From Bad to Worse: Political Judgments and Dispositional Variation in the Negativity Bias
Upon being asked to evaluate any given individual, object, or action, a group of people likely will offer quite varied assessments. An increase of one percentage point in the unemployment rate might be seen as a tremendous economic calamity, an expected seasonal adjustment, or a welcome business opportunity. To one person, a bulldog may be a loyal and affectionate companion, while to another person that bulldog is a snorting, slobbery mess. Despite being Nickelback, Nickelback has sold over 50 million albums. In the political realm, many people’s economic assessments frequently seem at odds with objective indicators, and even the most scandal-plagued public officials often enjoy the support of 30 percent or more of their constituents.

Unpacking the antecedents of such variation in evaluative judgments helps us understand the relative significance of subjective differences in values and taste versus systematic biases in information processing and decision making. Do discrepancies in assessments arise because people invoke different, but equally valid, judgmental criteria, or because some people are right and others are wrong? When keeping such questions in mind, research on heterogeneity in public opinion may shed light on the specific phenomena under consideration while also generating broader insights regarding fundamental questions of citizen competence, and, ultimately, of the nature of human decision making.

To understand heterogeneity in judgmental outcomes, we must contemplate possible heterogeneity in judgmental processes. In this study, we focus on a judgmental process most often seen in the literature as being homogeneous in its operation, the negativity bias. In simplest form, a negativity bias exists when negative information is more influential than positive information as a determinant of evaluations. The central question in the present study is not whether exposure to negative information influences people’s assessments of a political target,
but rather whether the impact of exposure to negative information varies systematically across individuals. In short, we examine possible heterogeneity in the negativity bias. To differentiate the negativity bias as a general phenomenon from the matter of individual-level variation, we introduce the concept of *dispositional negativity*. As we clarify below, dispositional negativity represents how intensely individuals react to negative information. Our central empirical claim is that the familiar collective-level negativity bias masks underlying individual-level heterogeneity. Some people react especially strongly to negative information. These individuals drive the classic negativity bias observed in the aggregate.

The analyses reported below draw on data from two national surveys, one conducted in Costa Rica and the other in the United States. In both, vignette experiments are used to assess the extent to which respondents’ evaluations of a public official vary depending on whether, objectively, the official had a good, bad, or mixed record in delivering on prior policy commitments. In both nations, we consider whether our psychological variable, dispositional negativity, moderates the impact of exposure to negative information. Our straightforward expectation is that individuals who characteristically exhibit the strongest reactions to unpleasant stimuli will be the most responsive to negative information about a public official’s performance.

**The Case for Heterogeneity in Negativity Effects**

For students of political behavior, identification of the sources of heterogeneity in decision making, and especially of possible judgmental biases, are central tasks. Scholars pursue these matters out of concern that impediments to citizen competence ultimately undermine the quality of democratic governance. For citizens to do their part, they must have access to information of sufficient quantity and quality for good judgments to be formed, and they must utilize that information through application of appropriate processes. All sources of
heterogeneity obviously are not inherently problematic, but some may be. This study considers heterogeneity in negativity effects as both a possible benign source of variation in public opinion and as a possible obstacle to democratic accountability. In this section, we begin with an overview of psychological research on the negativity bias. We then review instances in which negativity effects have been examined in political science. Lastly, and most critically, we develop our case for why levels of susceptibility to the negativity bias may vary across individuals, and why such variation may be important.

The Negativity Bias

In simplest form, as conceptualized here, a negativity bias exists when individuals react more strongly to negative information than to comparable positive information. This psychological tendency to devote greater weight to the negative is thought to be quite widespread. As a general matter, psychologists argue, “bad is stronger than good” (Vohs and Luce 2010, 736). A great wealth of research in psychology, and in related fields such as behavioral economics, has explored the intricacies of negativity effects. Although the body of work is far too expansive to summarize here (for a review, see Baumeister et al. 2001), three key lessons derived from this literature can be noted.

Although the present focus is on the negativity bias as it relates to political perception, the first important lesson from the broader literature on negativity is that negativity effects are pervasive throughout a wide array of evaluative settings. Indeed, the negativity bias is seen so commonly that many analysts doubt whether there are any meaningful exceptions to its

1 Negativity effects can be differentiated along multiple dimensions, such as whether the underlying information is quantitative or qualitative, and objective or subjective, and the degree to which an individual’s response activates cognitive and affective processes (see Soroka 2014, especially pp. 28-30). In the current study, the vignette experiments include treatments that communicate objective, quantitative information. While acknowledging that negativity effects encompass more than reactions to such information, we center our discussion in this section on those theoretical accounts and accompanying research that are most relevant to our operationalization.
operation. In the Baumeister et al. (2001) review, for example, evidence of negativity effects is reported in research in multiple areas of potential relevance to political judgment, including learning, reactions to events, information-processing, impress-formation, and memory.

A second key point is that the negativity bias is presumed to be functional. Although the word “bias” may suggest that negativity effects are inherently problematic, the more common interpretation in the literature is that they are rooted in evolutionary biology, and are adaptive psychological mechanisms. In simplest terms, the logic here is that avoidance of negative circumstances is more important to the survival of a species than is the seeking of positive ones. The first step toward survival is to keep away from that which can be fatal. As with any adaptive mechanism, the possibility of maladaptiveness, or evolutionary mismatches, does need to be considered. Mechanisms that served a species well 100,000 years ago during the Pleistocene era may be less useful in the modern world. We return to this point later.

A final point is that the pervasiveness of the negativity bias should not be taken to mean that people are all negative all the time. Negativity effects abound when stimuli are strong. That is, given exposure to a strong positive stimulus and a strong negative stimulus, the latter should be expected to yield the more intense reaction. A parallel process, the positivity offset, has been found to operate in the presence of weaker stimuli, and attention to both positivity and negativity is a hallmark of frameworks such as the evaluative space model (e.g., Cacioppo and Bermond 1994). In most circumstances, people are modestly positive; negativity dominates only in those situations in which stimuli send strong signals. As with the negativity bias itself, the interplay between positivity and negativity has been posited to be a product of evolutionary forces. It would be undesirable, and perhaps impossible, for negative judgments to prevail at every turn, but it is sensible for people to be on the alert against strongly negative actions and events.
Negativity Effects in the Political Sphere

Many of the central tasks of citizenship involve the formation of evaluations. Correspondingly, many of the dependent variables examined in political science—the vote choice, presidential approval, policy support, and so on—reflect the outcomes of such assessments. Unsurprisingly, negativity effects long have been contemplated by political scientists, with the earliest applications dating back some forty years (e.g., Kernell 1977; Lau 1982, 1985).

