

Can grammar influence voting?

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Abstract

The wording of political messages is known to affect voting behavior, including judgments about the electability of candidates. Yet the question remains whether voting behavior also depends on fine-grained grammatical details of political messages. Results from two studies suggest that the grammatical forms used in describing political candidates' past actions can affect attitudes about electability under certain conditions. The findings provide novel insights on how language can shape thought in the political realm.

Introduction

Millions of dollars are spent on campaign ads each year. Yet little is known about how linguistic details in these messages influence people's attitudes about political candidates and ultimately whether they are elected. Here we offer new results to show that altering grammatical information can lead to different opinions about electability.

We know that the linguistic content of political messages can influence attitudes about candidates running for office (e.g., Lau & Redlawsk, 2006). People base their voting decisions on criteria emphasized by news coverage (e.g., Druckman, 2004), and their votes can be biased by the editorial slant of the newspaper they read (e.g., Druckman & Parkin, 2005). People reject incumbent candidates if times are portrayed as bad (e.g., Quattrone & Tversky, 1988). They turn away from candidates or vote for no one at all if presented with an excess of negative language (e.g., Ansolabehere & Iyengar, 1995; Garramone, 1984). Their candidate preferences are more entrenched when opposition is emphasized (e.g., Bizer & Petty, 2005). They reject candidates who contradict their metaphorical conceptions of politics and government (e.g., Lakoff, 1996). What we do *not* know is how fine-grained linguistic details in political messages influence voters. Can grammatical information affect attitudes about candidates and whether they are electable, and if so, how?

In English and many other languages, information about the temporal organization of events is provided by aspectual markers that accompany verbs. For past events, imperfective aspectual markers (*was* VERB+*ing*) emphasize the ongoing nature of actions, and perfective aspectual markers (VERB+*ed*) emphasize the completion of actions (e.g., Comrie, 1976; Frawley, 1992; Madden & Zwaan, 2003; Magliano & Schleich, 2000). These grammatical markers can influence how people think about past events. In

interpreting imperfective descriptions of past events, people take an internal perspective (e.g., Ferretti & Katz, 2010). In interpreting descriptions of motion events, for example, people tend to situate a moving character in the middle range of a trajectory toward a destination with imperfective information (Morrow, 1985; 1990). Also, details such as the individuals, objects and locations of the events are more accessible after imperfective event descriptions (e.g., Carreiras, Carriedo, Alonso, & Fernández, 1997; Ferretti, Kutas, & McRae, 2007; Madden & Theriault, 2009; Truitt & Zwaan, 1997).

In addition, when processing event descriptions people infer that more action occurs with imperfective descriptions than with perfective descriptions. For instance, people estimate that more houses were painted after reading "*John was painting houses last summer*" than after reading "*John painted houses last summer*" (Matlock, in press). People also remember past actions more easily, and are more likely to continue them in future behavior, after imperfective descriptions than perfective descriptions (e.g., Hart & Albarracín, 2009; Magliano & Schleich, 2000).

In the current work, we investigated the role of grammatical information in the interpretation of political messages, precisely, whether and how imperfective "*was* VERB + *ing*" and perfective "*VERB + ed*" would influence attitudes about the electability of political candidates. Would the imperfective form, which draws attention to details and the ongoing process of actions, lead to different attitudes about electability than would the perfective form? And might this effect be more pronounced for political messages that are negative versus positive, especially because negative information arouses emotions (e.g., Westen, 2007), captures attention (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001), and affects perceptions of political candidates (e.g., Basil, Schooler, & Reeves, 1991; Lau, 1982; see Lau, Sigelman, & Brown Rovner, 2007, for a broad perspective)? Finally, can grammatical information ever influence inferences about actions themselves? Would, for instance, a phrase such as *was taking hush money* lead people to believe that more dollars were taken than a phrase such as *took hush money*? These questions are important because voters rely on information about the past to infer what politicians will do in future elected positions (e.g., Fiorina, 1981).

Two studies were designed to investigate these issues. In each, participants read about the past actions of a senator who was seeking re-election. Then they decided whether he would be re-elected. Next they provided a confidence rating for the decision. Last, participants provided a numeric estimate about the actions (e.g., amount of hush money in Study 1).

