and women diverge (i.e. Howell and Day 2000; Norrander 2008; Norrander and Wilcox 2008; Sapiro and Conover 1997), the political representation of women is threatened. Even as women turn out to vote at greater rates than men, their influence in politics will be limited if not backed by knowledge and understanding of the political issues at stake.

What then explains the gender gap in political knowledge? In this paper, we investigate why women are less politically informed than men. In particular, we look to the roots of the gender gap in political knowledge in late adolescence, right before young people move into their adult roles as citizens. Using a panel survey of high school seniors from 2006, we consider how young men and young women learn about politics over the course of a midterm election. We begin by exploring whether there is a gender gap in knowledge in late adolescence, or if young people today hold similar stocks of political information regardless of gender. Finding that a gender gap exists, we then consider whether it can be explained by differences in political dispositions like interest, efficacy, or attention to the news, and to what degree the roots of political knowledge differ across the sexes.

We next turn our attention to how young people learn over the course of a midterm election season, to see whether campaigns close or increase the knowledge gap between young men and young women. To see if the underlying mechanisms of learning are different for each sex, we consider how both social environments and campaign contexts affect how political information is acquired. Our findings indicate that young men and young women learn about politics in different ways. Young men gain the most knowledge in environments marked by conflict, such as in debates with friends or by living in communities marked by partisan division. Young women, however, appear to practice a civic or communal style of citizenship, where political learning is greatest for those who discuss politics with family and live in politically homogenous areas. This suggests that the gender gap is not merely a reflection of differences in the political dispositions of young men and young women, but also a product of fundamental differences in how each sex approaches and responds to their political environment.

We focus on the gender gap in knowledge among young people first because of suggestions that gender gaps are rooted in political dispositions formed early in life and in experiences occurring prior to adulthood (i.e. Atkeson and Rapoport 2003; Delli Carpini and Keeter 1996). By looking at gender differences among a population where levels of education are comparable and differences in income, job

inequality, and family responsibilities have not yet emerged, we can give particular scrutiny to how individual differences in political dispositions as well as campaign experiences affect the acquisition of political knowledge. If differences by gender are slight, it suggests that resources acquired later in life, such as higher education and occupational skills, are particularly important for explaining the gender gap in knowledge. If greater differences in knowledge in adolescence emerge, it suggests the gender gap in knowledge is more deeply rooted.

Looking at knowledge acquisition in adolescence is also useful in that the political habits gained in youth affect learning in later life. By looking at the roots of political knowledge during the politically impressionable years of late adolescence, we can gain insight into how men and women might approach politics in adulthood. In the case of political knowledge, Jennings (1996, p. 250) finds a remarkable stability from adolescence into adulthood—a level of continuity in political knowledge, “rivaling or exceeding that found in extraordinarily salient, concrete, and reinforced political attitudes, such as party identification and issues tapping into deeply held value systems.” Greater stocks of political knowledge could also lead to a more participatory cohort of young people, given the correlation of adolescents’ knowledge with the probability of future political participation (Gimpel et al. 2003).

### Why is There a Gender Gap in Political Knowledge?

Men routinely score higher on tests of knowledge than women, with a knowledge gap that is both sizable and persistent over time (Delli Carpini and Keeter 1996, 2000; Dow 2009). Why is this? Past studies highlight the importance of differences in political dispositions by gender, where women are less likely than men to possess the precursors of political knowledge. First, women appear to be less likely to profess an interest in politics than men (Bennett and Bennett 1989) and can be less inclined to care about politics in the same way or to the same degree that men do (Verba et al. 1997).<sup>1</sup> If women are less interested in politics, this will disadvantage the acquisition of political information.

There are also differences in how each gender sees the political world. As a result of childhood and adolescent experiences, women and men develop different ideas about their political roles (Jennings 1983). Women can come to believe that politics is a man’s world, leading them to lose efficacy and confidence about their ability to influence politics. Indeed, women are more likely to say that politics is too complicated to understand (Gidengil et al. 2008) and less likely than men to feel that they are informed about politics in campaign seasons (Banwart 2007). The finding that men appear to be more willing to guess on tests of political knowledge while women are more likely to respond “don’t know” to political questions also suggests that women are not as confident as men in their ability to understand and engage in

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<sup>1</sup> The extent to which this holds among young people is not clear. Among students, gender is related to naming civics and government as a favorite course (Niemi and Junn 1998), but male and female college students often report similar levels of interest in campaigns (Banwart 2007).

politics (Atkeson and Rapoport 2003; Kenski and Jamieson 2001; Mondak and Anderson 2004).

Apart from differences in interest and efficacy, women can also be disadvantaged relative men when it comes to acquiring political knowledge. In adulthood, women's political engagement is affected by both resource disadvantages (in the patterns of lower education and income of women compared to men) as well as the demands of family roles and childcare (Bennett and Bennett 1989; Burns et al. 2001; Gidengil et al. 2008). These differences in the social roles and responsibilities of men and women can contribute to lower levels of political knowledge among women (Delli Carpini and Keeter 2000). If women are less likely to gain civic skills in the workplace or in associations, or if they acquire these civic skills in different ways than men (Djupe et al. 2007), then differences in resources could account for the gender gap in engagement.

### **Differences in How Young Men and Young Women Learn About Politics**

Prior accounts have focused on how differences in means and motivation generate the gender gap in political knowledge in adulthood. We extend this research first by shifting our attention to the gender gap among young people, looking at a period of late adolescence to see what predicts knowledge across the sexes. We also examine how political information is acquired, to see whether young men and young women learn about politics in different ways. Prior studies of the gendered roots of knowledge have relied on cross-sectional surveys. Such an approach informs the static differences in knowledge across the sexes, but makes it hard to know if knowledge is obtained differently by gender. By using a panel survey that crosses a midterm campaign, we explore whether there are gender differences in how young people interact with their political environment and acquire political knowledge.

In addition to investigating whether young women are less interested or able to engage in political learning than young men are, we also consider whether the gender gap in knowledge indicates that men and women see politics in different ways. If men and women define their roles in politics differently, each sex may ascribe a different value to political knowledge. Some may see politics as a partisan domain, emphasizing solidarity with one's fellow partisans and activism in support of one's own side. In such an account, knowledge has particular value—to be able to argue for one's position, to employ when trying to persuade others, or to sate one's interest in following his or her partisan team. For others, a more consensual and civic style can prevail, where the important values are community belonging, social and civic responsibility, and careful consideration of alternatives. In such an account, political information holds less intrinsic value to the individual. While stocks of knowledge are normatively desirable to possess, there is less personal imperative to actively follow politics as partisan conflict. If young men and women have different perspectives on how to practice politics, this could explain the knowledge differential across the sexes. We see support for this explanation in looking at young people's reports of how they will participate in politics in the future. Young women are more likely to express an interest in volunteering, voting,

and collecting signatures for petitions, while young men are keen on partisan pursuits like helping political parties and seeking office as well as unconventional participation like political protest (Hooghe and Stolle 2004).

We also explore how young people's interactions with their political context influence levels of political knowledge. We first consider the socializing effects of political discussion. Men and women are not identical in their practice of political discussion. Women are less interested in engaging in political talk (Verba et al. 1997) and have different conceptions of how politics should be discussed (Walsh 2004). Political discussion is often segregated by gender, where men talk with men and women talk with women (Huckfeldt and Sprague 1995). When women engage in political discussion, their knowledge and expertise is often underestimated (Mendez and Osborn 2010) and women often exclude themselves from political discussion out of worries they will not be convincing or persuasive (Miller et al. 1999). Given that talking about politics with others can promote both knowledge and interest in politics (Huckfeldt and Sprague 1995), these differences in willingness to talk about politics, style of discussion, and benefits derived from political talk could translate into lower levels of knowledge among women compared to men.