Most work on the negativity effect in political science—and, indeed, most research on negativity across disciplines—has contrasted collective responses to positive and negative stimuli. Grosskopf and Mondak (1998) provide a straightforward example. Prior to the release of two major Supreme Court decisions in 1989, the estimated likelihood that the typical survey respondent would express a great deal of confidence in the U.S. Supreme Court was 0.27. Following the release of those decisions, the corresponding estimated likelihood among individuals who agreed with both was 0.35, a gain of eight percentage points. This contrasts with a mark of 0.14, or a swing of thirteen percentage points, for survey respondents who disagreed with both rulings. Thus, bad (two rulings that went against a person’s preferences) in this instance was over 60 percent stronger than good (two rulings that were in accord with a person’s preferences). Even more tellingly, among those respondents who agreed with one ruling and disagreed with the other—i.e., given their preferences, they were exposed to one positive outcome and one negative outcome—estimates fell from the 0.27 baseline to a mark of 0.16.

Soroka (2014) offers the most comprehensive work in political science on negativity. In a balanced and thorough effort, the book provides extensive discussion of relevant research in other disciplines, and detailed review of many political science applications. Most importantly,
Soroka reports a wide array of original analyses that examine negativity effects in matters such as presidential approval, assessments of information about crime and the economy, and the design of political institutions. Our attention to heterogeneity builds on that foundation.

**Possible Heterogeneity in Negativity Effects**

Something of a disjunction exists in how researchers studying negativity effects have approached the possibility of individual-level heterogeneity. Most commonly, the matter of heterogeneity either is ignored entirely, or is acknowledged but given short shrift. In contrast with this dominant approach, an increasingly visible minority view within both psychology and political science is that the negativity bias itself is variable at the individual level. The present study’s construct of dispositional negativity is offered as a means to represent that variability.

The Baumeister et al. (2001) review of negativity effects is quite lengthy, and rich with insight and detail. Nonetheless, the authors’ attention to possible heterogeneity is of a blink-and-you’ll-miss-it form. In a 48-page review, the authors devote a single paragraph to heterogeneity. There, they acknowledge that heterogeneity may exist: “There are individual differences in the degree to which people are oriented toward good versus bad” (356). But they then explain that such differences are very limited and atypical, and mostly reflect a desire to avoid exposure to negative information rather than actual variability in impact once such exposure occurs.

Among political scientists, Soroka’s (2014) discussion of negativity effects is the most comprehensive and detailed, but he, too, address heterogeneity only briefly. Soroka notes that his statistical models have “assumed that the negativity bias works the same for everyone” (42) even though “there is likely to be heterogeneity in the nature and magnitude of the negativity bias” (42). Soroka then explores whether partisan congruence, gender, and education moderate
negativity effects, finding significant effects for the latter two. Consideration of possible moderating forces is valuable, but it nonetheless sidesteps the matter of whether the negativity bias itself is, at the individual level, variable.

Hibbing et al. (2014b) published an extensive analysis of negativity, with primary focus on the relationship between variation in negativity and political ideology. Their discussion was followed by a lengthy series of comments from scholars in psychology, political science, and other disciplines. In terms of application, Hibbing et al. focus on the finding that physiological variation in the intensity of responses to negative stimuli is correlated with ideology, with conservatives exhibiting more pronounced negative reactions. Much like with Soroka’s (2014) findings for gender and education, the ideology difference informs us that there are identifiable groups of people for whom negativity operates more or less strongly. However, such group-level correlations, while certainly interesting, do not speak directly to the negativity bias as an individual-level property. If dispositional negativity does exist, we should be able to measure it in a manner that is independent from our applications. In an experimental framework, for example, the ideal would be to test whether exposure to a negative treatment condition exerts the strongest effects among subjects that previously had been determined to have the highest levels of dispositional negativity.2

Keene et al. (2017) follow up on the Hibbing et al. (2014) study by acquiring individual-level data on the negativity bias via a national survey. In terms of construction of the

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2 Physiological measures of the sort discussed by Hibbing et al. (2014b) perhaps could provide the needed individual-level data. A two-step approach would be required. First, subjects could be exposed to stimuli such as shocking photographs, and the intensity of the subjects’ reactions would be used to form a measure of dispositional negativity. Second, these same subjects would participate in an experiment in which the valence of political stimuli is varied across treatment conditions. An interaction between treatment condition and dispositional negativity would reveal whether a negative stimulus resonates most strongly with individuals who have been identified as being predisposed to negativity. As will be seen below, variants of this design using linguistic rather than physiological measures are employed in the present study.
independent variable, this work is the closest relative of the present study we have seen. However, the application is quite different, as Keene et al. (2017) reconsider the Hibbing et al. (2014) argument of a link between negativity and ideology rather than contemplating whether individual-level variation in negativity conditions response to a negative stimulus.

One of the responses to the Hibbing et al. (2014b) piece, by Cacioppo et al. (2014), offers comment on the negativity bias, the positivity offset, the individual-level properties of each, and means to measure them at the individual level. As part of their reply, Cacioppo et al. cite more extensive work on variation in negativity (Ito and Cacioppo 2005; Norris et al. 2011). For their part, Hibbing et al. note in their response (2014a) that they see value in the framework and strategy mapped out by Cacioppo et al.

The two earlier studies by Cacioppo and his colleagues (Ito and Cacioppo 2005; Norris et al. 2011) make multiple important contributions. First, the studies develop a case for the use of judgment-based measures of individual variation in the negativity bias and positivity offset. With these measures, participants are exposed to positive and negative pictures, sounds, and words, and asked to rate them. The relative intensity of reactions to highly negative stimuli represents the negativity bias, whereas the relative intensity of reactions to modestly positive stimuli represents the positivity offset. Second, with three forms of prompts, the authors are able to test the extent to which positive and negative reactions are consistent across modalities, which would be indicative of a general disposition. In the case of the negativity bias, the average correlation is 0.30 (Norris et al. 2011). Third, test-retest data were acquired, providing evidence of possible temporal stability. For the negativity bias, the test-retest correlation was 0.67 at one week (Ito and Cacioppo 2005), compared with 0.56 at two weeks and 0.37 at one year (Norris et al. 2011).³

³ In subsequent work (Ashare et al. 2013) identify genetic sources of individual-level variation in the negativity bias, findings that underpin the claims of temporal and trans-situational consistency.
Fourth, the authors demonstrate that the negativity bias is uncorrelated with the positivity offset, negative affect, and with standard personality measures such as of neuroticism. These points are of considerable collective value, and they inform our conceptualization and measurement below.