Study 1

Participants read a short passage about a fictitious politician who did (perfective) or was doing (imperfective) past actions that were either negative or positive. Based on previous research showing that an increment toward a negative pole may carry more weight in decision-making than “the same” increment toward a positive pole (e.g., Kahneman & Tversky, 1979), we hypothesized that grammatical form may more strongly influence people’s judgments about negative past actions than about positive past actions. Further, people may pay closer attention to negative events than to positive events (e.g., Baumeister et al., 2001; Rozin & Royzman, 2001), perhaps heightening the effect of any particular linguistic construal of the past event. Thus, our main prediction was that the politician would be evaluated more negatively when negative past actions were described with imperfective rather than perfective grammatical markers.

Method

Participants. A total of 369 undergraduate students at the University of California, Merced, received partial course credit in an introductory cognitive science course or an introductory psychology course. Fifteen of the individuals provided illegible responses or did not finish the task, leaving 354 participants.

Materials, Design and Procedure. Participants completed a questionnaire that appeared on a single page in a booklet that contained a set of unrelated tasks. Participants had five days to complete and return the booklet, and were told not to discuss the task with others.

Participants first read a short description of a fictitious senator who was up for re-election. The senator did or was doing negative or positive actions (see Table 1 for the four description versions). For example, he *was taking hush money* or *took hush money*, and for positive actions, he *was collecting donations* or *collected donations*.

Then these participants answered two questions, “*Will this candidate be re-elected?*” (circled Yes or No) and “*How confident are you about your decision regarding re-election?*” (used a seven point scale, ranging from “*Not at all confident*” (1) to “*Very confident*” (7)).

Next participants answered a question about the financial dealings of the senator, either “*Please estimate the total amount of hush money (in dollars)*” (in the negative valence condition) or “*Please estimate the total amount of donation money (in dollars)*” (in the positive valence condition). The senator was fictitious to avoid bias about actual political candidates.

Table 1: Stimuli for Study 1

Grammatical form		
Action	Perfective	Imperfective
valence	(verb+ed)	(was verb+ing)
Negative	Mark Johnson is a Senator in the United States Senate. He is up for re-election. He graduated from the University of Texas, Austin with a degree in political science. Mark’s first term as a United States Senator is almost complete. Last year, Mark <u>had an affair</u> with his assistant and <u>took hush money</u> from a prominent constituent. (N=92)	Mark Johnson is a Senator in the United States Senate. He is up for re-election. He graduated from the University of Texas, Austin with a degree in political science. Mark’s first term as a United States Senator is almost complete. Last year, Mark <u>was having an affair</u> with his assistant and <u>was taking hush money</u> from a prominent constituent. (N=96)
Positive	Mark Johnson is a Senator in the United States Senate. He is up for re-election. He graduated from the University of Texas, Austin with a degree in political science. Mark’s first term as a United States Senator is almost complete. Last year, Mark <u>rekindled his relationship</u> with his wife and <u>collected donation money</u> for the American Cancer Society. (N=85)	Mark Johnson is a Senator in the United States Senate. He is up for re-election. He graduated from the University of Texas, Austin with a degree in political science. Mark’s first term as a United States Senator is almost complete. Last year, Mark <u>was rekindling his relationship</u> with his wife and <u>was collecting donation money</u> for the American Cancer Society. (N=81)

Results

First, we examined the valence of past actions and electability. Not surprisingly, participants viewed the senator as more electable when his past actions were positive (80%) versus negative (22%), $\chi^2(1, N=354) = 119.94, p < .001$. Twenty-one percent of the participants did not conform to this pattern, and indicated that the candidate would be re-elected if he had done negative actions ($N = 41$), or not be re-elected if he had done positive actions ($N = 33$).

Second, we analyzed people’s confidence about their electability decision. Electability decisions were weighted by confidence, resulting in a scale ranging from -7 (Strongly Confident “No” vote) to +7 (Strongly Confident “Yes” vote). Histograms of this weighted decision are shown in Figure 1a (negative actions) and Figure 1b (positive actions).

