Irrelevant events affect voters' evaluations of government performance

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Communicated by David Laitin, Stanford University, Stanford, CA, May 29, 2010 (received for review January 8, 2010)

Does information irrelevant to government performance affect voting behavior? If so, how does this help us understand the mechanisms underlying voters' retrospective assessments of candidates' performance in office? To precisely test for the effects of irrelevant information, we explore the electoral impact of local college football games just before an election, irrelevant events that government has nothing to do with and for which no government response would be expected. We find that a win in the 10 d before Election Day causes the incumbent to receive an additional 1.61 percentage points of the vote in Senate, gubernatorial, and presidential elections, with the effect being larger for teams with stronger fan support. In addition to conducting placebo tests based on postelection games, we demonstrate these effects by using the betting market's estimate of a team's probability of winning the game before it occurs to isolate the surprise component of game outcomes. We corroborate these aggregate-level results with a survey that we conducted during the 2009 NCAA men's college basketball tournament, where we find that surprising wins and losses affect presidential approval. An experiment embedded within the survey also indicates that personal well-being may influence voting decisions on a subconscious level. We find that making people more aware of the reasons for their current state of mind reduces the effect that irrelevant events have on their opinions. These findings underscore the subtle power of irrelevant events in shaping important real-world decisions and suggest ways in which decision making can be improved.

decision making | political science | psychology | emotions | voting

Voting is among the most important activities undertaken by citizens in democratic societies. Given the importance of election outcomes, one would hope that individual voters make decisions in a careful and reasoned manner. Models of rational behavior posit that people behave in such a way, basing their voting decisions on relevant data such as evaluations of incumbent performance (1) or reasoned consideration of candidate stances on policy issues (2). But could information and events irrelevant to government performance, yet still consequential to an individual's sense of well-being, affect the decisions that voters make in the polling booth? To answer this question, we explore whether local sporting outcomes affect the electoral fortunes of incumbent politicians.

Researchers have noted that people often transfer emotions in one domain toward evaluation and judgment in a completely separate domain (e.g., refs. 3–6). For instance, being in a sad mood has been shown to cause people to overestimate the frequency of sad events in their lives (7). When evaluating others, people whose sense of well-being is high (low) have been shown to spend more time focusing on and learning about the positive (negative) characteristics of experimental targets (8). These effects are often heightened in complex and uncertain situations (9). Similar research suggests that people interpret events favorably or remember positive events when they are in a good mood and that an individual's affective state can influence his evaluations of other people and objects on objective dimensions. For example, after people were given a free gift, they were more likely to say that their cars and television sets performed better and required fewer repairs (9).

We build on this research to show that events that government had nothing to do with, but that affect voters' sense of well-being, can affect the decisions that they make on Election Day. We extend the psychological and decision sciences literatures by showing the effect of individual well-being on judgment outside the laboratory setting, in a real-world situation where collective stakes are high (even if the individual stakes may not be). In two different domains, our evidence indicates that voters' personal sense of well-being—as determined by events that are unrelated to political and economic affairs—affects their evaluations of their elected representatives.

Given the relatively small costs to any individual of making a mistake, we might expect voters to make a wide variety of errors. At the same time, extant research has implicitly assumed that voters at least clear the relatively low standard of rationality implied by the ability to exclude entirely irrelevant events from the decision-making process. Whereas previous political science and economics research has advanced on the assumption that voters do not allow irrelevant events to affect their decisions, the psychological literature makes an association between voter well-being and decision making not only possible, but likely. Voters who are in a positive state of mind on Election Day are likely to use their mood as a signal for the incumbent party's success (8) and access positive memories about the incumbent party (9) and/or interpret past actions taken by the incumbent party more favorably (10). Additionally, positive emotions may cause voters to be more satisfied with the status quo (e.g., refs. 11 and 12). Those voters may then be more likely to choose the incumbent party in the election.