We also consider the role of the political environment in directing the knowledge acquired by young men and young women. Prior literature highlights how different kinds of political environments can help close gender gaps by influencing perceptions about women's capabilities and influence in politics. If women do not see other women engaged in political pursuits or elected to office, they may feel excluded—that politics is a realm not suited or hospitable to women or that their interests will not be represented in government (Carroll 1994; Mansbridge 1999). Indeed, the gender gap in political interest and knowledge can shrink when more women seek congressional office (Atkeson 2003; Burns et al. 2001; Koch 1997; Reingold and Harrell 2010; Sapiro and Conover 1997, though see Dolan 2006; Lawless 2004 for evidence on the limits of these effects). Among adolescent females, residency in states with more women seeking office promotes one's intentions to be involved in politics in the future (Campbell and Wolbrecht 2006).

### Levels of Political Knowledge Among Adolescents

We begin by considering the roots of the gender gap in political knowledge. Prior studies have found gender differences in political engagement among young people (Gimpel et al. 2003; Greenstein 1969; Jennings and Niemi 1981), though differences in knowledge across the sexes can sometimes be small (Niemi and Junn 1998). We consider whether gender differences in knowledge disappear once we control for variations in interest, efficacy, and resources by gender. To investigate this, we take advantage of the Colors of Socialization midterm election panel survey.<sup>2</sup> Nine hundred fifty high school seniors were interviewed by telephone

<sup>2</sup> This survey was made possible with support from the Center for Information & Research on Civic Learning & Engagement (CIRCLE) and the University of Colorado's Innovative Seed Grant Program.

about their political attitudes and behaviors in late summer of 2006, generally before the start of the school year.<sup>3</sup> Survey respondents were drawn from ten states with state level races in 2006, with 95 students randomly selected within each state. One of the included states had a Senate race (Washington), three states had a gubernatorial race (Arkansas, Colorado, and Iowa), and six states had gubernatorial and senatorial races on the ballot (California, Florida, Minnesota, Ohio, Pennsylvania, and Rhode Island).<sup>4</sup> Of these participants, 570 were re-interviewed after the election in November 2006, in a second wave of the survey.<sup>5</sup>

Levels of political knowledge were assessed using a battery of ten items about the political parties. Five items concerned the ideological orientations of the parties—asking respondents which party they see as more liberal, as well which party favors stem cell research, a traditional definition of marriage, tax cuts, and raising the minimum wage. Another five items concerned partisanship—which party controlled the House and the Senate, as well as the partisan affiliations of Hillary Clinton, Al Gore, and Richard Cheney.<sup>6</sup> This measure has the benefit of both a relatively large number of items as well as a range of questions, concerning candidates, issues, and the composition of Congress. One important drawback, however, is that all of the items assess partisan knowledge, an area where we could be more likely to observe gender gaps than domains like knowledge of citizen rights or the functions of government (Niemi and Junn 1998). While using such a measure increases the likelihood of observing gender differences, we believe these kinds of questions are better suited to examining how knowledge is acquired over the course of a campaign than general political knowledge items.<sup>7</sup>

On average, respondents answered 5.4 of the ten items correctly in the pre-election survey. Considering levels of knowledge by gender, we find significant differences. Among these high school seniors, female students on average report 5.1 correct answers, while the average among male students is nearly a full point greater—with six correct answers out of the ten knowledge questions ( $t = 4.45$ ,

<sup>3</sup> Specifically, pre-election interviews occurred from July 21 to October 8, 2006, and were conducted by Perceptive Market Research. Respondents were drawn from a database of about eight million students, provided by American Student Lists. The response rate for completed interviews in the pre-election survey was 43%. Because the survey window covers a somewhat long period, it is possible that we might see greater knowledge gains from those interviewed early in the panel than those interviewed later. If this is the case, then we could end up underestimating overall levels of campaign learning.

<sup>4</sup> In comparison, 56% of the sample in the 2006 American National Election Study lived in states with a gubernatorial and Senate race, 19% resided in states with only a gubernatorial race, 22% saw only a Senate contest, and 3% lived in a state with no major state level contest.

<sup>5</sup> The states retain sample sizes equivalent to each other in the second wave of the survey. The response rate for completed interviews in the post-election survey was 62%.

<sup>6</sup> The items scale together well, with a Cronbach's alpha of 0.83. Principal components factor analysis based on polychoric correlations also reveals a single factor solution, with factor loadings ranging between 0.51 and 0.86.

<sup>7</sup> We rely on a traditional survey-based measure of factual political knowledge, which is the best available but could underestimate students' capabilities to gather political knowledge (Prior and Lupia 2008). This measure could also be seen as a tough test of knowledge for adolescents, who might not be concerned about issues like stem cell research. However, given a sample of young people on the cusp of adulthood, we are interested in how well they perform on a test of knowledge similar to what we would ask of an adult citizen.

$p < 0.01$ ).<sup>8</sup> The gender gap in political knowledge that we see among adults is also present among these high school seniors.<sup>9</sup>

Do male adolescents do better than females on knowledge tests because they are more likely to guess the answer? To test this, we look at the number of “don’t know” responses offered by both male and female students. We find that just as in surveys of adult respondents (Mondak and Anderson 2004), young women are more reluctant to provide answers than young men. Female students average 3.5 “don’t know” responses to the ten knowledge items, a rate significantly greater than that among male respondents, who average 2.7 “don’t know” responses ( $t = -3.90$ ,  $p < 0.01$ ). Prior studies have been mixed as to whether gender is associated with incorrect answers on knowledge tests—Kenski and Jamieson (2001) do not find women to be any more likely to proffer incorrect answers to knowledge tests in the 1996 presidential election, while Kenski (2000) finds women are more likely to give incorrect answers to knowledge tests in the 2000 primary election. Among this sample of adolescents, there are not significant differences in rates of incorrect answers by gender, as high school males average 1.3 incorrect responses compared to the 1.4 incorrect responses among females. This indicates that young women are less likely to correctly answer questions in part because they choose not to guess, not because they are offering the wrong answers.

### Differences in Interest and Engagement by Gender

What explains these differences in knowledge? If young women are less likely to possess the cognitive precursors to political knowledge, then controlling for the effects of factors like interest and efficacy should close the observed gender gap in knowledge. Another possibility is that young men and young women gather information in different ways and for different reasons. For instance, levels of internal efficacy might be particularly important for young women’s acquisition of political knowledge, but less important to explaining why some young men are more politically informed than others. To test this, we interact the explanations for political knowledge with gender to see if they are differently consequential across the genders.

The first explanation we consider is political interest. If young women do not find politics as interesting as young men do, then this could explain differential rates of information acquisition. To assess general political interest, we use a five point measure of how much interest the respondent reports in politics. (Question wordings for all items can be found in the Appendix.) We also consider two other measures of interest in politics—self-reported attention to the news and cognitive engagement

<sup>8</sup> We also considered the gender gap across all racial group memberships. In their research, Gimpel et al. (2003) find that the gender gap in knowledge is reversed among their sample of African American high schoolers, with females reporting higher political knowledge than males. In this sample, we find that females are less politically knowledgeable than males among white, Latino, and black subgroups, though this gender gap is greatest among whites and smallest among African Americans.

