

All or Nothing: Voting on Multiple Provision Ballot Measures*

Lucas Boschelli[†]

Dino P. Christenson[‡]

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Abstract

Ballot propositions provide a unique instance of direct democracy in which voters have a say in a state's legislative process. However, voters vary in how they understand and evaluate these measures, many of which can be relatively complicated and comprised of multiple provisions. When multiple provisions exist within a single proposition, how do voters weigh their varying support of provisions in their calculus of overall support for the proposition? Are voters deliberate legislators, or do they instead rely on heuristics to guide their final decision? To examine these questions, we conduct a novel survey utilizing three real ballot measures under consideration during the 2022 midterm election cycle. By experimentally assigning how we ask respondents for their support of a given ballot proposition, we garner insight into how voters approach voting on ballots and their greater decision-making process. We find evidence of a negativity bias, which is strongest on the most complex and least polarized issue.

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[†]PhD Candidate, Department of Political Science, Washington University, MSC 1063-228-207, One Brookings Drive, St. Louis, MO 63130. E: boschelli11@wustl.edu, P: (314) 935-5810.

[‡]Professor, Department of Political Science, Washington University, MSC 1063-228-207, One Brookings Drive, St. Louis, MO 63130. E: dinopc@wustl.edu, P: (314) 935-5810.

Ballot measures or propositions provide citizens with a rare opportunity to directly vote on policies. Progressive reformers since the late nineteenth century argued that this act of direct democracy would not only give the public a voice in politics, but also curtail the power of special interests and other political elites (Smith and Tolbert 2004). Recent scholarship has corroborated their high hopes on occasion, including finding that ballot measures can increase efficacy (Bowler and Donovan 2002; Gilens, Glaser, and Mendelberg 2001; Mendelsohn and Cutler 2000), knowledge (Smith 2002) and turnout (Smith 2001; Tolbert, Grummel, and Smith 2001; Parry, Smith, and Henry 2012). Others, have found less reason to be optimistic, noting the limited and conditional nature of any positive externalities (e.g., Everson 1981; Magleby 1984; Dyck and Seabrook 2010; Biggers 2014; Barth, Burnett, and Parry 2020)—and potential for negative ones as well (Dyck and Lascher 2019). In any case, externalities assume a public informed enough to engage with this feature of democracy.

If political science has a consistent finding over several decades of survey research, it has been the American public's political ignorance, at least on factual questions asked in a quiz-like manner (see, e.g., Delli Carpini and Keeter 1993; Luskin 1987). Political sophistication is a long-running concern in studies of voting behavior and political participation generally (e.g., Kuklinski, Metlay, and Kay 1982; Lau and Redlawsk 2001; Popkin 1991), but should be even moreso on ballot measures, which can be complicated, detailed and long. It is unsurprising then that studies of ballot measures have grappled with the public's capacity for direct democracy. The high cognitive burden in this context has meant the debate over ballot measures has hinged on their relative complexity, as well as voter awareness and competence (Bowler and Donovan 1998; Cronin 1989; Gerber and Lupia 1995; Lupia 1994; Magleby 1984; Nicholson 2003; Glaser 2002). Are voters educated, informed—ultimately, competent enough to make *direct* decisions on legislation of varying complexity?

We explore one aspect of the complexity of ballot measures: multiple provisions—i.e., multiple components within a single ballot proposition. Like the multiple provisions in a congressional bill, a ballot measure is rarely restricted to a single proposed change. Instead, the proposition is usually written as a package of a set of related, or, at times, unrelated components. Consider Missouri's marijuana ballot measure in 2022, *Amendment 3*, which not only legalized marijuana, but also set a tax rate for marijuana sale and allowed non-violent marijuana convicts to petition for release. Or Florida's *Amendment 9* in 2018, which included provisions to prohibit both offshore oil and gas drilling, as well as indoor vaping all within the same ballot proposition. Whether related or not, the result of these additional provisions is to add complexity to an already challenging task of evaluating a policy proposal. Furthermore, voters are ultimately asked to vote only on the full proposition, not its individual provisions.