**The Importance of Heterogeneity in Political Judgment**

Thus far, we have provided background information on research outside of political science on the negativity effect, reviewed applications in political science, and both outlined a case for why susceptibility to negativity effects may be heterogeneous and presented strategies to measure that heterogeneity. What remains is attention to why we should care. What difference does it make if variation in dispositional negativity produces corresponding variation in mass opinion and patterns of political behavior? We see several reasons why research in this area is warranted.

The first, and broadest, rationale for inquiry on variation in negativity is that effort to understand any previously-ignored source of variation in political judgment may help us to make sense of the playing field writ large. This is a “basic science” rationale. Most research in political behavior is motivated by concern with uncovering the factors that promote or hinder citizen competence. An essential step toward doing so is identification of sources of variation. If we do not know what demographic, psychological, and contextual factors correspond with differences in attitudes and behaviors, then we lack a starting point from which to assess threats to citizen competence. In the present case, past research has established that the negativity bias colors people’s assessments, including those in the political arena. If dispositional negativity differs across individuals, it follows that people who are otherwise similar may offer divergent—and possibly better or worse—judgments due to a previously-unrecognized psychological factor.
Examining this possibility will shed light on the role of negativity effects, and also on how such effects may mute or magnify the impact of other factors that influence political judgments.

A second rationale for attention to dispositional negativity is because it may produce seemingly idiosyncratic variation in survey responses. In effect, our claim is that dispositional negativity may be the cause of a particular response bias. If people who react especially intensely to negative cues answer some survey questions—those with a strong stimulus—systematically differently than do other individuals, then scores on evaluative items would tap two constructs: “true” attitudes (actual substantive views on the matter at hand), and dispositional negativity. As with any response set, this complicates substantive comparisons. For instance, if two respondents offer ratings of 60 on a feeling thermometer measure, the response by the individual with low dispositional negativity may be substantively low or middling, whereas the response by the individual with higher dispositional negativity may be quite favorable. In short, the same response option may signal entirely different underlying substantive states. If we can identity and measure dispositional negativity, then we also can account for it in our analyses, thereby improving the precision of the inferences we derive from survey-based research.

A final reason to study dispositional negativity is that citizens who react strongly to negative information may be unduly consequential. The examples we consider concern the possible reelection of incumbents. The tests center on experimental vignettes, but they carry potential implications for which candidates win and lose actual elections. Our contention is that voters with high levels of dispositional negativity will be prone to vote against all but the most accomplished of incumbents. Dispositional negativity may produce fickle voters, ones who are rarely satisfied. If we are right, this may constitute a threat to democratic accountability in that public officials could be given too little credit, and too much blame, for their actions.
Exploration of this possibility is beyond the scope of the present paper, but well-known electoral phenomena are consistent with our account. An example is midterm decline, the characteristic loss of congressional seats by the president’s party in midterm elections. Midterm losses could be positive forces in terms of accountability if the preceding presidential surges bring in ill-equipped legislators who are then washed out two years later. And, of course, surge and decline dynamics could be purely a function of changes in turnout and the composition of the electorate. But negativity effects also could be at work.\(^4\) For the eighteen midterm elections since WWII, those from 1946 to 2016, two points warrant note. First, there is a strong relationship between presidential approval and how the president’s party fared.\(^5\) Higher approval corresponds with greater midterm success. Second, the pattern is consistent with the logic of a negativity effect. In terms of presidential approval, the break-even point—the point at which the president’s party sees neither gains nor losses in the House—is 73.6 percent. If midterm losses occur partly because voters are expressing their views of the president, then it would appear that anything short of tremendous presidential success leaves the electorate dissatisfied.\(^6\)

**Hypotheses**

As we have noted, the analyses reported below center on vignette experiments in which incumbent officials are depicted as having fared well, middling, or poorly in meeting their policy

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\(^4\) There is, of course, a vast literature on midterm congressional elections, surge and decline, and so on. The work closest in its logic to the interpretation outlined here is that of Kernell (1977). Kernell shows a link between presidential approval and the midterm congressional vote. More centrally for present purposes, he demonstrates that disapproval of the president more strongly influences the vote choice than does approval.

\(^5\) Data gathered by the authors. The dependent variable is the percentage change in the size of the president’s party’s House delegation from before the midterm to after. The independent variable is presidential approval on October 1 of the election year (percent approve; if two polls are equidistant from October 1, the average is taken). Regressing the dependent variable on approval yields a coefficient of 0.005 (s.e. = 0.001, t = 3.44).

\(^6\) Note that the presidential approval data themselves also could be affected by a negativity bias. If bad news outweighs good news, then, as per Grosskopf and Mondak’s (1998) Supreme Court example, a president who succeeds half of the time should have an approval rating below 50%. Thus, the president’s congressional running mates may have two strikes against them—negativity effects operating directly on presidential approval, and then negativity effects operating on the link between the president’s performance and the congressional vote choice—in midterm years.
objectives. At question is what factors influence judgments of those officials. There are two moving parts: the experimental treatments, and the respondents’ levels of dispositional negativity. Together, these provide the bases for three hypotheses, two prefatory hypotheses concerning the valence of information received by respondents, followed by our central hypothesis, one that incorporate our notion of dispositional negativity. The first two hypotheses posit that subjects will respond to the valence of the information they receive, and will exhibit the strongest reactions to negative information:

H1 (valence): support for incumbent officials will vary in response to the communication of information concerning the policy successes and failures of those officials.

H2 (negativity): support for incumbent officials will vary more strongly in response to the communication of information about policy failures than in response to information about policy successes.

These hypotheses, which are preludes to our analysis of dispositional negativity, simply hold that voters care about, and are responsive to, information regarding incumbent performance (H1), but that bad information outweighs good information (H2). Support for H1 will be found if there are mean differences in attitudes toward the incumbent officials across the experiments’ treatment conditions. Support for H2 will be found if the classic negativity effect is observed—i.e., if shifts in attitudes from neutral treatments are more pronounced when the treatments convey negative rather than positive information.

The final hypothesis captures the logic of our central proposition. Our claim is that the negativity effect is, itself, variable in magnitude, with the most pronounced impact seen among individuals who are dispositionally prone to react strongly to negative information. Framed in terms of the structure of our experiments, we expect that exposure to a negative treatment will
exert the most pronounced effects among subjects who have been identified as scoring high in dispositional negativity:

H3 (dispositional negativity): the impact of information about policy failures on support for incumbent officials will be strongest among subjects with high levels of dispositional negativity.