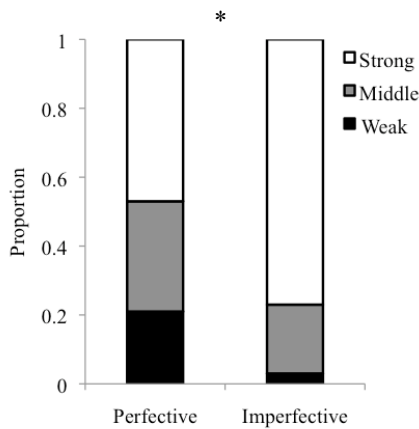


Figure 2: Grammatical aspect changes how people view a politician’s negative actions. Voter confidence in deciding not to re-elect a politician. Proportion of sample is plotted on the y-axis.

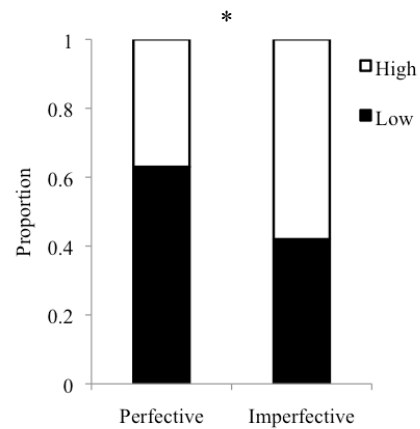


Figure 3: Grammatical aspect changes how people view a politician’s negative actions. Median split judgments of hush money taken. Proportion of sample is plotted on the y-axis.

The subgroups that are evident in these data correspond to participants whose decision did, and did not, align with the action valence. This distinction may be analogous to the common distinction of correct versus incorrect responses in reaction time analyses. Only those responses that are clearly interpretable are submitted to further analyses. In this study, subsequent analyses were therefore restricted to those participants whose decision aligned with the action valence.

Confidence ratings were divided into “Weak confidence” (rating of 3 or less extreme), “Middle confidence” (rating of 4), and “Strong confidence” (rating of 5 or more extreme) groups. As shown in Figure 2, participants’ confidence about electability varied depending on the grammatical markers used to describe the senator’s past actions. Participants were more strongly confident about their “no” decisions when the senator *was doing* negative actions (77%) than when he *did* negative actions (47%), $\chi^2(2, N = 147) = 18.27, p < .001$. They were about equally confident for their “yes” decisions when the senator *was doing* (45%) and when he *did* (39%) positive actions, $\chi^2(2, N = 133) = .65, n.s.$

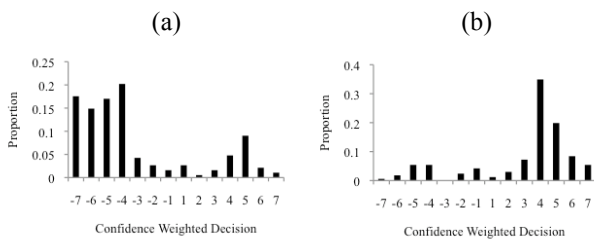


Figure 1: Confidence weighted electability decisions: (a) Negative Events, (b) Positive Events.

Data bearing on whether grammatical aspect influences electability were the confidence weighted scores for decisions that were consistent with the action valence. Because some of these data were skewed, and also showed some heteroskedasticity across conditions, we took a conservative approach and did a non-parametric analysis. Conclusions remain the same using parametric analyses.

Third, we analyzed estimates for money taken (hush money) or collected (donations) by the senator. Unsurprisingly, these distributions were highly skewed. We again took a conservative analysis approach, and conclusions remain the same using parametric analyses.

We divided responses into “Low” and “High” money groups based on the median estimate value of the respective decisions. The median estimate for hush money (\$100,000) structured the two groups for negative financial actions, and the median estimate for donations (\$50,000) structured the two groups for positive financial actions.

Grammatical form influenced the inferences that people made about money. Dollar estimates were higher when the senator *was taking* hush money (58% were above overall median) versus *took* hush money (37% were above overall median), $\chi^2(1, N = 147) = 6.74, p = .009$ (Figure 3). For positive actions, there was no difference (47% versus 53%, $\chi^2(1, N = 133) = .36, n.s.$).

Finally, using independent participants in a separate manipulation check, we confirmed that our “negative” and “positive” stories differed in valence. Forty-six participants who were among the English speakers who use Amazon’s Mechanical Turk Service (mturk.amazon.com) read one story selected randomly from the four versions used in the main study (Negative perfective, Negative imperfective, Positive perfective, Positive imperfective). After reading the story, participants answered the question “Please use the scale below to indicate what you think of the senator’s actions” using a 15-point scale ranging from “Very Negative” (1) to “Very Positive” (15).