<sup>9</sup> Female high school seniors are significantly less likely than male students to report the correct answer for each of the components of the political knowledge scale. We do not find, for instance, female students to be better able to identify the partisanship of the female candidate Hillary Clinton.

with the stories one sees in the news. Rather than lacking interest in politics, young women may instead lack efficacy, and withdraw from politics from a sense that they are not politically influential. We consider the effects of internal efficacy on political knowledge using the sum of two survey questions—one asking respondents whether they feel confident they can understand political issues and another asking whether the respondent sees herself as better informed than most people about political issues.<sup>10</sup>

Another explanation for why adolescents differ in their levels of political knowledge reflects the resources they hold. While looking at a sample of high school students of the same age and education level should limit the effects of resources on knowledge, arguably the resources held by parents could be consequential for the information acquired by students. For instance, socioeconomic status could influence the time parents spend discussing politics with their kids or the educational or media resources they can provide. We assess this with the levels of parental education and income, as reported by the student. We also include a measure of civic resources, in terms of the number of civic school activities the respondent has participated in, from a list that includes student government, service learning, and mock trials. Niemi and Junn (1998) have argued that the effects of civics activities are more highly correlated with knowledge among young women than young men, while the effects of household factors are more strongly related to levels of knowledge among young men than young women.

Men and women may have different orientations to political involvement, where a partisan style is preferred by some, while others are drawn to roles defined by civic responsibility over partisan expression. To consider this, we consider the effects of partisanship on knowledge—to see if strong partisans are especially keen on acquiring political knowledge. We use two measures of partisanship—whether the respondent identifies with a political party or not, and a ten-point scale of the strength of that party identification. To assess a more civic orientation to politics, we rely on a measure that asks respondents how often they listen to those who disagree with them. If the practice of deliberative versus partisan citizenship differs across the sexes, open-mindedness to opponents could be more predictive of knowledge among young women than young men.

In considering the implications of political talk, we rely on three measures to assess the relationship between one's attitudes about participating in political discussion and the acquisition of political information. First, we consider whether those who enjoy political discussion are more likely to hold stocks of political knowledge. Second, we consider the effects of conflict avoidance on political learning. If young people find political conversations uncomfortable, then they will likely avoid political discussion (and the informational benefits it can provide). If young people are disinclined to challenge their parents on political matters, political discussion may also be less common. Finally, we consider the socializing effects of the political environment; to see how one's state environment shapes the knowledge he or she accrues about politics. By including a measure of the percentage of women

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<sup>10</sup> These items have similar wording to two of the four items that Niemi et al. (1991) argue to be good measures of internal political efficacy.



populating the state legislature, we consider whether young women (or young men) are more politically knowledgeable in states where more women have sought office.

Gender Differences in the Precursors of Knowledge

To what degree do young men and young women differ on these precursors of political knowledge? We compare political dispositions by gender in this sample of high school seniors in Table 1. We find mixed evidence on whether young men and young women differ in their level of political interest. While young women say they are less interested in politics than young men, this difference is not significant ( $t = 1.24, p < 0.11$ ). Young men however are more likely to say they pay attention to the news than young women ( $t = 2.39, p < 0.01$ ), and they are also more likely to say that they invest energy into really trying to understand the stories that they see in the news and actively reflect on news content ( $t = 1.63, p < 0.05$ ). Men feel more politically efficacious than young women as well. On a measure rescaled from 0 to 1, young men have an average level of efficacy of 0.56, compared to an average level of internal efficacy of 0.52 among young women—a modest but statistically significant difference ( $t = 2.34, p < 0.01$ ).

Do young women follow a deliberative mode of citizenship while young men practice partisan politics? We find that young men are more partisan than young women. In this sample, 66% of the young men identify with a political party,

**Table 1** Levels of political engagement by gender

	Pre-election			Change from pre-election to post-election		
	Young men	Young women	<i>t</i> -test <i>p</i> value	Young men	Young women	<i>t</i> -test <i>p</i> value
Number of correct answers in knowledge test	<b>5.95</b>	<b>5.07</b>	<b>0.00</b>	0.90	1.00	0.29
Number of incorrect answers in knowledge test	1.31	1.39	0.20	-0.20	-0.05	0.13
Number of “don’t knows” in knowledge test	<b>2.73</b>	<b>3.54</b>	<b>0.00</b>	-0.70	-0.95	0.09
Political interest	0.45	0.42	0.11	-	-	-
Attention to political news	<b>0.44</b>	<b>0.40</b>	<b>0.01</b>	0.02	0.02	0.40
Cognitive engagement with the news	<b>0.63</b>	<b>0.59</b>	<b>0.05</b>	0.00	0.03	0.18
Internal efficacy	<b>0.56</b>	<b>0.52</b>	<b>0.01</b>	-	-	-
Identifies with a party	<b>0.66</b>	<b>0.60</b>	<b>0.02</b>	-0.02	0.00	0.29
Strength of partisanship	<b>0.38</b>	<b>0.32</b>	<b>0.00</b>	0.00	0.02	0.23
Listens to different views	0.53	0.56	0.14	0.00	0.00	0.50
Participation in civic activities at school	0.32	0.33	0.26	-	-	-
Initiates political talk	<b>0.35</b>	<b>0.31</b>	<b>0.03</b>	-0.02	0.00	0.15
Tendency to challenge parents	0.35	0.37	0.07	0.01	-0.02	0.12
Dislikes political discussion	<b>0.19</b>	<b>0.25</b>	<b>0.00</b>	-0.01	0.01	0.22
<i>N</i>	418	532		268	302	

Excluding the political knowledge measures, the measures are rescaled from 0 to 1

Significant differences in boldface ( $p < 0.05$ ). Sample size smaller in some cases due to missing data

compared to only 60% of young women ( $t = 2.00, p < 0.05$ ). Among those who identify with any party, young women are also significantly less likely to strongly identify with that party ( $t = 2.04, p < 0.05$ ). It is less clear whether women are prone to a civic approach to politics. While young women are slightly more likely to report an openness to the views of opponents than young men (a mean level of 0.56 among women, compared to an average of 0.53 among young men), the difference is not statistically significant. We do find some differences in how young women and young men approach political talk. Young men are more likely to initiate conversations about politics than young women, and young women in the sample tend to be more conflict avoidant than young men in terms of finding political discussion uncomfortable. We do not find significant gender differences in one's tendency to challenge his or her parents.

### Explaining Pre-Election Differences in Political Knowledge by Gender

Do these differences in political dispositions explain the gender gap in political knowledge among high school seniors? We consider the effects of interest, efficacy, resources, civic orientations, and state-level descriptive representation in closing the gender gap in political knowledge in two models, reported in Table 2. First, we model the roots of pre-election knowledge, using negative binomial regression with clustered standard errors to help control for homogeneity within state samples. If gender is not a significant predictor in this model, it will show that we have accounted for the roots of the gender gap in knowledge. Given that young women are less likely to give correct answers in the knowledge test and more likely to offer “don't know” as a response, we also use the grouped data multinomial logit strategy proposed by Mondak (1999). This model builds on the logic of the multinomial logit model, amended for cases where the dependent variable is the sum of some number of multinomial measures. Rather than modeling achievement of some outcome versus another, we model the proportion of responses in each of three possible outcomes: correct responses, incorrect responses, and “don't knows.” The baseline case is the share of correct responses, so the first column of this model reflects the share of “don't knows” relative the share of correct responses, and the second column refers to the share of incorrect responses relative correct answers. This model allows us to consider whether factors like political interest and efficacy can close the gender gap in political knowledge as well as the tendency to not answer knowledge questions.<sup>11</sup>

First, considering the results of the negative binomial regression model, we find that after controlling for factors such as political interest and attention, gender is still a significant explanation for political knowledge. The difference in knowledge in gender is smaller once we control for these differences in dispositions, but the predicted level of knowledge for young women is still almost half a point lower than that for young men. In the grouped data multinomial logit model, we find that young women are still significantly more likely to report both incorrect responses and

<sup>11</sup> Except for the descriptive representation measure on state legislative composition, all measures are rescaled 0 to 1, allowing for direct comparison of the coefficients.