The rationale underlying H3—which, again, is our central proposition—is that people disposed toward negativity require bad, or at least indifferent, news in order to set them off. From the perspective of H3, dispositional negativity may be inconsequential when the news is good—in the context of this study’s experiments, when the elected official experienced success in office. However, if there are grounds to view the official critically, we expect that the strongest reactions will be observed among subjects with the highest levels of dispositional negativity.

Data

Two data sources are used in the analyses reported below. The first source of data is a national survey conducted via in-person interviews in Costa Rica, with data acquired in the period October 16 to December 10, 2015. The maximum number of available cases is 721. The second data source is a national internet survey conducted in the United States between January 28 and February 5, 2016, a period that straddles the Iowa presidential caucuses, which were held on February 1. The maximum number of cases available in this data set is 3,323. Variable construction and procedures for each survey are discussed in turn.

Costa Rica

The dependent variable in Costa Rica is derived from a vignette experiment. Respondents were asked about a local mayor who had invested funds in a development project. In the four variants, subjects learned 1) that the mayor had proposed investment in development, 2) that the

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7 The survey was conducted by SSI (Survey Sampling International).
investment (of approximately $17,500) had been a success and the municipality received a return of double its initial investment, 3) that the investment had been a failure and the municipality had lost its money, or 4) that the municipality had received back the same amount of funds it had invested, with no gain or loss. After reading the vignette, respondents were asked to evaluate the mayor on a 0 (very poor performance) to 10 (very good performance) scale. The treatments function to vary the valence of information received by respondents. By design, the experiment itself provides sufficient information for us to test our first two hypotheses, which hold that subjects’ evaluations will vary in response to the valence of information, and that negative information will produce the strongest effects. The more novel elements of the analysis require that we incorporate attention to dispositional negativity.

Dispositional negativity is measured with judgment-based ratings of four words from a Spanish-language adaptation (Redondo et al. 2007) of Affective Norms for English Words, or ANEW (Bradley and Lang 1999). Because we wanted terms that are strongly negative, we chose four words with means reported by Redondo et al. as being below 2.0 on their 0 to 10 scale: amenazar (threaten; mean of 1.87 in Redondo et al.), degollar (to slit the throat; 1.48); terrorismo (terrorism; 1.37); and torturer (torture; 1.17). Respondents on the Costa Rica survey were asked to report how each term made them feel, with scale values ranging from 0 (very unhappy) to 10 (very happy). The four negative terms were accompanied on the survey by four positive terms (joy, kiss, laughing, and enjoy). We operationalize dispositional negativity by summing responses on the four items, and rescaling the measure so that it has theoretical minimum and maximum values of 0 and 1 (mean = 0.92; s.d. = 0.12). These data provide us with

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8 For a previous use of terms from ANEW in a political science application, see Lodge and Taber (2005). Norris et al. (2011) use ANEW as their source for the word portion of their examination of the positivity offset and the negativity bias.
a means to test our third hypothesis, that evaluations of the official in the vignette experiment’s negative treatment will vary as a function of dispositional.

Following Norris et al. (2011), the logic underlying our negativity measure is that we are tapping a general disposition. That is, our approach assumes that variation in ratings of the four negative words reflects not a fleeting reaction to those particular terms, but instead a more enduring trait, one that characterizes the individual across time and across situations. We could, of course, be wrong. It may be that negativity is not an enduring disposition. It also may be that negativity is an enduring disposition, but one that our measure fails to capture. In either of these scenarios, null results would be obtained, both in tests of our hypotheses and in validation tests. Unfortunately, as is often the case, this could make interpretation of null results difficult because it would be challenging to differentiate among accounts that 1) we measured dispositional negativity, but dispositional negativity does not matter for assessment of the performance of incumbent officials, 2) dispositional negativity is an enduring and possibly consequential trait, but we failed to measure it adequately, and 3) there is no such thing as dispositional negativity.

As a first step toward addressing this concern, Figure 1 reports relationships between negativity and three series of variables: demographic control variables, political control variables, and political criterion variables.\(^9\) In the first section, which includes demographics and familiar political control variables, we see virtually no significant relationships, and all coefficients hover very close to zero. Hence, similar to what Norris et al. (2011) reported, it is not the case that the Costa Rican measure of negativity merely represents phenomena already captured by familiar control variables. Conversely, in the second section of Figure 1, all six coefficient plots are in the expected direction—i.e., respondents with higher scores on the

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\(^9\) The coefficient plots for the criterion variables (section B) are derived from multivariate models that include as predictors dispositional negativity and all demographic and political control variables, whereas all other plots are from bivariate analyses.
measure of dispositional negativity express more critical or pessimistic views of government—and three of these reach statistical significance. To reiterate, dispositional negativity in this case is measured using an explicitly apolitical procedure, and yet this general representation of negativity still is found to correspond with negative appraisals in the political realm. This is important evidence, because it establishes that dispositional negativity as operationalized here captures a general orientation in individuals, one that extends to other judgmental settings.

**United States**

In the United States, the dependent variable again is drawn from responses to a question following a vignette experiment. The experiment uses a three (incumbent governor is a Democrat, a Republican, or no party affiliation is specified) by three (the governor had a good, bad, or neutral track record in delivering on four campaign promises) design, with random assignment. The text of the vignettes is depicted in the Appendix. After reading the vignette, respondents were asked how likely they would be to vote to reelect the governor, with scale values ranging from 1 (very unlikely) to 7 (very likely). Across all nine cells, a total of 3,007 respondents provided valid answers, with a range of 322 to 344 per cell.

The track record treatment varies the valence of substantive information. Values on the reelection variable should be highest for respondents who were told the governor had fared well in delivering on campaign promises, and lowest for respondents who were told the governor had fared poorly. Once again, the key question we consider is whether those treatments, and

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10 Respondents read that, when initially campaigning for office, the governor had promised to increase the state’s high school graduation rate, decrease the violent crime rate, bring more large businesses to the state, and invest more state resources in infrastructure. In the “good performance” condition, respondents read that the governor had delivered in terms of increasing graduation rates, decreasing crime, and increasing infrastructure investment, but that the state had experienced a decline in the number of large businesses. In the “bad performance” condition, these were reversed, with the governor succeeding in attracting more large businesses, but seeing turns for the worse in the other three areas. In the “neutral performance” condition, respondents read that the state had seen no change in either graduate rates or infrastructure investment, an increase in crime, and success in attracting more large businesses to the state.
especially the one representing poor performance, yield heterogeneous effects. Thus, as in Costa Rica, we require an individual-level measure of dispositional negativity.