To test whether irrelevant events affect voters' decisions, we consider a unique quasi-experimental context: local sports outcomes. These game outcomes create an ideal variable for testing the hypothesis that voters' decisions are affected by events separate from politics, because (*i*) they have been shown to significantly affect people's well-being, either directly or via mood contagion in social networks (13–16), and (*ii*) they are unrelated to public affairs. No government response would be expected in response to game outcomes and the public would almost certainly not relate them to incumbent performance. Moreover, we find that voters respond to the random, unexpected outcome of game outcomes, further illustrating that voters appear to be responding to short-term emotional stimuli as opposed to responding to a team's overall strength. Additionally, we find little evidence of a difference between private and public schools once fan interest is accounted for, suggesting that government involvement in collegiate athletics is not driving voter decision making. The random components of sports outcomes stand in stark contrast to even seemingly random events such as natural

Author contributions: A.J.H. and N.M. designed research; A.J.H., N.M., and C.H.M. performed research; A.J.H., N.M., and C.H.M. analyzed data; and A.J.H., N.M., and C.H.M. wrote the paper.

The authors declare no conflict of interest.

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This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1007420107/-/DCSupplemental.

disasters, where incumbents may not have direct control over the event itself, but may be plausibly held responsible by voters for either preparation or response.

We analyze the relationship between preelection college football outcomes and the electoral performance of the incumbent party with aggregate-level data (study 1). Additionally, we collected original survey data during the 2009 NCAA men's basketball championships to corroborate our results at the individual level (study 2) and embedded an experimental manipulation to show that the effect of externally-induced mood on political judgments can be eliminated when subjects are explicitly exposed to the irrelevant information, consistent with previous laboratory research (6). The aggregate-level study is intended to show that effects previously found in the laboratory actually exist in the real world in a consequential domain. The survey experiment allows us to test for a mechanism underlying our aggregate results.

Results

Study 1: Presidential, Gubernatorial, and Senate Elections, 1964–2008. We analyzed county-level election results from presidential, gubernatorial, and Senate elections between 1964 and 2008. We assessed the influence of irrelevant events on voting decisions by measuring the impact of preelection local college football outcomes (see Table S1 for a complete description of the teams involved in these games) in the county on the incumbent party's vote share. We define the incumbent's vote share to be either the vote share of the incumbent officeholder (sitting president, governor, or senator) or the new candidate of the current officeholder's party (*i*) to remain consistent with the extant literature in political science and economics and (*ii*) because an exogenous shock to voter well-being is hypothesized to influence voters' satisfaction with the status quo, which is represented by the incumbent party.

Results. We find clear evidence that the successes and failures of the local college football team before Election Day significantly influence the electoral prospects of the incumbent party, suggesting that voters reward and punish incumbents for changes in their well-being unrelated to government performance. We first performed simple difference of means tests, comparing the change in incumbent party vote share between counties in which the football team won to counties where the team lost or tied (Table 1, first row, first three columns). To make the individual week results comparable to the results that follow where we pool the two preelection games, we include in our regressions all county–office–year observations where a game was played in both weeks. For games 10 d before the election, a victory increases the incumbent party's vote share by 1.13 percentage points ($P = 0.05$). The effect of a victory for the game immediately preceding the election is 0.81 percentage points ($P = 0.16$) and the pooled effect of a win for both games obtained by predicting change in incumbent vote share with the total number of wins is 0.80 percentage points ($P = 0.02$, see Table S2 for complete results). [Across all of our models, the effect sizes of the games 10 d before the election appear larger than the effect sizes of the games played the weekend before the election, although none of these differences are statistically significant, and most differences are small. This could be due to the fact that a greater number of marginal voters make up their minds the week before the election than in just the 3 d preceding Election Day. According to the 2008 exit polls, whereas a majority of voters decided who to vote for by September and only 4% decided on the day of the election, 10% of voters made their decisions during the last 2 wk before Election Day (17). Similarly, according to the 2004 American National Election Study, 15.2% of voters decided in the last 2 wk of the election, with only 9% deciding within the last few days (18).]

These effects are robust to the inclusion of fixed effects for team/county, which accounts for variation in the strengths of different teams over time, as well as fixed effects for elective office, year, and a host of demographic control variables (see Table 1, second and third rows, first three columns, and Table S3 for full regression results). Controlling for these factors, we continue to find that preelection wins in the 2 wk before Election Day increase incumbent vote share by 1.05 ($P = 0.05$) to 1.47 ($P = 0.01$) percentage points (see Table 1, third row, first three columns). The effects of the two games are not statistically distinguishable from each other ($P = 0.56$). The effects do not appear to be driven by turnout. If we use turnout (measured by the number of votes cast divided by voting-age population) as the dependent variable with the same predictors and year and county fixed effects, a football win has an insignificant coefficient that is close to zero in magnitude (Table S4).