**Table 2** Explaining levels of pre-election political knowledge

	Negative binomial regression Total knowledge	Multinomial logit	
		Don't know/ correct	Incorrect/correct
Female	-0.084* (0.034)	0.262* (0.125)	0.146* (0.049)
Nonwhite	-0.012 (0.049)	-0.012 (0.131)	0.159 (0.127)
Political interest	0.127 (0.084)	-0.212 (0.258)	-0.790* (0.309)
Attention to politics	0.111 (0.087)	-0.583* (0.250)	0.246 (0.237)
Cognitive engagement with the news	0.118* (0.031)	-0.279* (0.105)	-0.123 (0.115)
Internal efficacy	0.132 (0.103)	-0.487 <sup>+</sup> (0.296)	0.039 (0.203)
Identifies with a party	0.280* (0.038)	-0.455* (0.096)	-0.093 (0.084)
Strength of partisanship	0.198* (0.078)	-1.014* (0.298)	-0.363* (0.148)
Listens to different views	0.157* (0.072)	-0.335 (0.230)	-0.204 (0.134)
Participation in civic activities at school	0.092* (0.043)	-0.421* (0.148)	0.009 (0.177)
Parent's education	0.128 <sup>+</sup> (0.069)	-0.252 (0.245)	-0.451* (0.175)
Parents' income	0.157* (0.034)	-0.462* (0.087)	-0.260* (0.110)
Initiates political talk	0.149* (0.054)	-0.591* (0.179)	-0.104 (0.093)
Tendency to challenge parents	-0.038 (0.051)	-0.068 (0.176)	0.369* (0.170)
Dislikes political discussion	-0.027 (0.053)	0.144 (0.162)	-0.011 (0.113)
Percent female state legislators	-0.0005 (0.002)	0.008 (0.008)	-0.010* (0.005)
Constant	0.927* (0.127)	1.231* (0.359)	-0.372* (0.175)
<i>N</i>	922	922	

Standard errors in parentheses

Negative binomial regression estimates, first column. Grouped data multinomial logit, other columns (baseline category, correct answers)

\*  $p < 0.05$ ; <sup>+</sup>  $p < 0.10$

“don't know” replies relative correct answers in tests of political knowledge. In this sense, we confirm patterns observed in prior studies of the gender gap in adult samples—that the gender gap is reduced in the face of other explanations for political knowledge, but not eliminated (Delli Carpini and Keeter 1996; Jennings 1996).

What accounts for the levels of political knowledge among adolescents? In explaining levels of pre-election political knowledge, we find first that cognitive engagement in politics is generally a good indicator of levels of information. In the grouped data multinomial logit model, we find greater interest in politics increases the likelihood of correct responses to the knowledge items relative incorrect replies. Attention to the news is not a significant predictor of levels of knowledge, while one's personal desire to try to figure out political news stories is correlated with greater levels of political knowledge. Both attention to the news and cognitive engagement with the news increase the probability of a correct response over a reply of “don't know.” We do not find support for our expectation that greater levels of internal efficacy lead to greater political knowledge, though in the multinomial logit proportions model, we find that higher efficacy decreases the rate of not answering knowledge items relative correct responses.

Identification with a political party is also associated with higher levels of political knowledge. Someone who identifies with a political party scores almost a point and a half higher on the knowledge test than one who does not, all else equal. In addition, moving from the lowest level of partisan strength to the highest level of partisan strength predicts a one point gain in political knowledge on the ten-point scale, all else equal. In the grouped data multinomial logit results, these personal connections to political parties are associated with reductions in both incorrect answers and “don’t know” responses relative correct responses.

Parental resources in terms of education and income are associated with greater political knowledge among adolescents, reducing the probability of incorrect answers relative correct answers. Participation in civic activities in school promotes knowledge and reduces the probability of answering “don’t know.” In considering people’s dispositions toward political talk, those who like to initiate political conversations are more likely to provide correct answers over “don’t know” replies, and moving from the minimum to the maximum of this measure predicts a 0.79 gain on the political knowledge scale, all else equal. However, measures of conflict avoidance have limited effect on knowledge levels. The state context has only a slight role on levels of political knowledge—when young people reside in a state with greater female representation in the state legislature, knowledge is not higher, but the probability of incorrect answers relative correct answers in knowledge tests does drop slightly.

### Differences in the Roots of Political Knowledge by Gender

We next investigate the extent to which these factors vary in their effects on political knowledge by gender, to see if knowledge has distinctive roots for young men and young women. Given that women and men rely on different considerations in choosing to participate in politics (Sapiro and Conover 1997), the levels of political knowledge held by young men and young women may also be acquired via distinctive routes. For instance, if there are gender differences in the perceptions of citizenship roles, then partisan allegiance might better predict the knowledge held by men while civic orientations might better predict the knowledge held by women. We would also expect that the representation of women in state government would be more consequential for the knowledge held by young women than young men.

Building off the negative binomial regression model from Table 2, we interact all the explanations for information-holding with gender. To facilitate interpretation of the interaction effects, we present the full model in the Appendix and show the predicted effects of each explanation by gender in Table 3. We compare the effects of moving to the minimum of that independent variable to the maximum value for each gender, while holding other variables at their means. Overall, the results suggest an account of similarity rather than difference, where levels of political knowledge among women are predicted by the same kinds of factors that explain the information stocks held by men. Young people who like to initiate conversations demonstrate more political knowledge than those who avoid these conversations, regardless of gender. Both young women and young men who participate in civic activities at school report higher pre-election political knowledge. The effect of

**Table 3** Predicted counts of pre-election political knowledge by gender

	Young men	Young women
Political interest		
Low	4.84	4.99
High	6.37	4.90
Attention to politics		
Low	5.54	4.45
High	5.34	5.75
Cognitive engagement with the news		
Low	5.09	4.68
High	5.70	5.14
Internal efficacy		
Low	5.07	4.65
High	5.80	5.23
Identifies with a party		
No	4.98	3.92
Yes	5.75	5.67
Strength of partisanship		
Low	4.92	4.71
High	6.63	5.44
Listens to different views		
Low	4.89	4.61
High	5.97	5.26
Participation in civic activities at school		
Low	5.30	4.81
High	5.79	5.26
Parent's education		
Low	5.18	4.50
High	5.64	5.29
Parents' income		
Low	5.29	4.51
High	5.71	5.69
Initiates political talk		
Low	5.16	4.74
High	6.09	5.42
Tendency to challenge parents		
Low	5.68	4.89
High	5.08	5.06

**Table 3** continued

		Young men	Young women
<i>N</i> = 922. Full interactive negative binomial model in the Appendix	Dislikes political discussion		
Cells represent the predicted count of correct items of knowledge test by gender, moving from the minimum value of the independent variable to the maximum value while holding other variables at their means	Low	5.54	4.96
	High	5.18	4.94
	Percent female state legislators		
	Low	5.73	4.77
	High	5.21	5.12