Unlike in Costa Rica, we did not have the opportunity to include items measuring reactions to negative apolitical words. Instead, the judgment-based measure we construct draws on data from fourteen feeling thermometers pertaining to ten Republican presidential candidates (Bush, Carson, Christie, Cruz, Fiorina, Huckabee, Kasich, Paul, Rubio, and Trump), three Democratic candidates (Clinton, O’Malley, and Sanders), and Barack Obama. Our first step was to create separate measures of the respondent’s feeling thermometer scores for the ten Republicans and for the four Democrats. The lower of these two partisan averages for each respondent was retained. Consider an example. The typical Democratic respondent will offer lower average feeling thermometer ratings for the ten Republicans than for the four Democrats; the typical Republican respondent will do the opposite. Focusing on the respondent’s lower-rated partisan set provides us with something akin to the least-liked group measure familiar in the tolerance measure (Sullivan et al. 1982). The out-party set of public figures functions, collectively, as a negative stimulus. In Costa Rica, “terrorism” and “torture” were among our bad words, terms thought to elicit negative reactions from respondents. In the U.S., “Hillary Clinton” and “Barack Obama” are among our bad words for Republicans, and “Donald Trump” and “Ted Cruz” are bad words for Democrats. As before, what is of interest to us is variation in the extremity of respondents’ mean ratings to that negative stimulus.

11 A disadvantage of this approach is that it does not account for instances in which respondents did not rate all Democrats higher or lower than all Republicans, meaning our eventual measure may understate perceived negativity. With this in mind, we considered alternate approaches, such as measuring negativity with data from the respondent’s three or four lowest feeling thermometers irrespective of the party affiliations of the targets. We ruled out this option because the imbalance in the list—ten Republicans versus four Democrats—means 1) that data for six Republicans would need to be discarded, and 2) the comparison would have been between feelings toward all or most Democrats versus feelings toward the three or four lowest-rated among ten Republicans. Yet another alternate we considered was to contrast the four Democrats with four Republicans selected randomly from the list of ten. In the end, the simplest approach—comparing all available Democrats with all available Republicans—emerged as the most sensible option.
We seek to use the values on this negative stimulus measure as general representations of dispositional negativity. However, because the negative stimulus is inherently political in nature, it may be that the variation we observe stems partly from political preferences, in addition to any general tendency toward negativity. To examine this possibility, we regressed the thermometer measure on indicator variables representing partisans and strong partisans. Our thought was that partisans and strong partisans may rate officials from the other party especially negatively due to partisan antipathy, rather than solely because of dispositional negativity. Only the indicator variable for strong partisans produced a substantively strong, statistically significant effect. Thus, we re-ran the regression using only the indicator variable for strong partisans, and retained the residuals. These residuals were recoded to range from 0 (most positive observed value) to 1 (most negative observed value). This is our final measure of dispositional negativity. The variable has a mean of 0.63 and a standard deviation of 0.15.

Although use of apolitical terms to form our measure may have been preferable, we actually see it as an advantage that the U.S. measure is constructed with data from candidate feeling thermometers. If similar patterns of results are found in Costa Rica and the U.S., that would speak both to the idea that dispositional negativity is a general orientation and to the idea that multiple measurement strategies can be used to capture it. More critically, it would mean that dispositional negativity possibly can be measured with found data; efficiency is gained and resources are saved if surveys do not require dedicated batteries to capture key constructs.

Our expectations is that dispositional negativity will moderate the impact of exposure to negative information about the governor’s performance—i.e., we expect an interaction between negativity and exposure to the bad track record vignette. Experimental manipulation of the governor’s party affiliation allows us to juxtapose the effects of negativity with those of partisan
affinity and partisan opposition. We do so via an indicator variable that represents whether the governor and the survey respondent were of the opposite party.

As in Costa Rica, further exploration of the properties of our dispositional negativity measure is possible. One matter is whether this construct truly holds the potential to contribute something new to our understanding of heterogeneity in public opinion, or is it merely a reconstitution of one or more familiar predictors? To address this, we examine the relationship between negativity and several commonly-used demographic (e.g., age, gender, education) and political (e.g., political knowledge, attention, interest in politics) variables. We also include a measure of neuroticism, which enables us to reexamine the null result reported by Norris et al. (2011). Second, we seek to provide evidence regarding the validity of the dispositional negativity measure. As in Costa Rica, the means to do so is to assess whether respondents with high values on this measure do, in fact, exhibit general negativity in other domains. For this task, our criterion variables are measures of external political efficacy, trust in the media, perceived fairness of government, and trust in the government of the respondent’s state.

Results of these tests are shown in Figure 2. From top to bottom, the plots report relationships between dispositional negativity and demographics, neuroticism, standard political control variables, and our four criterion variables. Much like in Costa Rica, few significant links emerge between negativity and either demographic or political controls. Noteworthy exceptions include age (older respondents have higher negativity scores), and political knowledge (higher knowledge corresponds with greater negativity). Despite these, there is little evidence to suggest that negativity merely captures something already represented by standard

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12 Coefficient plots for the criterion variables are derived from regression models in which each criterion variable, in turn, is the dependent variables, and predictors include dispositional negativity along with all of the demographic and political control variables listed in the top two sections of the graph. All other coefficient plots report bivariate relationships.
predictors. Consistent with Norris et al. (2011), we also find that dispositional negativity is unrelated to neuroticism. In contrast with results in panel A, strong relationships are seen for all four criterion variables in panel B; individuals with high scores on the negativity measure are prone to see the government as unfair, to perceive a lack of external efficacy, and to express distrust in news media and their state’s government. These results provide strong evidence that the negativity measure does, in fact, represent a general tendency to be critical, at least in the political domain. And, of course, similar results were observed in Costa Rica.

Exploring Variation in Negativity Effects

Analyses are quite straightforward. For both the U.S. and Costa Rica data, we first examine differences in means across the experiments’ treatment conditions. Second, we add dispositional negativity in order to determine whether negativity corresponds with a general tendency to offer critical assessments of the public officials referenced in the experiments. If yes, these results would align with those of the validation tests depicted in the lower portions of Figure 1 and Figure 2. For the U.S. experiment, we also will add partisan discordance at this stage. Lastly, we test our third, and central, hypothesis by adding interaction terms of the form Treatment Condition x Dispositional Negativity; these will enable us to identify possible heterogeneity in how individuals respond upon exposure to negative information.