The complications arising from multiple provision ballot measures has not escaped oversight. Thirty-two state constitutions require separate ballot questions for any proposed constitutional amendments, be they citizen initiated or legislative referrals. Moreover, sixteen states currently attempt to prevent constitutional ballot initiatives from containing more than one subject, issue or topic with “single-subject” rules. Just such a rule was recently referenced against Missouri's

Amendment 3 in 2024, which, if passed, would enshrine in the state constitution the right to an abortion up to fetal viability. The pro-life law firm, the Thomas More Society, argued that *Amendment 3* did not focus on a single issue, thereby violating the state's single-subject rule (Rosenzweig-Ziff 2024).¹

Critically, these questions come at a time when ballot measures and direct democracy face increased restrictions from state legislators. Seemingly motivated by the loss of control over law-making to ballot measures, Republican legislative leaders in Utah recently attempted but failed to place on the ballot an amendment to allow legislators to repeal or rewrite voter-approved ballot measures (Schoenbaum 2024). However, Arizona's Proposition 132, which requires a higher 60% majority for initiatives, has already passed. Similar laws in Missouri, Ohio, and North Dakota are slated for votes some time in the next year.

In what follows, we ask how the public's calculation of support for ballot measures takes into account the multiple components that generally make them up. First, does the public take different positions on the components of a ballot measure? And if so, how do the different components enter their calculus of overall support for the proposition? Finally, are these findings conditioned by voter sophistication, education or awareness? Using a survey experiment on real ballot measure proposals conducted around the 2022 Missouri Primary Election, we find substantial variance across the provisions of each proposition. In addition, voters display a negativity bias in their evaluations where they disproportionately weight down their overall evaluations based on their least favorable component. The results are directionally consistent across the three ballot initiatives, and substantively meaningful for the most complex and least polarized issue.

Ballot Measures, Complexity, & Cognitive Biases

Our *reflection article* aims to build upon the literature's engagement with ballot complexity. Specifically, we explore how individuals evaluate multiple provisions within a single ballot proposition, and how those component evaluations translate into the overall support for the proposition. Prior works have considered complexity in terms of the number of ballot measures a voter considers in an election (Bowler and Donovan 1998; Glaser 2002; Selb 2008; Stadelmann and Torgler 2013), the counts of words or lines within a measure (Nicholson 2003), as well as the complexity of the language within the ballot (Reilly and Richey 2011). Critically, we shift the question of complexity away from the presentation of ballot measures and instead to their dimensions of policy content. Despite this novel approach to complexity, our expectations largely stem from the prior literature.

Previous works examining ballot measures have found that when voters evaluate ballot measures, they tend to engage in some form of cognitive bias against their passage; however, the underlying mechanism of this bias is still debated. One body of work argues that voters tend to be susceptible to a status quo bias in opposition to the measure—i.e., a natural opposition to the mea-

1. The petition for the ballot measure was signed by over 380,000 Missourians, but rejected as invalid by a county circuit judge before being overturned by the state Supreme Court. It is currently set to appear on the ballot in November.

sure absent additional information (Bowler and Donovan 2002). This bias is especially prevalent when multiple measures are on the ballot (Augenblick and Nicholson 2016), measures are complex (Hessami and Resnjanskij, n.d.), or voters are largely uninformed regarding the contents of the measure (Barber et al. 2017).

Alternatively, Dyck and Pearson-Merkowitz (2019) suggest that voters instead weigh arguments against a ballot measure more heavily than those in favor of it. They are swayed more by the opposition media frames than the supportive ones. Thus, they offer that negativity bias may be endemic in evaluations of ballot propositions. Our theoretical perspective considers the possibility for negativity bias to exhibit in another manner.