We also consider whether these effects might be larger in places where college football outcomes presumably have a greater effect on voters' well-being. To do this, we consider two definitions of locally important teams: (*i*) whether the college was in the group of 20 teams that had the highest average attendance from 1998 to 2007 and (*ii*) whether the team has won a national championship since 1964, the first year of the data. These two categorizations are intended to produce a face-valid set of teams generally considered to be college football "powerhouses" (see Table S1 for a description of the teams identified under these definitions). In the regressions, we include indicator variables for the county having either a high-attendance or a championship team, as well as interaction terms between these indicators and the number of wins in the preelection games.

Summing the coefficient for the indicator and the interaction term gives our estimated total effect for the high-attendance teams (see fourth row of Table 1, first three columns) and national championship teams (see fifth row of Table 1, first three columns). When county and year fixed effects (in addition to demographic covariates) are included, we find that an additional win by a high-attendance or championship team results in the incumbent party gaining an additional 2.42 percentage points ($P < 0.001$) and 2.30 percentage points ($P = 0.001$), respectively. Moreover, the interaction terms for both high-attendance teams and national championship teams are themselves significant, indicating that the effect of football is larger where the teams are more locally important and the fans care more about the outcomes than in counties where college football is less important. We also find no significant differences according to whether the university is public or private, once we account for the popularity of the school's team (see Table S5 for full regression results).

The effect that the outcomes of these games have on voting behavior is confirmed by a set of placebo tests, which indicate that games played *after* Election Day do not have an effect on the incumbent's prospects for reelection (see Table 1, columns 4–6). Including both fixed effects and demographic controls, we find that wins 1 wk after and 2 wk after the election do not significantly predict the incumbent party's vote share ($P = 0.44$ and $P = 0.65$, respectively). Additionally, the point estimates are close to zero. Earlier games also have no significant effect, with the point estimate for games >2 wk before the election being very close to zero, indicating that it is only the games that occur shortly before the election that significantly affect voters' decisions (see Table S6 for full regression results).

We further demonstrate robustness by using point spreads from the betting market. The point spreads can be used to estimate a team's chances of winning the game before the game occurs (19). By conditioning on the ex ante probability of victory, we can construct an independent variable that isolates the surprise component of game outcomes, which is by definition uncorrelated with the other independent variables. This quasi-experiment enables us to estimate the effect of the exogenous shock to well-being.

We replicate our fully specified regressions (including fixed effects and demographic controls) and additionally control for the *expected* number of wins, thereby isolating the surprise component of the game outcomes (Table 1, row 6). Not surprisingly, the effect size increases somewhat, as voters appear to respond more to the surprise component of the game outcomes than they do to the component that is captured by the relative strengths of the two teams. Controlling for the expected number of wins, the effect of a win on incumbent party vote share is 1.61 percentage points ($P =$

Table 1. Effect of a football victory on the incumbent party's vote share

	Date of game					
	1 wk before	Week of election	Preelection games (pooled)	1 wk after	2 wk after	Postelection games (pooled)
Baseline	1.13*	0.81	0.80**	−0.09	−0.31	−0.18
	(0.58)	(0.58)	(0.34)	(0.60)	(0.66)	(0.42)
Include demographics	1.70***	1.12**	1.17***	0.46	−0.05	0.19
	(0.57)	(0.48)	(0.34)	(0.55)	(0.60)	(0.40)
Include fixed effects	1.47**	1.05*	1.10***	0.43	−0.11	0.14
	(0.58)	(0.53)	(0.37)	(0.53)	(0.51)	(0.38)
High-attendance teams	3.35***	2.20*	2.42***	0.46	−0.11	0.19
	(1.04)	(1.28)	(0.66)	(0.96)	(1.33)	(0.89)
Championship teams	2.63**	2.94**	2.30***	0.23	−0.56	−0.15
	(1.14)	(1.30)	(0.70)	(1.03)	(1.42)	(0.93)
Include game expectations	2.59***	0.78	1.61***	−0.90	−0.53	−0.76
	(0.88)	(0.98)	(0.58)	(0.90)	(0.81)	(0.60)