Figure 3 depicts cell means for the four performance-based experimental treatments in Costa Rica and the three corresponding treatments in the U.S. The Costa Rica results reveal that respondents reacted to the information they received. The Costa Rica experiment includes two “neutral” treatments: one in which respondents were told that the local mayor was planning on investing in development, and one in which respondents were told that the investment had yielded a break-even result. In the top panel of Figure 3, we see that respondents reacted with
apparent optimism upon being told of the planned investment (mean = 6.73 on the 0 to 10 scale). However, the mayor’s gain in approval was negligible (mean = 7.28) when respondents were informed that the program had been successful. Mean approval ratings drop to 3.99 (the break-even condition) and 2.17 (the negative condition) in the experiment’s other two cells. Collectively, these results suggest that Costa Rican respondents expected the mayor’s investment to be successful. Consequently, actual success was not rewarded, failure was punished with lowered approval, and even a break-even performance was perceived as unsatisfactory.13

In the U.S., respondents were asked to assess how likely they would be to reelect the governor, using a seven-point scale. In the neutral condition, a mean of 3.74 is observed, versus 3.30 for the negative treatment condition, and 4.15 for the positive treatment condition. These differences may seem modest, but it is important to keep in mind that the manipulations were subtle. The governor succeeded in three of four policy areas, failed in three, or turned in a mixed performance (one success, one failure, and two policy areas with no change). The vignettes required a close reading for this variation to be apparent. Also, the U.S. experiment included partisan cues. In any case, the observed differences are substantively far from trivial, and they are statistically significant. In line with expectations (H1), respondents as a whole reacted to the

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13 We have not elaborated on different theoretical accounts of negativity, but these results are consistent with the logic of expectancy-contrast views of negativity effects (e.g., Skowronski and Carlston 1989). In simplified form, the motivating logic of this perspective is two-fold. First, people tend to gauge expected performance against a baseline that they themselves set. That baseline can vary across individuals, and it can be only loosely related to underlying probabilities (for analyses in gambling scenarios with known probabilities, see Hajcak et al. 2007). Second, people’s general tendency is to set optimistic expectations. For example, although we have a 50 percent chance of correctly predicting the outcome of a coin flip, we may expect that we can outperform chance, and thus set our own baselines at marks that average 55 percent. These points combine to set people up to be disappointed, and thus to express negative reactions that may seem out of proportion to the objective facts. Suppose that in ten coin flips we obtain actual results of either 60 percent right or 40 percent right. Compared to the 55 percent baseline, we would not be especially enthusiastic about getting 60 percent correct, but we would be highly disappointed with 40 percent. What the results from Costa Rica suggest is that respondents expected a good outcome; in the condition in the treatment condition telling only about the proposal, the mean rating on the dependent variable is a relatively high 6.73. If success is expected, than actual success will garner only modest rewards, but failure will generate strong repercussions. This is precisely the pattern observed in our data.
tenor of the substantive information to which they were exposed. Interestingly, the classic pattern associated with a negativity bias—i.e., that people respond more strongly to negative information than to positive information—is seen here only in very weak form in that negative information produces, on average, a 0.45-point decline in support, versus a 0.40-point gain for positive information. At first glance, the pattern is only weakly consistent with H2.

Substantively, the effects of the treatments appear to be much stronger in Costa Rica than in the United States. This could trace to numerous factors. One is that the treatments in Costa Rica were easier to follow in that they report the mayor’s performance on a single initiative, versus four policy domains in the U.S. A second is that partisanship was a consideration in the United States, and partisan information may have swamped the experimental treatments. Beyond these, there also are differences in culture, political context, and survey modality. If we use the “planned project” treatment as the baseline, then the Costa Rica results offer support for both H1 and H2. Subjects reacted strongly to the valence of the information they received (H1). Moreover, delivering a positive outcome resulted in a positive shift of only 0.55 versus the “planned project” baseline, whereas the negative outcome brought a 4.56-point drop.

The “planned project” treatment in Costa Rica casts the weak results for H2 in the U.S. in a new light. In the U.S. study, we use as the baseline a treatment in which the governor’s performance was mixed. If voters expect success (see note 13), then our erstwhile neutral treatment misses the mark. In Costa Rica, breaking even was viewed as a loss. If U.S. subjects thought similarly, then the actual (unobserved) baseline rating of the governor would be much higher than the 3.74 mark recorded for the neutral performance treatment. Hence, the design of the U.S. experiment possibly understates support for H2 because poor performance by the governor may have yielded ratings well below the baseline set by (unobserved) expectations.
The next step is to determine whether, across treatment conditions within the two experiments, respondents’ assessments varied as a function of dispositional negativity. To accomplish this, we simply regress the dependent variable in each experiment on indicator variables for treatment condition, along with the negativity measures. In the U.S., we also include an indicator variable for whether the respondent and the governor are of opposite party.

Results are shown in Table 1. In both models, support for incumbent officials declines as dispositional negativity rises. However, the effect is statistically significant only in the U.S. As our discussion of research on negativity establishes, most work in political science on negativity is about the valence of the stimulus, not the orientation of the evaluator. The coefficients in Table 1 signal that both may matter. U.S. and Costa Rican respondents reacted to stimulus valence, offering the most negative judgments regarding officials who had performed the most poorly. In short, the situation matters, and it does so sensibly. However, the coefficients for dispositional negativity show that the psychological attributes of individuals may matter, too. By their nature, some people tend to react more strongly than others to real or perceived negative stimuli. We saw previously that this dispositional variation colors respondents’ broader political views, such as those pertaining to trust and efficacy. Results in Table 1 establish that corresponding effects also are found when the judgment at hand pertains to the performance of an elected official. In part, negative judgments reflect evaluators’ dispositions.

The final and most important tests consider whether dispositional negativity is of the greatest influence in circumstances in which subjects receive bad news (H3). Dispositional negativity may incline people to make negative judgments, but this should be most common when people are given grounds to complain. To explore this, we add interaction terms so that we may determine if the impact of dispositional negativity varies in magnitude across the treatment
conditions in our two experiments. For H3 to be supported, the weakest effects should be observed among individuals who were told that the public officials had performed well, and the strongest effects should be observed where performance was poor.