Negativity bias is the well-developed phenomenon that negative information has a greater influence on a host of evaluations than positive information (Kanouse and Hanson 1987; Kahneman and Tversky 1979). Particularly relevant for our work, studies of impression formation have noted that the negative traits of evaluated individuals are weighted more heavily than their positive ones (Birnbaum 1972; Feldman 1966; Fiske 1980). For example, Anderson (1965) finds that positive trait evaluations are virtually averaged in the overall evaluation of the individual, while the overall evaluation from an individual with negative traits are more negative than their average (Ito et al. 1998). Because most modern ballot propositions contain multiple provisions, there is more than one evaluation to conduct for each proposition—not unlike traits within an individual. We expect voters to weigh the provisions with negative evaluations more heavily than those with positive ones. Thus, when looking at the overall support for a ballot measure with multiple provisions, we expect them to be negatively biased simply by virtue of the multiple components, provided, of course, they view one or more components negatively. Individuals should weight their overall score of a proposition downward in accordance with their least favored provision within it. In the following section we describe the survey experiments we created to test this hypothesis.

Data and Design

Regardless of voters’ cognitive bias against ballot measures, their presence has shown no signs of slowing down. In fact, in 2020, there were at least 129 statewide ballot measures in 34 states, with a success rate of over 72%.² In the midterm election year of 2022, 38 states decided on 140 measures with a success rate of 68.6%.³ It is therefore incumbent upon scholars to continue examining how individuals calculate their support for these continuously prevalent political instruments. To do so, we conducted an original survey experiment embedded in a more extensive survey of likely primary voters within the state of Missouri.⁴ Overall, our survey experiment included a sample of 1,107 respondents, largely representative of Missouri’s general population.⁵

2. Accessed January 7, 2023, from https://ballotpedia.org/2020_ballot_measures.

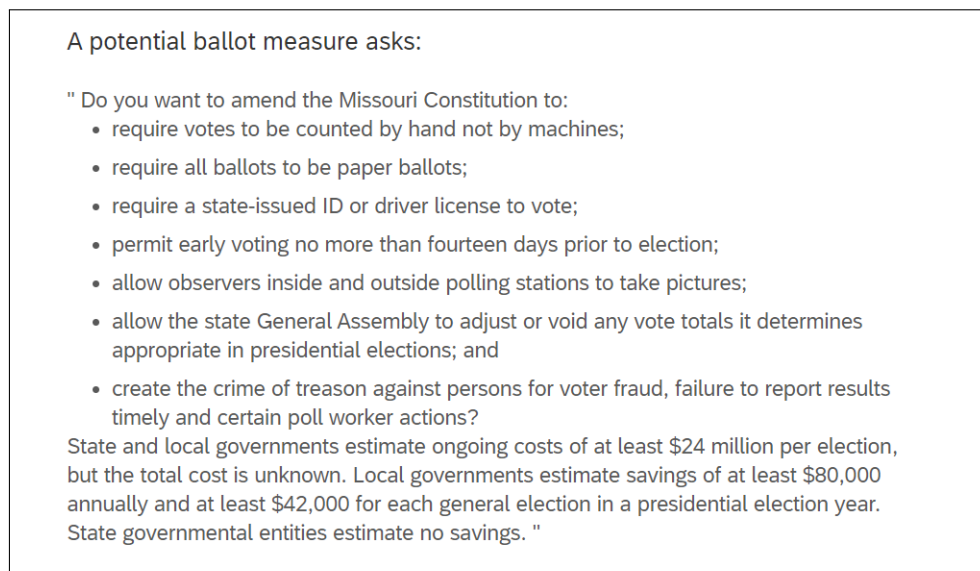
3. Accessed January 7, 2023, from https://ballotpedia.org/2022_ballot_measures.

4. See Section of A.1 of the Appendix for details of our survey and how it was administered.

5. Given the larger survey’s focus on likely primary voters, our sample experienced oversampling in terms of the age (18-34), gender (women) and education (college or above) of participants. See Section A.2 of the Appendix for further details on our sample.