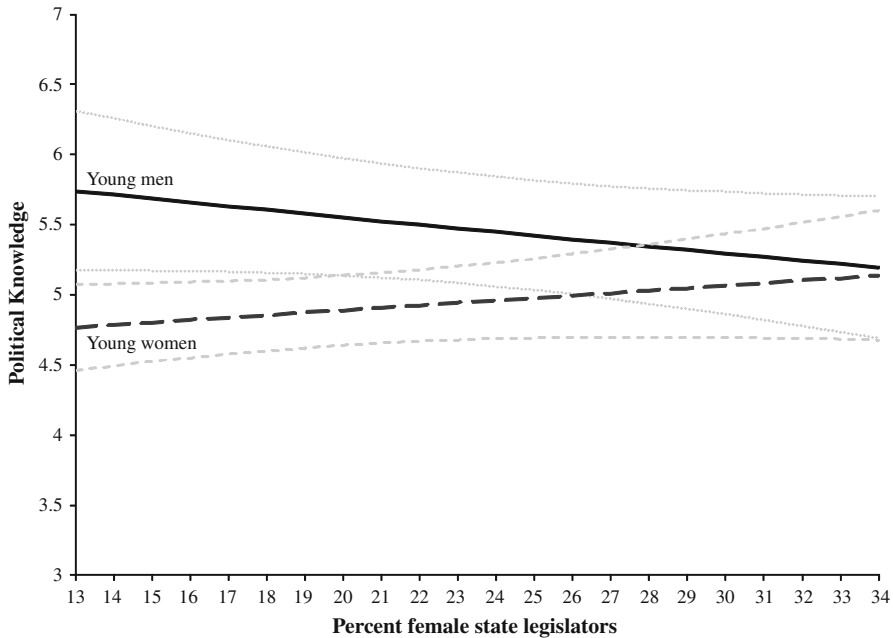
political interest on knowledge is not significantly different across the sexes, though the size of the effect is larger for young men than it is for young women. Moving from the minimum level of interest to the maximum produces a 1.5 point increase in knowledge among young men all else equal, with limited effect among young women. For young women, however, greater attention to politics is associated with greater political knowledge to a degree not observed among young men, where all else equal, a young woman attentive to political news scores 1.3 points higher on the knowledge test than a young woman who does not pay attention to news about politics.

Among the differences across the sexes, we find that affiliation with a political party is significantly more important in explaining political knowledge among young women than among young men. All else equal, a female high school senior who identifies with a party has a predicted political knowledge score 1.7 points higher than one who does not identify with a party. Among young men, the difference between those who affiliate with a party and those who do not is smaller—about 0.7 points on the knowledge scale. On the other hand, while greater strength of partisan identification predicts greater knowledge among both sexes, the magnitude of the effect for young men is over twice that found for young women. For young men, it is not the affiliation so much as the intensity of support for one's partisan side that differentiates levels of political knowledge.

Parental resources in the form of income matter for both genders, but the size of the effects are greater for young women than for young men. Parental education also has a greater effect on political knowledge among female respondents than males. Resources associated with family socioeconomic status are more important to explaining the political knowledge young women hold than for explaining the stocks of knowledge held by young men.<sup>12</sup>

The other significant gender difference we find is in the effects of women's representation in state politics. Greater representation of women is positively associated with the knowledge held by young women and negatively associated with the knowledge held by young men. As shown in Fig. 1, as the share of women

<sup>12</sup> This could represent differing responsiveness to the kinds of media resources that these families can better provide, or perhaps indicates that young women benefit particularly from the open (rather than authoritative) climate for political discussion common in families of higher socioeconomic status (Saphir and Chaffee 2002).



**Fig. 1** Effects of female political representation on political knowledge, by gender

in the state legislature increases, the gender gap in political knowledge shrinks. When the share of women in the state legislature exceeds 20%, we no longer observe significant differences between the levels of political knowledge of young men and young women. When women are significantly underrepresented in state politics, women’s knowledge is disadvantaged, but increasing representation of women (even short of full descriptive representation) helps close knowledge gaps.

### Learning Over the Course of the Midterm Election

Having considered what explains the political knowledge held by adolescents at the beginning of an election, we next consider how young people learn over the course of a midterm election. First, how much political learning takes place? We find a knowledge gain of just over one point on the ten-point knowledge measure over the course of the campaign. In the post-election survey, the average level of political knowledge increased significantly compared to the pre-election wave, from 5.4 correct items to 6.6 correct answers.<sup>13</sup> These results confirm earlier findings by Sears and Valentino (1997) that campaigns serve as important socializing events for young people. Just as they find that partisan knowledge climbs over the course of a

<sup>13</sup> As with the pre-election wave, the post-election knowledge items scale together well, with a Cronbach’s alpha of 0.85. Principal components factor analysis based on polychoric correlations reveals a single factor solution, with factor loadings ranging between 0.59 and 0.90.

presidential campaign, we see learning over the course of a midterm election season for adolescents.

Next, we consider whether knowledge gains differ by gender. Do midterm election campaigns serve to close gender gaps in knowledge? Or do campaigns aggravate the differences in political knowledge among young men and young women? On one hand, campaigns could prove more informative to young men, who as a result of their greater interest and attention to politics end up learning more about politics as the density of campaign news increases. On the other hand, campaign environments could level differences in knowledge by gender by lowering the costs of acquiring political information. Even if young women are less inclined to seek out political news, the intensity of midterm election campaigns—as played out in candidate advertising, discussions with friends, conversations with parents, or greater coverage in the news—could serve to promote greater political knowledge even in the absence of a strong interest in politics among young women.

We find that gains in political knowledge are comparable across the sexes. Among male students, scores on the knowledge test increased from six correct answers in the pre-election survey to seven correct answers in the post-election wave, an increase of 17%. Among female students in the same time period, scores on the knowledge test climbed from 5.1 correct answers to 6.2 correct responses (an increase of 21%). Thus both genders gain partisan knowledge over the course of the midterm campaigns, and these patterns of learning are not determined by gender. While the knowledge gap between males and females does not appreciably close over the course of the midterm election, nor does it grow in size. Males and female adolescents make comparable gains in learning over a campaign season. Both rates of incorrect responses and “don’t know” responses fall over this time period, but again, at similar rates for male and female students (as shown in Table 1).

Both sexes gain political knowledge during the campaign season, and to a similar degree. But are the explanations for learning identical across the sexes? We first consider what explains political learning by adolescents during campaigns, and then consider how the effects of these factors vary by gender. Here, we focus on the effects of political discussion and campaign contexts experienced during a midterm election campaign.<sup>14</sup> If young men and young women take different approaches to politics, where males are engaged by partisan debates and women respond to the civic responsibilities of citizenship, then they will respond differently to changes in the political environment.

First, we consider the effects of home environments. Given the contributions of family and to a lesser extent, friends, in shaping adolescents’ views of politics, we consider the consequences of political discussion for learning. Parents can influence

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<sup>14</sup> As shown in Table 1, the political dispositions that predict pre-election political knowledge do not change much over the course of the campaign. This holds among adolescents of both genders, where young men and young women are equally unlikely to report increasing attention to politics from before the election to after. As such, in explaining changes in levels of political learning, we focus on the socializing forces within a student’s context rather than these largely stable dispositions. We control for pre-election knowledge to help capture any differences in political dispositions by gender.



the political knowledge that adolescents hold (Jennings and Niemi 1974; McIntosh et al. 2007) and participating in political discussion generally promotes political knowledge as well (Bennett et al. 2000). We include both the pre-election level of political conversation as well as a measure of change in political talk from pre-election to post-election. We consider the effects of both discussions with family and discussions with friends. In part, this is to consider whether political discussions with friends are less consequential than discussions with family, which has been suggested in the past (Jennings and Niemi 1974; Tedin 1980). But it is also possible that young men and young women respond differently to political talk with friends versus political talk with family. The family represents a relatively safe enclave for political expression compared to interpersonal environments outside the home, and political exchanges with family members provide opportunities to build confidence in sharing knowledge and practicing deliberative skills (McDevitt and Ostrowski 2009). If young women prefer a civic orientation to politics to a partisan route, then political discussions with family could do more to boost knowledge than political debates with friends.