The results in Table 2 provide support for H3. In Costa Rica, the coefficient for the interaction involving dispositional negativity and negative job performance produces a sizeable negative coefficient. Dispositional negativity itself produces a modestly positive coefficient. The interactions between dispositional negativity and both the planning treatment condition and the break-even condition are negligible. Putting this all together, what the results suggest is that dispositional negativity mattered, but only among individuals who learned that the development project had resulted in an economic loss. Participants with high scores on dispositional negativity were strongly critical when learning that the project lost money.

In the United States, as in Costa Rica, the coefficient for the interaction term involving the negative treatment condition establishes that dispositional negativity was most consequential when subjects were told that the governor’s policy performance had not successful. Unlike in Costa Rica, dispositional negativity affected responses in all three treatment conditions, but its impact was approximately 50 percent stronger when the information about job performance was negative rather than neutral or positive. Bad news is stronger than good news, but especially among individuals who are psychologically disposed to react strongly to negative information.

Substantively, the central effects in both nations are quite strong. By a considerable margin, the lowest predicted values on the dependent variables in both nations are for those respondents who 1) were in the “poor performance” treatment condition, and 2) have high values on our measures of dispositional negativity. In Costa Rica, the predicted value on the 0 to 10 dependent measure is 3.46 for subjects who were told the development project had lost money,
and who had relatively low values on dispositional negativity (two standard deviations below the mean); this value falls to 1.64 where dispositional negativity is high (the maximum observed value of 1.0). Among U.S. subjects who received the negative performance treatment, support for reelection of the governor falls from 4.47 to 2.44 on the 1 to 7 scale as dispositional negativity rises from two standard deviations below the mean to two standard deviations above. In both nations, the strongest adverse reactions are seen when negative information and dispositional negativity operate in tandem.

**Conclusions**

Numerous factors produce variation in citizens’ appraisals of incumbent officials. In the present study, working within the broad framework of negativity effects, the interplay of two such factors has been considered. Consistent with the logic of accountability in democratic governance, participants in two vignette experiments rewarded officials who fared well, and punished officials who fared poorly. However, there is an inequality in the reactions to success and failure. People respond more intensely to bad information than to good. This, the classic negativity bias, has been observed in many previous studies in the political realm, and it also is observed here. This first factor is both situational and psychological. Citizens react to the situation—to the positive or negative valence of the information they receive—but, on average, they do so via a psychological bias that privileges negative information over positive. In our experiments, conducted with data from national surveys in Costa Rica and the United States, we saw evidence both that subjects responded to information about performance in office, and that evidence of poor performance generated the sharpest effects.

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14 In Costa Rica, dispositional negativity is left-skewed. Thus, the maximum observed value is less than one standard deviation above the mean. We re-ran the Costa Rica analyses using a logged variant of the negativity measure, but no noteworthy changes in results occurred.
The second factor we have considered is dispositional. Our claim is that individuals differ in their characteristic levels of negativity, or how intensely they react to negative stimuli. This can matter directly for political judgment in that the individuals most disposed to respond sharply to negative cues hardly can be expected to view the political world through rose-colored glasses. And this is what we have observed. Our preliminary tests in Costa Rica show that dispositional negativity is associated with lowered trust in government, satisfaction with government, and external efficacy. Likewise, in the United States, dispositional negativity is related to lessened trust in both government and media, and lowered levels of internal and external efficacy. In our experiments, dispositional negativity mattered for judgments across all treatment conditions in the U.S. study, but a comparable blanket effect was not seen in Costa Rica.

The interplay between the classic negativity effect and our construct of dispositional negativity was captured in tests pertaining to this study’s third hypothesis. Our argument is that the negativity effect should, itself, be variable: bad information is more powerful than good, but especially for people who are disposed to respond intensely to that which is negative. Analyses consistent with this were observed in both experiments. Dispositional negativity was unimportant when participants were told that a project had been planned or that an official had fared well, or even adequately, in office. However, when told that an incumbent had performed at a poor level, dispositional negativity strongly affected responses. In both of our experiments, by far the worst ratings of the incumbent officials were provided by respondents in the “bad performance” treatment conditions who themselves scored high in dispositional negativity.

Dispositional negativity produces heterogeneity in political evaluations. However, that fact alone does not establish that variation in dispositional negativity warrants inquiry. One pressing question is whether differences in negativity matter for citizen competence. A second
question is whether those differences matter for tangible political outcomes. Our own sense is that the answer to both questions mostly likely is yes, although further inquiry will be required to explore these concerns more definitively.

Regarding citizen competence, our core findings suggest that two otherwise similar citizens can examine identical information and reach very different conclusions about its importance due solely to the fact that one of them is more psychologically disposed than the other toward negativity. Although it may be tempting to write this off as a harmless difference of opinion, we see it as more likely that one of the decisions is suboptimal. So which one? If negativity biases are useful,\(^ {15} \) then perhaps those individuals who react weakly to negative stimuli are the problem citizens. They are shrugging off bad news. Conversely, if strong dispositional negativity makes people unduly negative, then the threat to citizen competence would be found among individuals who overreact and blow up—psychologically and judgmentally, that is—when things don’t go just as they would have preferred.

Our own inclination is that the latter of these explanations is the more apt. First, if negativity effects are, in fact, the products of evolutionary forces (i.e., we avoid bad things, because, tens of thousands of years ago, virtually any bad thing held the potential to kill a person), then it is possible that some strong reactions to negative information in the modern world represent evolution gone wrong, or, as Hagen and Hammerstein (2006) view it, a mismatch phenomenon. More specifically, what we are describing would be an example of what Hagen and Hammerstein refer to as a “misapprehension” mismatch, or an instance in which people’s psychological machinery evolved for one situation (i.e., bad things that can kill), and then gets applied in the modern world to a different sort of situation (i.e., bad things that are

\(^ {15} \) As we have noted, Soroka (2014) makes a strong case on behalf of negativity effects in political judgment, and that case is consistent with the logic that the negative bias is an adaptive mechanism.
merely inconvenient or unfortunate). The error would be in the direction of overreaction to bad news, not in underreaction. Second, our reading of negativity effects in the political sphere is consistent with the idea that negative reactions, at least at the collective level, often are disproportionate to the circumstances. Recall, for example, that presidential approval must be unreachably high for the president’s party to avoid midterm congressional losses, and that the Supreme Court loses support when it dares to rule in people’s preferred direction on only one of two major decisions. What seem to be overreactions to negative incidents functionally punish what may actually be successful and responsible political actors.