Dependent variable is vote share for the incumbent party. Regression SEs, corrected for clustering at the county level, are in parentheses. Senator is the excluded category for the office. Each of the first three rows builds on each other. In other words, in rows 2–6, demographic controls are included. Rows 3–6 all include both fixed effects and demographic controls. The fourth and fifth rows report the estimated effect obtained by summing the coefficient for the wins variable and an interaction between the wins variable and the high-attendance and championship dummy, respectively. n = 1,632 and n = 1,659 for preelection games and postelection games, respectively. Due to the availability of point spread data only back to 1985, n = 838 and n = 856 for preelection games and postelection games, respectively, when controlling for the probability of a victory.
*$P < 0.10$, **$P < 0.05$; ***$P < 0.01$ (two-tailed).

0.01, see column 4 of Table S7 for full regression results). The effect may be somewhat stronger for the games occurring the week before the game than for the games immediately preceding the election, although the effects are not statistically distinguishable ($P = 0.21$). Moreover, the coefficient on the expected number of wins is near zero, indicating that the surprise component of game outcomes drive our findings. Again, we find that the effect size is similar across public and private schools (see column 5 of Table S7 for full regression results).

Throughout our analyses, we define incumbent to be either the incumbent officeholder or the new candidate of the current officeholder's party. Another possibility that we considered is that the incumbent presidential party could benefit in Senate elections from local team success. Our regression results provide some evidence that this may indeed be the case, so that at least in Senate elections, it appears to be both the incumbent presidential party and the incumbent Senate party in the state that benefit when the local football team wins. (If the incumbent presidential party's vote share in Senate elections is used as the dependent variable in a regression where we include county and year fixed effects as well as county demographics, we obtain a coefficient of 2.05 with a SE of 0.99.)

Study 2: Survey Experiment. We conducted a survey with an embedded experiment during the 2009 NCAA men's college basketball tournament. Subjects were Americans living in areas where there were college basketball teams participating in the tournament. Also known as "March Madness," the tournament consists of 64 teams and six rounds of games. It is a single elimination tournament, meaning that each game is critical and likely to induce strong emotional reactions among fans. One advantage of the survey data over the aggregate data is that we do not have to assume that support for a team is necessarily tied to geographic location as we are able to ask respondents to name their favorite team. We interviewed respondents immediately after the third and fourth rounds of the tournament (the "Sweet Sixteen" and "Elite Eight" games) and before the fifth round (the "Final Four"). Half of the respondents (treatment group) were randomly assigned to receive the outcomes of their team's games before answering a question about presidential job approval. The other half (control group) received no information about their team's performance.

Results. As with the college football outcomes, we constructed a measure of the random component of wins, defined as the actual number of wins the team experienced during the third and fourth rounds minus the expected number of wins as determined by the betting markets. We obtain similar results if we simply use the game outcomes as opposed to isolating the random part of those events. As we anticipated, each additional adjusted win experienced by respondents significantly increased approval of President Obama's job performance, with the effect size being 2.3 percentage points ($P = 0.04$). Hence, these survey results conform with what we observed in the field data—changes in well-being induced by the surprise component of sporting events affect people's evaluations of the incumbent. We find no difference in the effect of basketball victories for private and public schools (see Tables S8 and S9 for full regression results).

Further evidence can be found by examining people who are strong supporters of their teams and who were closely following the tournament. Among these intense fans, the effect of an adjusted win was 5.0 percentage points ($P = 0.008$). Among nonintense fans, adjusted wins insignificantly increased Obama approval by only 1.1 percentage points ($P = 0.41$). The 3.9 percentage point difference in effect size between these two subgroups of respondents is significant at the 10% level ($P = 0.07$).

The survey data also allowed us to demonstrate that the effect of mood on political decision making appears to be subconscious. By randomly treating some individuals with information about the outcomes of their team's games, we are able to test whether making the event (the game outcome) immediately salient decreased its subconscious effect, as psychological research has found that making subjects aware of the reasons for their mood decreases the tendency to misattribute those moods (6). Among respondents in the control group, the effect of an adjusted win was 4.6 percentage points ($P = 0.003$). Conversely, the effect of basketball outcomes on the treatment group [which was explicitly told the score(s) of the game(s)] was basically zero ($B = 0.00, P = 0.96$). The 4.6 percentage point difference between treatment conditions is also statistically significant ($P = 0.04$). The results show that making the game outcomes salient eliminated their impacts. By moving subconscious considerations into the forefront, the experimental prime allowed people to decouple their mood change induced by their team's fortunes from the political object of judgment (President Obama).