We also consider the consequences of different campaign environments for learning. We first consider the effects of residency in diverse partisan environments. Some live in areas marked by homogeneity—where many share the same political beliefs and partisan leanings. Others reside in communities defined by political diversity, populated by partisans from both sides and prone to greater political disharmony. Growing up in areas with greater political competition has been argued to lead to greater turnout and higher involvement in partisan politics (Campbell 2006; Gimpel et al. 2003; Pacheco 2008). The effects of diverse environments for political knowledge are less clear. Generally speaking, partisan heterogeneity should promote political knowledge, as people are more likely to encounter diverse views and are more frequently called upon to justify their alternative views to those who disagree with them. But if our expectations are correct, and young men practice partisan citizenship and young women are more prone to see citizenship as a duty or obligation, then the effects of partisan competition should vary across the sexes. Young men, who are more likely to initiate political talk and identify with a political party than young women, may gain knowledge especially in environments marked by partisan conflict. Young women, who are more likely to say they dislike political discussion, may instead gain little knowledge when partisan conflict prevails. To explore this, we rely on the measure of partisan division and competitiveness proposed by Huckfeldt et al. (2007). Constructed as  $4(p)(1 - p)$ , where  $p$  is the Republican share of the two-party county vote for president in 2004, the measure takes a value of 1 in the counties with the most partisan competition and 0 in counties marked by partisan consensus.

Another factor that could be particularly important for how young women learn about politics is the presence of female candidates campaigning for office. When more women candidates seek political office, female adolescents are more likely to report that they plan to become involved in politics in the future (Campbell and Wolbrecht 2006). We consider whether they also become more informed about politics. To measure this, we use a ratio of the number of female candidates running for House seats or Senate seats in the state as a share of the total number of congressional seats in

that state.<sup>15</sup> We find in our earlier analysis that when more women hold office in a state, the gender gap in knowledge shrinks. We extend this here to see if the campaign presence of women candidates promotes learning among young women.

Finally, we consider the role of campaign intensity for learning. Fiercely fought campaigns transform the electoral environment—as candidates make appearances, populate commercial breaks with political advertising, and vie for coverage in the news. The density of political information climbs in such contexts, such that even those uninterested in politics may end up learning about the candidates and the contest. Indeed, campaign intensity in gubernatorial and congressional races tends to promote greater candidate knowledge (Coleman and Manna 2000; Partin 2001). To assess the intensity by which campaigns are waged, we use a measure of candidate spending in Senate and gubernatorial races, transformed as the natural log of spending divided by state voting eligible population to allow for state to state comparison.

We explore the contributions of these factors to explaining changes in political knowledge from the pre-election survey to the post-election survey in Table 4, controlling for pre-election levels of knowledge. We cluster standard errors by state. Overall, we find that for adolescents, political discussion is the best predictor of knowledge gains across the campaign season. We find that adolescents who report more political conversations with their parents to be more likely to learn about politics across the campaign season. If the level of political talk at home increases over the course of the election, then political knowledge climbs even more. Political discussion with friends is also significantly and positively associated with knowledge gains. The diversity of party preferences at the county level is not significantly associated with levels of political knowledge, nor does the intensity of state campaigns appear to promote learning over the course of the campaign. In fact, greater campaign spending by Senate candidates is negatively related to changes in political knowledge over the course of the campaign. This unexpected result could be a function of the sample, which includes only seven Senate races, or perhaps a sign that midterm campaigns are not uniformly educating all residents in all campaign environments.<sup>16</sup>

Next, we consider the effects of political talk and campaign environments in explaining any differences by gender in learning across the campaign season. While we find no significant differences in the amount of learning over the midterm campaign across the sexes, it is possible that these knowledge gains have different roots for young men and young women. To explore this, we interact each of these explanations for learning over the campaign with gender. Results for the full interactive model are shown in Table 6 in the Appendix, while the marginal effects of each independent variable for young women and young men are shown in the last two columns of Table 4.

While the differences by gender in the roots of pre-election knowledge were slight, we find important differences across the sexes in how political information is

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<sup>15</sup> No women were general election candidates in the gubernatorial races in any of the states within this sample.

<sup>16</sup> The effects of Senate campaign intensity are robust in models that exclude the measures of political talk.

**Table 4** Change in political knowledge, pre-election to post-election

	Change in political knowledge, pre to post	Marginal effects of X on change in political knowledge	
		Among males	Among females
Female	−0.168 (0.096)	–	–
Pre-election political knowledge	−0.303* (0.038)	−0.297* (0.034)	−0.304* (0.055)
Political discussion with parents, pre-election	1.034* (0.437)	0.021 (0.535)	1.967* (0.533)
Δ in discussion with parents, pre to post	1.059* (0.379)	0.182 (0.610)	1.688* (0.443)
Political discussion with friends, pre-election	0.786* (0.318)	1.076* (0.384)	0.548 (0.351)
Δ in discussion with friends, pre to post	1.086* (0.312)	1.235* (0.458)	0.932* (0.311)
Partisan division, county level	−0.297 (0.929)	2.830* (1.233)	−2.521* (1.011)
Percent female congressional candidates	1.804* (0.683)	0.692 (0.769)	2.570* (0.636)
Senatorial campaign spending	−0.151* (0.067)	−0.212* (0.075)	−0.099 (0.060)
Gubernatorial campaign spending	0.115 (0.095)	−0.121 (0.093)	0.312* (0.114)
Constant	2.034* (0.815)		
<i>N</i>	562		
<i>R</i> <sup>2</sup>	0.18		

Clustered standard errors in parentheses

Full interactive model for marginal effects in the last two columns in the Appendix

\*  $p < 0.05$

acquired over the course of a midterm election. In the case of political talk, we find that the effects of political discussion with parents are greater for young women than for young men. A young woman who frequently talks about politics with her parents gains two points more on the knowledge scale over the course of the campaign than a young woman who never discusses politics with her parents. The difference in acquired knowledge between a young man who frequently talks about politics with his parents and one who never does is negligible. Increases in political talk with parents over the course of the campaign also disproportionately benefit young women’s knowledge levels compared to young men’s. Young women might learn more from political discussion with parents because here they encounter the political information that young men instead obtain by following politics in the news. Or perhaps the home environment is just a more comfortable environment for young women to learn about politics—perhaps less discordant than having a political debate with friends.<sup>17</sup>

We find that political talk with friends has a greater effect on the knowledge gained by young men than it does for young women. While the effect of political discussion among friends is not significantly different across the sexes, the

<sup>17</sup> Young women are no more likely to talk about politics with their parents than young men are—this holds true for both pre-election rates of talk ( $t = 0.30, p < 0.38$ ) and post-election rates of discussion with parents ( $t = -0.31, p < 0.38$ ). Young women are less likely to discuss politics with their friends than young men are, which holds true both before the election ( $t = 1.84, p < 0.04$ ) and after ( $t = 2.09, p < 0.02$ ).

magnitude of effect is greater for young men than for young women. The difference between a young man who frequently discusses politics with friends and one who never does is a one point gain in knowledge—compared to only a half point difference in knowledge gained between young women who frequently versus never talk about politics with friends. Increases in political talk with friends over the course of the campaign promote knowledge gains for both young men and young women, though again the magnitude of the effect is greater among young men than young women. So while conversations about politics educate both young men and young women about politics, friends are a greater socializing force for young men while family is a greater influence for young women.