In pursuit of exploring provisional complexity, we randomly assign each respondent to either a treatment or control condition. We first present the entire ballot text for three potential ballot measures in both conditions. The prompts for each measure included the components of the multi-provisional ballot laid out in a bullet point format, as well as the projected cost of the measure to the state. Figure 1 presents an example prompt for one of the measures used in our experiment. We use this standardized format to mimic how the measures may appear on the November ballot and avoid additional ballot wording complexity. While most proposed ballot measures in Missouri follow this bulleted format, we slightly altered the text to improve clarity and better group components.

Figure 1: Sample Ballot Measure Prompt



Immediately following each ballot measure text, we asked respondents randomly assigned to our control group how much they supported the measure on a 4-point Likert scale. We recorded their response as an *Overall* score. For respondents randomly assigned to our treatment group, we instead asked them to rate each component of the measure on the same 4-point Likert scale. To generate a comparable score between our treatment and control, we created a *Composite* score for these individuals by taking the average of the components. By calculating our composite score in this manner, we can test whether individuals' overall support for a ballot measure is a simple aggregation across the multiple provisions or whether they use alternative methods to formulate their overall support. Additionally, we can examine how well-correlated support for each provision is with one another. To avoid question ordering effects, we randomized the order in which the components were presented in the question. As part of the larger survey in which our experiment was embedded, we asked respondents a series of pretreatment demographic questions, which we use later in our multivariate analysis.

To enhance the external validity of our experiment, we leveraged the fair ballot text from three Missouri ballot measures in the process of gathering signatures in the spring of 2022. The first

measure, *Election Security*, proposed a series of changes to the election process, including requiring identification to vote, poll watchers, and, notably, allowing the legislature to adjust vote totals. The second measure, *Marijuana*, proposed the legalization and recreational use and sale of marijuana. The final measure, *Election Reform*, proposed reforms to the state's primary and general elections through open primaries and ranked-choice voting. Of the three measures, the marijuana legalization and election reform measures made it to the signature gathering stage, but only the former made it onto the November ballot.⁶

Beyond increasing our experiment's external validity, our choice of ballot measures allows us to leverage the inherent policy differences between each measure. Specifically, our three measures vary regarding their inherent policy complexity, saliency in news coverage, and partisan association. These features may make it easier or harder for individuals to conceptualize the specific policies and influence how they evaluate the ballots (Magleby 1984; Lupia 1994; Dyck and Pearson-Merkowitz 2019). In terms of complexity, both the marijuana and election security measure prescribe traditionally straightforward policy changes (e.g., the legalization of a substance, the implementation of additional requirements, etc.). However, policy changes such as ranked-choice voting or open primaries—two major provisions of the election reform measure—are likely far more abstract for voters. Similar differences exist in terms of each measure's news coverage and interest, with both the election security and marijuana measures receiving more consistent policy coverage as compared to the election reform measure.⁷ Finally, all three measures vary in terms of their partisan associations, with both the marijuana and election security measures having established—yet opposite—partisan signals and our election reform measure lacking a similar cue (Kimball et al. 2021).

Composite Versus Overall Measures of Support

To test our hypothesis on provisional complexity we compare the generated *Composite* scores to the *Overall* scores. If the scores are indistinguishable, it suggests that individuals' overall score is a rough aggregation of their support for each component of a multi-provisional ballot. That is, likely voters evaluate ballots by averaging across the multiple provisions within them. If, however, the scores are different, it suggests that they engage in some form of *bias* or alternative weighting of components when calculating their overall support for a ballot proposal.