Discussion

These results provide evidence that voting decisions are influenced by irrelevant events that have nothing to do with the competence or

effectiveness of the incumbent government. As discussed above, analyzing the effects of sporting outcomes provides a cleaner test than other environments considered in previous research, because no government action is taken or would be expected to be taken in preparation for or in response to game outcomes. Our findings, summarized in Fig. 1, are consistent across our aggregate- and individual-level results, indicating that these findings are likely to generalize to related environments. These results thus suggest potential new ways for researchers to open the black box and understand the processes underlying voters' decisions. For example, researchers and election observers have long noted that incumbents' prospects for reelection are tied to the health of the economy. We have shown evidence for a mechanism underlying this empirical regularity that is not about rational voters processing relevant information. Another reason why we observe the strong correlation between economic performance and the probability of incumbent reelection may be that voters' general sense of well-being serves as a conduit between the state of the economy and electoral outcomes.

Our findings suggest a variety of important implications for understanding the cognitive processes underlying voting behavior. If unrelated events affect political judgment, a voter's opinions and feelings in any given area are likely to affect that voter's perceptions of other aspects of an incumbent's performance or personality. For example, a voter who is presented with negative information about the local economy may perceive a separate news story about the president's foreign policy in a less positive light. Alternatively, a negative campaign advertisement designed to elicit fear or anger may affect voters' assessments of a candidate's performance in office. Our results thus have implications for understanding elite incentives and strategies to manipulate voters' perceptions of their own well-being. Events and information themselves may not be paramount in explaining election results. Rather, what may be most important is how campaigns use those events to affect voters' perceptions of both their own well-being and the well-being of others to whom they are socially connected, given the spillover effects of mood.

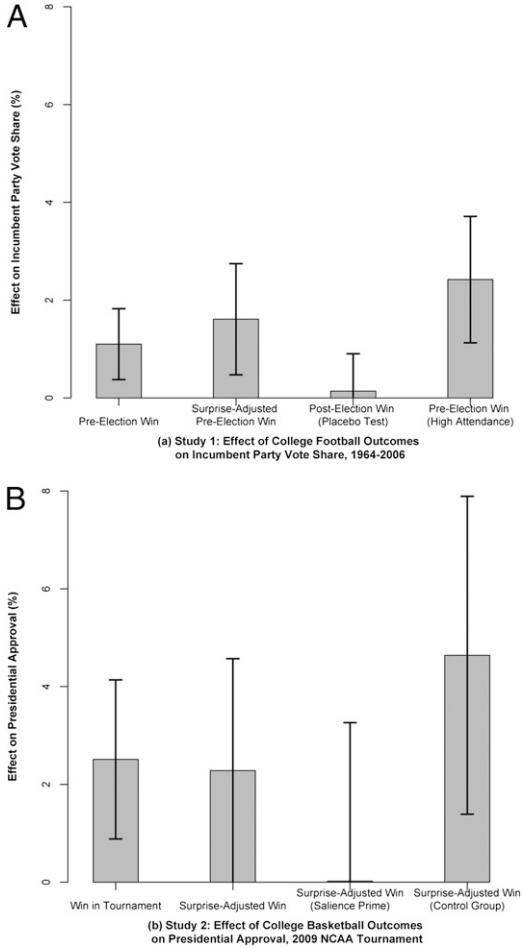

Fig. 1. Summary of effects of sporting outcomes on election results. (*A*) Study 1: effect of college football outcomes on incumbent party vote share, 1964–2008. (*B*) Study 2: effect of college basketball outcomes on presidential approval, 2009 NCAA tournament.

However, the individual-level study points to a possible underlying mechanism that also suggests that the effect of mood induced by irrelevant events on voting is potentially fragile. Once the game outcome is made salient, its effect on political choice is eliminated. In other words, it appears that moving affect tied to an event from the subconscious to the conscious may allow people to reject irrelevant information because people then understand that their current state of well-being is unrelated to an incumbent's performance in office.