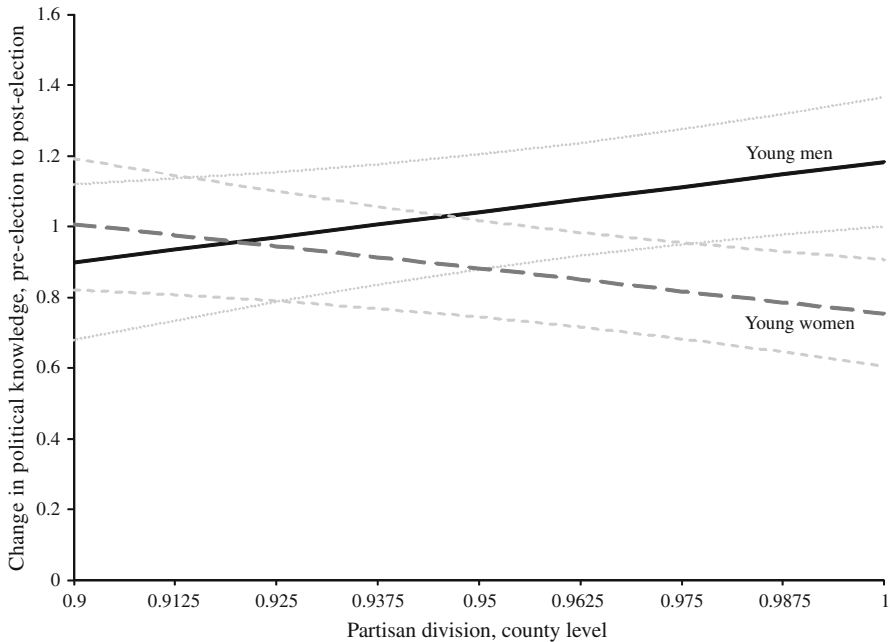
While the larger political environment had weak effects for knowledge gained across the sexes, we find that young men and young women are responding to different aspects of the campaign context. First, we find that partisan heterogeneity within the community promotes greater knowledge gains among young men than young women. Male high school seniors who live in diverse political environments populated by even shares of Democrats and Republicans are more likely to learn about politics than young men who live in homogenous areas where most residents share the same partisan leanings. Over the course of the campaign, a young man in the most politically diverse community in the sample gains a point and a half more on the knowledge scale than a young man in the most homogenous partisan environment, all else equal. Partisan diversity promotes the acquisition of political knowledge among young men.

In contrast, residence in an area marked by a diversity of partisan leanings is negatively associated with political learning among young women. Female high school seniors who live in areas where many share the same partisan leanings are more likely to gain political knowledge over the campaign season than those who live in regions marked by conflicting partisan preferences. A young woman in the most homogenous partisan community gains 1.3 points more on the knowledge scale than a young woman living in a community with the greatest partisan diversity. If as Campbell (2006) argues, homogenous communities promote the practice of a mode of citizenship based on duty and norms, then it suggests that women learn more in communities marked by a duty-based model of citizenship than in communities where politics is practiced in a more starkly partisan fashion.

The effects of partisan diversity by gender are shown graphically in Fig. 2, across a range that runs from counties where one party has double the support of the other party to counties where the share of Democratic and Republican support is perfectly even.<sup>18</sup> We see that in addition to the significant positive effects of partisan diversity for young men's knowledge gains and significant negative effect for young women's knowledge, the effects of community partisan composition are also significantly different for young women and young men for communities at or above the median in partisan diversity.<sup>19</sup> Based on the construction of the partisan diversity measure, this means that there are significant differences across the sexes when county level

<sup>18</sup> This range includes about 85% of the cases in the dataset.

<sup>19</sup> We also find significant differences by gender at the very lowest levels of partisan diversity, specifically when the margin of victory separating the candidates in that county exceeds 72%. However, only about 2% of our overall sample experiences this high of a level of partisan homogeneity.



**Fig. 2** Effects of partisan division on change in knowledge, by gender

Democratic and Republican support are separated by less than 15%. As partisan divisions in a community sharpen, young men are poised to gain more knowledge while young women are less likely to make knowledge gains.

We also find evidence that symbolic representation can promote knowledge gains among young women. Increases in the share of female candidates seeking congressional office leads to greater political knowledge among young women, an effect not observed among young men. All else equal, young women who live in Minnesota, where a third of the congressional candidates were female, gain 0.86 points in knowledge more than young women in Rhode Island or Arkansas, where no women sought congressional office. Not only are women candidates role models who inspire more political engagement among young women (Campbell and Wolbrecht 2006), their campaign efforts and presence on the ballot also appear to promote greater political knowledge among young women.

In the case of state level campaign intensity, we find mixed results. Young men who live in states with uncompetitive Senate races end up gaining more knowledge than those residing in states with high-intensity races. The effect of Senate campaign intensity is significantly different for young women, such that the marginal effect of campaign intensity is not a significant explanation of learning for young women. In the case of gubernatorial campaign intensity, young women are more likely to gain political knowledge over the course of the campaign when they reside in states where the race for governor is more fiercely fought. The marginal effect of gubernatorial campaign intensity is significantly different for young men, with a negative but insignificant effect. Given the small number of states in this

sample, we cannot be confident about the generalizability of these results, but it appears that women do learn more from state races marked by greater density of advertising and higher levels of campaign spending than men do.

## Conclusions

When contemplating the roots of the gender gap in political knowledge, scholars frequently point to political socialization as a culprit, where from a young age, females see politics as a realm suited more for men. By looking at a sample of students in which age, education, and life circumstances are arguably similar across the sexes, we take a closer look at how political dispositions shape the knowledge held by young men and young women. In this way, we are able to elaborate on prior accounts of the gender gap, to explore where exactly gender differences lie in a period right before adulthood. By considering changes in knowledge over the course of a midterm election, we can also see how different political contexts affect the ways that adolescent males and females acquire information. This helps us understand how gender directs the ways that young people interact with their political environment.

That said, some important questions are left unanswered in that we examine knowledge and learning in a period of late adolescence. We cannot speak to the socializing influences that occurred earlier in life in childhood experiences with school or family. Because we find a significant gender gap in political knowledge among these high school seniors, we confirm that levels of socio-demographic resources alone do not explain differences in knowledge by gender. However, we cannot fully answer the question of how the gender gap in political knowledge develops. It is clear that political dispositions play a role—in this sample of high school seniors, female students are less attentive to political news, spend less time trying to understand news stories, and feel less internal efficacy. But even after controlling for the effects of these cognitive dispositions, we find significant differences in political knowledge by gender. Before they leave high school, young women are disadvantaged compared to young men in terms of cognitive involvement in politics. The early emergence of a significant gender gap in knowledge suggests deep roots to the differences in how young men and women come to see politics, ones that develop earlier in life than high school.<sup>20</sup>

What factors then might close the gender gap in political knowledge? In considering why adolescent males and females hold the political information that they do, we find that the roots of knowledge appear quite similar across the sexes, though a few interesting differences emerge. The political information held by young women seems more responsive to both levels of resources and levels of partisan identification than the knowledge stocks held by men. The different effects for parents' income and education might explain why resource differences help explain the knowledge gap among adults—women's information levels might be more sensitive to resource levels than men's. The differing effects of partisan identification suggest that young men and young women experience politics in

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<sup>20</sup> Or perhaps gender differences could be even more deeply rooted, in genetic tendencies or personality.

different ways. Young men are drawn into the partisan conflicts of politics—they are more likely to identify with a political party and strongly affiliate with the group compared to young women. When young women are more like men in this regard, the knowledge gap is smaller.

With the panel design of the survey, we can also examine how young people learn about politics over the course of a midterm campaign. We first confirm that midterm elections are indeed socializing events for young people, who hold greater stocks of political knowledge at the end of the campaign season than before it started. The events of the midterm election fail to close the knowledge gap between young men and young women, but this gap does not increase over the course of the campaign. Both young men and young women obtain knowledge over the campaign and at similar rates.

But while adolescent males and females make similar knowledge gains over the course of a midterm election season, they acquire information by decidedly different routes. Young men acquire political knowledge especially in competitive political environments—in political debates with friends and communities with greater partisan diversity. Competition and conflict lead young men to become more politically informed. This does not hold true for young women, who gain the greatest political knowledge in realms where political consensus is more common than conflict. Talking with parents about politics is more likely to lead to information gains among young women than young men. Young women learn more in communities with greater partisan homogeneity than in regions marked by partisan division.