As expected, participants judged the negative stories ($M = 3.48, SE = .64$) to be more negative than the positive stories ($M = 11.91, SE = .52$), $t(44) = 10.21, p < .001$. Further, grammatical aspect itself (perfective versus imperfective) did not influence participants’ judgments of negativity, overall or within each kind of story (all p ’s $> .18$).

In sum, people were more confident in voting not to re-elect a senator who *was doing* negative actions than a senator who *did* negative actions. They also inferred that more negative action was involved when the past event was described using imperfective aspect compared to perfective aspect.

Study 2

In everyday life, politicians do good and bad things. Here we were interested in cases involving both a positive and negative outcome. In this study, the senator was responsible for an eminent domain policy with a negative *and* a positive outcome. All participants read about both outcomes, but some read about an imperfective negative outcome and a perfective positive outcome (*was removing homes and extended roads*) and others, about a perfective negative outcome and an imperfective positive outcome (*removed homes and was extending roads*) (see Table 2). We hypothesized that the overall eminent domain policy would be interpreted more negatively when the negative action was in the imperfective than when the negative action was in the perfective.

Method

Participants. A total of 127 members of the Stanford University community were paid to participate. Most were students. Data from participants whose age was greater than 3 SDs above the mean age ($N = 5$) and from individuals who returned incomplete surveys ($N = 2$) were excluded, leaving 120 participants.

Materials and Procedure. Participants read a passage about a fictitious senator who was seeking re-election and who had implemented an eminent domain policy with a negative and a positive outcome (home removal and road extension, respectively), and then answered the same questions as in Study 1. The task appeared on a single page in a booklet of unrelated materials. Participants had a week to complete the task.

Table 2: Stimuli for Study 2

Negative Imperfective	Mark Johnson is a Senator in the United States Senate. He is up for re-election. Last year, his district faced rush hour traffic problems. Under eminent domain Mark <u>was removing homes</u> and <u>extended roads</u> in his district. Traffic conditions improved. (N = 58)
Negative Perfective	Mark Johnson is a Senator in the United States Senate. He is up for re-election. Last year, his district faced rush hour traffic problems. Under eminent domain Mark <u>removed homes</u> and <u>was extending roads</u> in his district. Traffic conditions improved. (N = 62)

Results

As shown in Figure 4, participants who read about “*removing homes*” were more likely to respond that the candidate would *not* be re-elected (60%) than participants who read about “*removed homes*” (44%). The pattern was reliable, $p = .049$ (Fisher’s exact test, one-tailed, was used given our directed prediction). Participants were about equally confident in their decisions in the two conditions. There were no reliable differences in estimates about the number of roads extended or homes removed. Thus, again, grammatical information influenced attitudes about electability. In this case, despite having read about both components of an eminent domain policy, participants were biased by the use of the imperfective: They judged a politician to be less electable when the negative outcome of his policy was highlighted using imperfective aspect compared to when it was described using perfective aspect.

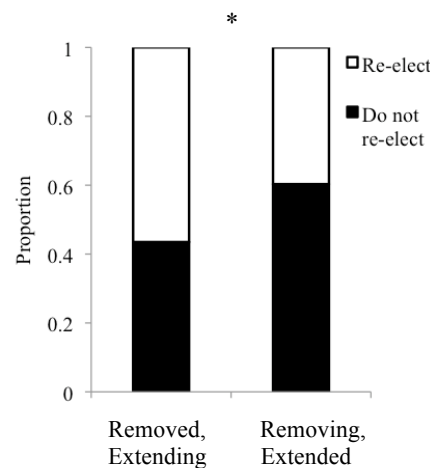


Figure 4: Grammatical aspect influences electability. Proportion of sample is plotted on the y-axis.

As in Study 1, we again queried independent participants ($N = 22$) about the valence of the senator's actions, using the same procedure and valence scale as Study 1. In this case, participants judged each version of the story to be about equally negative ("*removed*" $M = 6.18$, $SE = .50$; "*was removing*" $M = 8.00$, $SE = 1.21$, $t(13.32(\text{assuming unequal variances})) = 1.39$, *n.s.*). It appears that the effect of grammatical aspect on electability may be somewhat insidious when reasoning is based on scenarios with mixed outcomes. When making explicit valence judgments, people see both the good and the bad, but grammatical aspect may implicitly color judgments about the political candidate himself.