Future research can build upon these findings in at least two ways. First, it would be interesting to explore the conditions under which voters base their decisions more on policy-relevant concerns as opposed to irrelevant factors. For example, more politically-engaged or knowledgeable voters may be more likely to consider factors related to government performance and candidate quality. Further, characteristics of officeholders—such as proximity to the situation or electoral skill—may influence voter responses. Second, scholars can assess the social consequences of affective voting with respect to public policy. Our results focus mainly on individual judgment and decision making and only indirectly suggest an effect on policy outcomes.

In summary, these findings illustrate that important real-world decisions can be influenced by shifts in affect caused by events that are orthogonal to the decision at hand. Although such influences can be interpreted in a negative light, highlighting that the influences of mood can be disruptive, they also play positive roles. Theorists have found that emotions are adaptive (20, 21), facilitating evaluative judgments when affective reactions are caused by the object of evaluation (6, 22, 23) and promoting attentiveness and deliberation when one senses that a task is not going well (24). For example, political scientists have argued that emotions can promote more competent decision making and more deliberative reasoning (25–28). This research provides an initial look at how affect from irrelevant events influences important decisions with significant social and economic consequences. In doing so, it suggests that these generally adaptive tendencies to subconsciously use affect as information can lead to surprising and important outcomes.

Materials and Methods

Study 1. ***Data.*** We analyze data on voting behavior, college football outcomes, and county-level demographics for the counties or county-equivalent units that have Bowl Championship Series (BCS) teams in the United States. These 62 teams come from the six major Division I Football Bowl Subdivision (FBS) football conferences: the Atlantic Coast Conference, the Pacific Ten, the Big Ten, the Big Twelve, the Big East, and the Southeastern Conference. [There are in fact 66 teams from BCS conferences plus Notre Dame; however, 4 teams are excluded. Connecticut (UConn) and South Florida are excluded because they became a part of Division I in the past few years. UConn football moved up to Division I-A status in 2000, was included in official NCAA Division I-A statistics for the first time in 2002, and became a full Big East member in 2004. South Florida played its first football game in 1997. When they moved to the Division I Football Bowl Subdivision in 2001, they initially remained independent. They joined Conference USA in 2003 and became a member of the Big East in 2005. We also excluded Los Angeles County because it has two BCS conference teams—University of Southern California and University of California, Los Angeles—and, as such, it is unclear how to weight wins and losses from each team. Nevertheless, the findings are robust to the inclusion of either one of the two Los Angeles teams.]

The only team in our sample that does not play in a BCS conference is Notre Dame, an independent school with a rich football tradition (see Table S1 for additional information on the teams). We consider only the counties in

which the teams are located—in no case are there multiple counties associated with a team.

For the voting data, we consider presidential, senatorial, and gubernatorial election results at the county level from 1964 to 2008, as reported by *Congressional Quarterly*'s Voting and Elections Collection. [The first year of the presidential election data is 1964, the first year of the gubernatorial election data is 1970, and the first year of the senatorial election data is 1974. We also collected data from the previous election cycle for all three race types for use as a lagged version of the dependent variable.] All uncontested races are excluded from the analysis. (We also excluded "jungle" primary elections in Louisiana, as well as special elections and elections in which the incumbent party is a third party.)

To cover the same time frame as the voting data, we collected college football results from 1964 to 2008 to construct our key independent variable in the voting regressions: the number of wins for the college football team in the county in the 2 wk preceding the election. (All of our college football data came from an online database run by James Howell. The dataset contains game scores for college football games between 1869 and 2008 and can be accessed at http://homepages.cae.wisc.edu/~dwilson/rsfc/history/howell. All bye weeks were dropped from the dataset; treating byes in the same manner as losses/ties does not change the results substantively or statistically.) Losses and ties are treated the same. Data on games for the 5 wk before Election Day through 2 wk after the election were collected.

To improve the efficiency of our estimates, we control for a number of socioeconomic factors that are associated with voting behavior. Specifically, we include the following county-level demographic characteristics in our regression models: median household income, percentage of high school graduates (normalized for each year), percentage of African-Americans, a measure of how rural the county is (measured by farms per capita), and percentage of unemployed (29). For years where the data are not available in ref. 29, we obtain our data from the Census Bureau's County and City Data Book. When data are unavailable for a given year, estimates are interpolated from the closest available years. Using data from the Census Bureau's Small Area Income and Population Estimates program, we also control for county-level population. (The data can be accessed at http://www.census.gov/hhes/www/saipe/index.html.) We find that the means of the demographic variables are similar between counties that experienced wins and those that experienced losses.