Together, these results suggest that differences in cognitive dispositions are not so important in explaining the gender gap in political knowledge. It is not just that young women are less engaged by politics or feel less efficacious about their ability to influence political outcomes—young women and young men approach the political events and environments of a campaign season in fundamentally different ways. For young men, politics is a realm of debate, disagreement, and partisan sparring. Engaging in the debates of politics translates into greater political knowledge. Young women see politics through a different lens or perhaps experience it differently in social settings, such that political learning results not so much from disagreement and conflict seeking as from a civic practice of citizenship. This means that for those concerned with closing gender gaps in political knowledge, it is not just a matter of trying to increase women's motivation and ability to engage in politics. Instead, it is important to recognize that there can be fundamental differences in how each gender approaches the domain of politics. While competition and partisan conflict can promote learning for men, women can gain more knowledge in communal rather than combative environments.

## Appendix: Question Wordings

Political knowledge (response options: Democrat, Republican, don't know)

- “Which party do you consider more liberal?”
- “Which party would you say is more in favor of raising the minimum wage?”

- “Which party is more in favor of stem-cell research?”
- “Which party is more in favor of defining marriage as solely between a man and a woman?”
- “Which party is more in favor of tax cuts to help stimulate the economy?”
- “Which party controls the U.S. House of Representatives?”
- “Which party controls the U.S. Senate?”
- “What is the party affiliation of Hillary Clinton?”
- “What is the party affiliation of Al Gore?”
- “What is the party affiliation of Richard Cheney?”

#### Interest and attention to politics

- *Political interest* (pre-election) “In general, how much interest do you have in politics?” 0—None, 0.25, 0.5, 0.75, 1—A great deal
- *Attention to political news* (pre-election) “How much attention do you pay to news about politics? Please use a 1 to 5 scale, with 1 meaning ‘none’ and 5 ‘a great deal.’”
- *Cognitive engagement with political news* (pre-election) “When I hear news about politics, I try to figure out what is really going on.” Not like me, Somewhat like me, A lot like me

#### Efficacy

- *Internal efficacy* (pre-election) Average of two items: “I feel confident that I can understand political issues.” and “When it comes to political knowledge, I feel better informed about issues than most people.” Not like me, Somewhat like me, A lot like me

#### Partisanship

- *Party identification* (pre-election) “Which of the following best represents your beliefs in terms of a political party or a political stance? Green Party, Libertarian, Democrat, Republican, some other political stance, or would you say that you are not really political?” 1: Identifies with a party, 0: Does not name a party
- *Strength of partisanship* (pre-election) “How strongly do you identify with this political party or political stance? Use a 1-to-10 scale with 1 meaning ‘weak identification’ and 10 meaning ‘strong identification.’” (Coded 0 for those not identifying with a party)

#### Resources

- *Parental education* (pre-election) “Please indicate the highest level of education completed for your mother or father.” (some high school, high school, some college, college, attended graduate school)
- *Parental income* (pre-election) “For statistical purposes we need to estimate your parents’ household income before taxes.” (less than \$15,000, \$15,000–\$25,999, \$26,000–\$40,999, \$41,000–\$65,000, above \$65,000)



- *Civic curricula* (pre-election) Sum of three items: “Have you participated in student government?” “Did you participate in any service learning programs?” “Did you ever participate in activities such as mock elections or mock trials?”

Interpersonal political communication

- *Initiates political talk* (pre-election) “Sometimes people get caught up in various conversations, but how often do you initiate conversations about politics?” 0—Never, 0.25, 0.5, 0.75, 1—Frequently.
- *Tendency to challenge parents* Average of three items: “How often do you express a political opinion to challenge a parent?” “How often do you express an opinion to provoke some response from parents?” “How often do you express an opinion to see if it might upset your parents?” 0—Never, 0.25, 0.5, 0.75, 1—Frequently
- *Conflict avoidance* “Discussions about politics sometimes make me feel uncomfortable.” Not like me, Somewhat like me, A lot like me
- *Listens to different views* (pre-election) “How often do you listen to people talk about politics when you know that you already disagree with them?” 0—Never, 0.25, 0.5, 0.75, 1—Frequently.

Frequency of political talk

- *Political talk with parents* (pre-election and post-election) “How often do you talk about politics with your parents?” 0—Never, 0.25, 0.5, 0.75, 1—Frequently
- *Political talk with friends* (pre-election and post-election) “How often do you talk about politics with friends?” 0—Never, 0.25, 0.5, 0.75, 1—Frequently

**Table 5** The moderating effects of gender on pre-election political knowledge

Female	−0.484* (0.156)
Nonwhite	−0.026 (0.047)
Political interest	0.276* (0.126)
Female × political interest	−0.295 (0.202)
Attention to politics	−0.036 (0.136)
Female × attention to politics	0.293 (0.202)
Cognitive engagement with the news	0.114 (0.084)
Female × cognitive engagement with the news	−0.020 (0.131)
Internal efficacy	0.136 (0.103)
Female × internal efficacy	−0.017 (0.111)
Identifies with a party	0.143* (0.069)
Female × identifies with a party	0.224* (0.096)
Strength of partisanship	0.298* (0.096)
Female × strength of partisanship	−0.155 (0.096)
Listens to different views	0.199* (0.101)
Female × listens to different views	−0.068 (0.092)
Participation in civic activities at school	0.088 <sup>+</sup> (0.054)

**Table 5** continued

Female × participation in civic activities at school	0.001 (0.064)
Parent's education	0.085 (0.090)
Female × parent's education	0.076 (0.080)
Parents' income	0.077* (0.032)
Female × parents' income	0.156 <sup>+</sup> (0.081)
Initiates political talk	0.166* (0.058)
Female × initiates political talk	−0.032 (0.094)
Tendency to challenge parents	−0.111* (0.046)
Female × tendency to challenge parents	0.145 (0.110)
Dislikes political discussion	−0.067 (0.082)
Female × dislikes political discussion	0.065 (0.091)
Percent female state legislators	−0.005 (0.003)
Female × percent female state legislators	0.008* (0.004)
Constant	1.155* (0.161)

Negative binomial regression estimates, standard errors in parentheses

$N = 922$ ;  $R^2 = 0.38$

\*  $p < 0.05$ ; <sup>+</sup> $p < 0.10$

**Table 6** The moderating effects of gender on changes in political knowledge, pre-election to post-election

Female	3.297* (1.386)
Pre-election political knowledge	−0.297* (0.034)
Female × pre-election political knowledge	−0.007 (0.062)
Political discussion with parents	0.021 (0.535)
Female × political discussion with parents	1.945* (0.729)
Δ in discussion with parents, pre to post	0.182 (0.610)
Female × Δ in discussion with parents, pre to post	1.506 <sup>+</sup> (0.737)
Political discussion with friends	1.076* (0.384)
Female × political discussion with friends	−0.528 (0.418)
Δ in discussion with friends, pre to post	1.235* (0.458)
Female × Δ in discussion with friends, pre to post	−0.303 (0.483)
Partisan division, county level	2.830* (1.233)
Female × partisan division, county level	−5.352* (1.567)
Percent female congressional candidates	0.692 (0.769)
Female × percent female congressional candidates	1.878* (0.574)
Senatorial campaign spending	−0.212* (0.075)
Female × senatorial campaign spending	0.113 <sup>+</sup> (0.054)
Gubernatorial campaign spending	−0.121 (0.093)
Female × gubernatorial campaign spending	0.433* (0.083)
Constant	−0.074 (1.132)

OLS regression estimates, standard errors in parentheses

$N = 562$ ;  $R^2 = 0.20$

\*  $p < 0.05$ ; <sup>+</sup> $p < 0.10$

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