General Discussion

Our studies suggest that grammar can influence electability. In Study 1, a change in the grammatical form of negative action descriptions resulted in a change in reasoning about a political candidate. People were more confident in their "no" vote, and provided higher dollar estimates for hush money when negative actions were described using imperfective than perfective. They were not sensitive to grammar when reasoning about a candidate's past positive actions. In Study 2, grammar again influenced electability, such that people reasoned about electability in line with whatever action was highlighted by imperfective aspect. Over 50% of people judged a candidate who "removed homes and *was extending* roads" to be electable while under 50% did so when the verb markers *-ed* and *-ing* were reversed.

Why did the imperfective form result in higher confidence ratings and larger money estimates than did the perfective form, for negative actions in particular? Several explanations are worth considering. First, people may pay more attention to negative events than to positive events (e.g., Baumeister et al., 2001; Rozin & Royzman, 2001), making any mental representation driven by a linguistic construal relatively more robust for negative events. Further, the contrast between two negative alternatives is often perceived to be larger than the contrast between two "equally spaced" positive alternatives (e.g., Kahneman & Tversky, 1979), and so any contrast due to grammatical form may have been amplified for negative events.

The effects of negative information and imperfective information on decision-making may be additive. The combination of negative information and imperfective information could have made for strong attitudes, including pronounced confidence about "no" votes. This is plausible given that negative information arouses emotions and captures attention (e.g., Baumeister et al., 2001; Rozin & Royzman, 2001; Westen, 2007) and the imperfective form widens scope (Frawley, 1992) and draws attention to details of actions (e.g., Carreiras et al., 1997; Ferretti, Kutas, & McRae, 2007; Madden & Theriault, 2009; Truitt & Zwaan, 1997). With heightened attention to negative details, it may be especially easy for voters to confidently reject a candidate.

Another possible explanation may simply be that people generally prefer to avoid losses when there are unknown outcomes (Kahneman & Tversky, 1979). More negative actions could be construed as risky, and lead to stronger confidence that a "no" vote was the right choice. In the same vein, the imperfective form may have prompted a sense of "ongoingness" of the politician's negative actions while the perfective form may have provided closure on negative actions. If a political candidate *did* negative events in the past, those actions could have been perceived as over and done with, and less likely to influence the future. With positive information, there are no risks or adverse consequences and thus no reason to have a strong opinion about a "yes" vote.

These mechanisms – heightened attention to negative details and risk aversion – may also operate when voters reason about mixed outcome scenarios as in Study 2. Here, the combination of imperfective and negative information ("*removing*") appeared to shift attention away from beneficial policy outcomes and lead to more decisions that the candidate would not be elected.

Further research on the fine-grained linguistic details of political messages must be conducted for a full understanding of how language influences everyday thought in the political realm. Our novel results are an initial attempt to detail these important effects of language, and suggest that under certain conditions grammatical information affects whether a political candidate is electable. Future research should examine a wider range of actions, including future actions and policy proposals, as well as other fine-grained grammatical features of political messages. Investigations of grammar using linguistic data from real political campaigns will also be informative.

Voters appear to be sensitive to fine-grained linguistic details when judging political candidates. When the past actions of a candidate were negative, descriptions using imperfective aspect damaged the candidate's electability more than descriptions using perfective aspect. Because 'scandals' involving political candidates are a hot topic in media coverage and campaign ads, insight into the power of the grammar used to communicate negative information will likely improve our understanding about how linguistic media shapes voting patterns. The current findings are consistent with previous psycholinguistic results and extend our understanding of the role of grammar in political decision-making.

Acknowledgments

Each author contributed equally to this research. We thank Michael Leon and Nilofaur Tahery for assistance with data collection, and the following individuals for sharing insights: Lera Boroditsky, Herbert Clark, Tom Hansford, Christopher Kello, Paul Maglio, Arthur Markman, Justin Matthews, Steve Nicholson, Daniel Oppenheimer, and Sally Rice.