Analysis. We first conduct a simple difference of means test to assess the impact of college football outcomes on incumbent vote share. In other words, we estimate the following difference-in-difference:

$$\text{Impact}_{it} = (V_{it}(\text{win}) - V_{it-1}(\text{win})) - (V_{it}(\text{loss}) - V_{it-1}(\text{loss})). \quad [1]$$

V_{it}(win) and V_{it}(loss) represent the incumbent party's vote share in percentage points in county i at time t after a win and loss at time t, respectively. Similarly, V_{it-1}(win) and V_{it-1}(loss) represent incumbent vote share in county i at time $t-1$, the previous election cycle, in counties that experienced a win and loss at time t, respectively.

In addition, we also estimated a fully specified regression model via ordinary least squares (OLS),

$$V_{it} = \alpha_i + \eta_t + \beta_1 W_{it} + \beta_2 V_{it-1} + \beta_3 P_{it} + \beta_4 G_{it} + \boldsymbol{\gamma}\mathbf{X_{it}} + \varepsilon_{it}, \quad [2]$$

where V_{it} represents the vote share of the incumbent party in percentage points in county i at time t, W_{it} is the college football wins variable, V_{it-1} represents the vote share of the incumbent party in the previous election cycle, P_{it} and G_{it} are dummy variables indicating presidential and gubernatorial elections, respectively, with Senate elections being the excluded category, $\mathbf{x_{it}}$ is a vector of demographic and economic control variables, α_i and η_t are county and year fixed effects, respectively, and ε_{it} is random error. The inclusion of fixed effects controls for the possibility that places that tend to have stronger football programs may also have the tendency to support incumbents. Although it is likely that college football outcomes are exogenous events so that the fixed effects are not necessary to obtain unbiased coefficients, the fixed effects ensure that we are isolating the effect that within-county variation in football team performance has on voting decisions. We also cluster SEs at the county level, thereby correcting for heteroskedasticity and correlation between the disturbances of observations within counties.

To estimate the effect that game outcomes have in places where college football outcomes presumably matter more, we include an interaction term between the wins variable and a dummy variable for whether the team was a high-attendance or championship team, as described earlier in the text (Table S1):

$$V_{it} = \alpha_i + \eta_t + \beta_1 W_{it} + \beta_2 V_{it-1} + \beta_3 P_{it} + \beta_4 G_{it} + \beta_5 H_{it} + \beta_6 W_{it} H_{it} + \boldsymbol{\gamma}\mathbf{X_{it}} + \varepsilon_{it}. \quad [3]$$

In Eq. **3**, H_{it} refers to the dummy variable for the local team satisfying the definition of a locally important one. The effect sizes reported in Table 1 (fourth and fifth rows) are the sum of β_1 and β_6. [To estimate the SEs, we substitute the variable ($W_{it}H_{it} - W_{it}$) into the model for W_{it}, because doing so by definition gives a coefficient on $W_{it}H_{it}$ that is identical to the sum of β_1 and β_6 from Eq. **3**.]

To determine whether our results are spurious, we conduct a series of additional tests. First, we perform a set of placebo tests, in which we ensure that games played *after* Election Day do not have any effect on the incumbent party's vote share.

Second, we condition on the probability of victory before the game takes place—which can be estimated using point spreads from the betting market—to isolate the random component of game outcomes, which are by definition uncorrelated with omitted variables such as team strength. We collected data on point spreads extending back to 1985 from Covers.com that we used to estimate this probability. For example, if Ohio State is favored to beat a team by 20 points, the market is indicating that Ohio State is very likely to win the game. Academic statisticians (19) have developed a simple formula to translate point spreads (x) into victory probabilities (E(win)):

$$E(\text{win}) = \Phi\left(\frac{-x}{13.89}\right). \quad [4]$$

We use the estimated probabilities of victory to construct a variable that represents the deviation of actual wins in the two preelection games from the expected number of wins before the games occurred. This variable is a continuous variable that has support from –2 (two losses when the team was almost certain to win both games) to +2 (two wins when the team was almost certain to lose).