The dynamics we have described may matter for tangible political phenomena. In both of our surveys, dispositional negativity is linked to low levels of trust and efficacy, variables that are critical to a wide array of political attitudes and behaviors. It is conceivable, for example, that dispositional negativity suppresses voter turnout and other forms of political participation, with trust and efficacy serving as mediators. What is noteworthy about this possibility is that the effects would be systematic. That is, particular individuals—those who happen to be psychologically disposed to react strongly to negative information—would be dissuaded from political engagement. If our reading of this scenario is accurate, it also suggests that carefully targeted mobilization and demobilization campaigns may see dividends by selectively avoiding or emphasizing messages of doom and despair.

We also see implications for matters such as the outcomes of elections. Citizens with high levels of dispositional negativity may cast the deciding votes in close elections. The seemingly fickle nature of these voters—backing a candidate one election, and turning against that candidate the next election—stems from these voters’ overreactions to bad news. Viewed positively, voters with high levels of dispositional negatively may help infuse change into
incumbent-dominated systems. Viewed less charitably, these voters may be acting less
discriminately than we would prefer, routinely throwing the baby out with the bath water. As
with mobilization, one implication is that recognition of the role of dispositional negativity could
influence the targeted persuasion strategies campaigns employ.

The case we have outlined here suggests the need for further applied research on the
implications of dispositional negativity. But there also is foundational work to be done. In the
current study, we devised two different linguistic representations of dispositional negativity.
Although we are encouraged by the fact that they performed quite comparably—with highly
similar relationships to criterion variables, and the same pattern of conditional effects in our two
vignette experiments—we readily concede that more attention to measurement is needed.
Linguistic measures bring obvious benefits in terms of ease and efficiency, but it is far from clear
at present what the ideal linguistic measure of dispositional negativity would be, what
implications might flow from the use of alternate measures, and how variation in responses to
negative linguistic stimuli relates to the variation other analysts have observed using
physiological measures. All of these matters require attention.

Likewise, the conceptual status of dispositional negativity should be explored. Our
assumption, following Norris et al. (2011), is that what we have referred to as dispositional
negativity is, in effect, an individual-level operationalization of the negativity bias. In the
aggregate, the negativity bias refers to the general tendency of people to react disproportionately
strongly to negative stimuli. Our argument is that that collective tendency encompasses
systematic and measurable individual-level variation, and that attention to that variation can be
illuminating. We assume that this individual-level attribute is, or is at least akin to, a personality
trait. That conceptual status requires further study. For example, we view dispositional negativity
as being distinct from the concept of negative affectivity (e.g., Neuman et al. 2007), but, at present, we are mostly lacking in data that would speak directly to that distinction.16

As should be clear, we view ourselves as standing near the beginning of a broader line of inquiry, not at the end. We see considerable promise in further exploration of dispositional negativity. Viewed most abstractly, it is a source of heterogeneity in political judgments, and so it follows that study of variation in dispositional negativity will contribute to the understanding of individual differences. More tangibly, dispositional negativity may be relevant for important conversations about citizen competence and political outcomes. Deeper exploration of those matters thus holds considerable promise.

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16 As noted above, the one bit of evidence we have that speaks to this is that dispositional negativity and neuroticism are uncorrelated on our U.S. survey. Norris et al. (2011) show that their individual-level negativity measure is uncorrelated with neuroticism and with negative affectivity, and also that the latter two constructs are strongly related. Although the many uses of the word “negative” in social scientific research can cause confusion (see Marcus et al. 2000, 138 for a discussion), it hopefully is clear in the present case that the negativity bias and dispositional negativity (the individual-level propensity to react strongly to negative information) are conceptually and empirically distinct from negative affectivity.
References


Figure I.A: Bivariate Regressions of Negativity on Common Demographic and Political Control Variables (Costa Rica Data)

Figure I.B: Multiple Regressions of Political Attitudes on Negativity and Control Variables (Costa Rica Data)
Figure II.A: Bivariate Regressions of Negativity on Common Demographic and Political Control Variables (United States Data)

Figure II.B: Multiple Regressions of Political Attitudes on Negativity and Control Variables (United States Data)
Figure III.A: Experimental Framing Effects on Mayoral Performance Evaluations (Costa Rica data)

Figure III.B: Experimental Framing Effects on Governor Reelection Likelihood (U.S. data)
Table I: Independent Model of Framing and Dispositional Negativity Effects on Political Evaluations

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Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Table II: Interactive Model of Framing and Dispositional Negativity Effects on Political Evaluations

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Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Appendix: Experimental Vignettes

Costa Rica

Suppose that the mayor of your community proposed several reforms in development projects.

   Positive frame: Suppose he invested 10 million colones in a successful development project and the Municipality doubled the money.

   Negative frame: Suppose he invested 10 million colones in a development project that failed and the municipality lost all the money.

   Neutral frame: Suppose that he invested 10 million colones in a development project that was neither successful nor failed, and the municipality neither gained nor lost money.

   Proposal frame: No added text.

On a scale of 0 to 10 where 0 is "Very bad" and 10 is "Very good," how would you evaluate the mayor who did this?

United States

Suppose that you live in a state in which the governor, (a Republican/a Democrat/no party label), is running for reelection. When first running for office, the future governor promised to focus on four issues: increasing high school graduation rates, reducing violent crime, bringing more large businesses to the state, and investing in infrastructure.

   Positive frame: After four years in office, the governor amassed the following record: The high school graduation rate increased from 77% to 79%; the violent crime rate, measured in violent crimes per 100,000 people, decreased from 371.8 to 368.1; the state experienced a net loss of 23 large businesses (defined as businesses with 500+ employees); the state budget allocation for infrastructure was increased from 10.1% of the state’s budget to 10.8%.

   Negative frame: After four years in office, the governor amassed the following record: The high school graduation rate decreased from 79% to 77%; the violent crime rate, measured in violent crimes per 100,000 people, increased from 368.1 to 371.8; the state experienced a net gain of 23 large businesses (defined as businesses with 500+ employees); the state budget allocation for infrastructure was reduced from 10.8% of the state’s budget to 10.1%.

   Neutral frame: After four years in office, the governor amassed the following record: The high school graduation rate held steady at 79%; the violent crime rate, measured in violent crimes per 100,000 people, increased from 368.1 to 371.8; the state experienced a net gain of 23 large businesses (defined as businesses with 500+ employees); the state budget allocation for infrastructure remained unchanged at 10.8% of the state’s budget.

Please indicate how likely or unlikely you would be to vote to reelect this governor.