References

- Ansolabehere, A., & Iyengar, S. (1995). *Going negative: How political advertisements shrink and polarize the electorate*. New York, NY: Free Press.
- Basil, M., Schooler, C., & Reeves, B.R. (1991). Positive and negative political advertising: Effectiveness of ads and perceptions of candidates. In F. Biocca (Ed.), *Television and political advertising, Volume 1: Psychological processes* (pp. 245-262). Hillsdale, NJ: Lawrence Erlbaum.
- Baumeister, R.F., Bratslavsky, E., Finkenauer, C., & Vohs, K.D. (2001). Bad is stronger than good. *Review of General Psychology, 5*, 323-370.
- Bizer, G.Y., & Petty, R.E. (2005). How we conceptualize our attitudes matters: the effects of valence framing on the resistance of political attitudes. *Political Psychology, 26*, 553-568.
- Carreiras, M., Carriedo, N., Alonso, M. A., & Fernández, A. (1997). The role of verb tense and verb aspect in the foregrounding of information during reading. *Memory & Cognition, 25*, 438-446.
- Comrie, B. (1976). *Aspect*. Cambridge: Cambridge University Press.
- Druckman, J.N. (2004). Priming the vote: Campaign effects in a U.S. Senate election. *Political Psychology, 25*, 577-594.
- Druckman, J.N., & Parkin, M. (2005). The impact of media bias: How editorial slant affects voters. *The Journal of Politics, 67*, 1030 – 1049.
- Ferretti, T.R., & Katz, A.N. (2010). Verb aspect and the retrieval of events from autobiographical memory. In A. Columbus (Ed.), *Advances in Psychology Research*, Nova Science.
- Ferretti, T.R., Kutas, M., & McRae, K. (2007). Verb aspect and the activation of event knowledge. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 33*, 182-196.
- Fiorina, M.P. (1981). *Retrospective Voting in American Elections*. New Haven, CT: Yale University Press.
- Frawley, W. (1992). *Linguistic semantics*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Garramone, G. (1984). Voter response to negative political ads. *Journalism Quarterly, 61*, 250-259.
- Hart, W., & Albarracín, D. (2009). What I was doing vs. what I did: Verb aspect influences memory and future actions. *Psychological Science, 20*(2), 238-244.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica, 47*, 263-291.
- Lakoff, G. (1996). *Moral politics: How liberals and conservatives think*. Chicago, IL: The University of Chicago Press.
- Lau, R.R. (1982). Negativity in political perception. *Political Behavior, 4*, 353-377.
- Lau, R.R., & Redlawsk, D.P. (2006). *How voters decide: Information processing during elections campaigns*. New York: Cambridge University Press.
- Lau, R.R., Sigelman, L., & Brown Rovner, I. (2007). The effects of negative political campaigns: A meta-analytic reassessment. *The Journal of Politics, 69*, 1176-1209.
- Madden, C.J., & Theriault, D.J. (2009). Verb aspect and perceptual simulations. *The Quarterly Journal of Experimental Psychology, 62*(7), 1294-1302.
- Madden, C.J., & Zwaan, R.A. (2003). How does verb aspect constrain event representations. *Memory & Cognition, 31*, 663-672.
- Magliano, J.P., & Schleich, M.C. (2000). Verb aspect and situation models. *Discourse Processes, 29*, 83 – 112.
- Matlock, T. (in press). The conceptual motivation of aspect. In G. Radden, P. Koch, & K. Panther (Eds.), *Motivation in lexicon, grammar, and discourse*. Amsterdam: John Benjamins.
- Morrow, Daniel G. 1985. Prominent characters and events organize narrative understanding. *Journal of Memory and Language* 24: 304-319.
- Morrow, Daniel G. 1990. Spatial models, prepositions, and verb aspect markers. *Discourse Processes* 13: 41-469.
- Quattrone, G.A., & Tversky, A. (1988). Contrasting rational and psychological analyses of political choice. *The American Political Science Review, 82*, 719-736.
- Rozin, P., & Royzman, E. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review, 5*, 296-320.
- Truitt, T.P., & Zwaan, R.A. (1997, November). Verb aspect affects the generation of instrumental inferences. Paper presented at the 38th Annual Meeting of the Psychonomic Society, Philadelphia.
- Westen, D. (2007). *The political brain: The role of emotion in deciding the fate of the nation*. New York, NY: Public Affairs.