Study 2. ***Participants.*** Participants were members of Survey Sampling International's Internet panel. [Human subjects approval was granted by the Institutional Review Board of Stanford University on February 20, 2009 (Protocol 16161). Informed consent was received by all participants.] The subject pool consisted of 3,040 residents of regions with college basketball teams that had made it to the third round. A "region" with a competing team was defined as a county that has a Sweet Sixteen team, along with its 10 nearest counties (as determined by county centroids) in the same state. The survey was conducted over the Internet between March 30, 2009, and April 3, 2009, immediately after the third and fourth rounds of the tournament (the Sweet Sixteen and Elite Eight games) and before the fifth round (the Final Four). The games took place between March 26 and March 29. Full question wordings are provided in Table S10.

Procedures. Respondents were first asked to select their favorite team from a list of the 16 competing teams. If they selected "none of the above," they were assigned a favorite team on the basis of their geographic location. Respondents were then asked "How supportive are you of [team name]?" and "How closely have you been following the NCAA college basketball tournament, also known as March Madness?" Both questions were measured using five-point rating scales. Respondents who answered at least "somewhat supportive" to the first question and at least "a little closely" to the second question were coded as intense fans. Respondents then completed a series of demographic items.

Subsequent to asking these preexperimental questions, one-half of respondents were randomly assigned to see a screen in which the scores from each of the games the favorite team competed in were displayed. The other half did not receive any information. Following the experimental manipulation, respondents were asked: "Do you approve or disapprove of the way Barack Obama is handling his job as president?"

Because the control group was previously asked to state its favorite team, this group is similar to Schwarz and Clore's "indirect-priming condition" (6). Accordingly, we are comparing the effect of receiving a direct prime (in the form of the actual game outcomes) to a weaker treatment (simply the mention of the team). Compared with the control condition, our treatment does two things: (*i*) increases the salience of the game outcome in the respondent's mind and (*ii*) provides information on the game outcome for those individuals who may have forgotten it. If we had used a true control group that received no basketball information at all, our results would presumably have been stronger, meaning that we can interpret the treatment effect as a lower bound. An alternative would have been to ask about presidential approval early on in the control group, but this would have resulted in two differences between control and treatment conditions

(game outcomes and the mention of sports), making it hard to interpret the estimated treatment effect.

Analysis. To test the main effect of adjusted wins on presidential approval, we estimated the logistic regression equation

$$A_i = \alpha + \beta W_i + \boldsymbol{\gamma}\mathbf{X_i} + \varepsilon_i, \quad [5]$$

where A_i represents a dichotomous measure of presidential approval (approve, disapprove), W_i represents the number of wins experienced by the team subtracted by the expected number of wins as determined by the betting market, $\mathbf{x_i}$ represents a vector of demographic and political controls (gender, age, race, education, employment status, and party identification), and ε_i represents random error. We used a similar formula to the one in Eq. **4** in study 1 to convert betting spreads to win probabilities, but with a SD of 10.9 following previous research on college basketball (30). To calculate effect sizes, we reestimated Eq. **5** using a linear probability model.

To test the effect of the experimental prime, we estimated the logistic regression equation

$$A_i = \alpha + \beta_1 W_i + \beta_2 P_i + \beta_3 (W_i \times P_i) + \gamma \mathbf{X_i} + \varepsilon_i, \quad [6]$$

where P_i is a dummy variable representing whether the respondent was assigned to the treatment group. The effect of the prime is represented by β_3. We can similarly estimate the moderating effect of being an intense fan (I_i) by substituting I_i for P_i in Eq. **6**. Effect sizes were again estimated using linear probability models.

ACKNOWLEDGMENTS. We thank Philip Garland, Cissy Segujja, and Chetan Vyas of Survey Sampling International for their assistance in running the survey. We thank seminar participants at Yale, Massachusetts Institute of Technology, University of California at San Diego, University of Pennsylvania, and University of Chicago for helpful comments on various versions of the research. We are grateful to Justin Grimmer and Cindy Kam for serving as discussants at the Annual Meetings of the Midwest Political Science Association and the American Political Science Association, respectively. Christopher Paik and Fred Wolens provided valuable research assistance.

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