Figure 2 presents the average overall, composite, and component scores for each ballot measure, along with their 95% Bonferroni corrected confidence intervals. For our first two measures, the composites are slightly more supportive than the overall scores, though the difference is not statistically significant. For these measures individuals' overall assessments are virtual averages of their support across the components. Importantly, individuals appear to weigh each component differently, with some components rated significantly more/less favorably than others. This finding

6. Within Section B.1 of the Appendix, we examine how support for each measure compared to the November election results.

7. In Section B.4 of the Appendix, we provide evidence of these differences for the state of Missouri using popular newspaper coverage.

suggests that voters may be sufficiently competent to evaluate even complex multi-provisional ballots in a manner consistent with their policy beliefs. However, these findings appear to only hold for two of our three ballot measures.

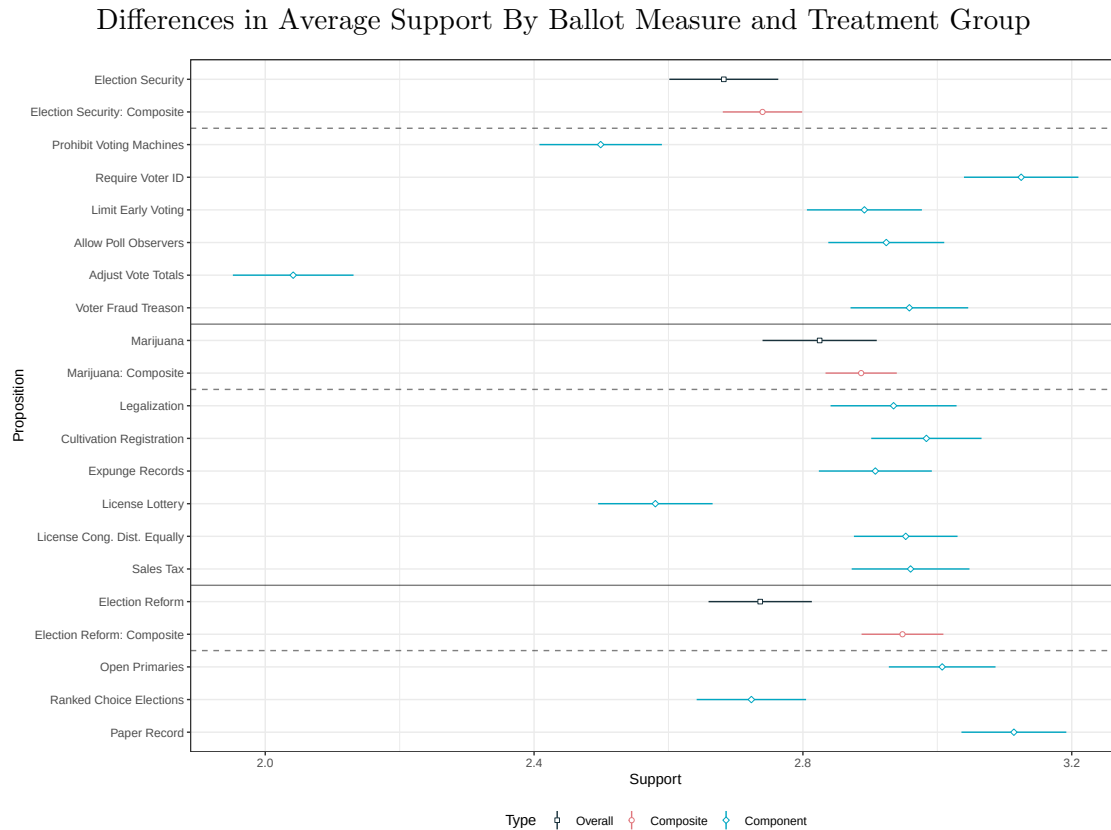


Figure 2: Results include 95% Bonferroni corrected confidence intervals. Composite support scores are the average of a measure's component support scores.

The overall and composite scores for our election reform measure is statistically different and substantively meaningful, with the overall score being 0.21 points lower. For this particular measure, respondents' overall scores is not a simple average of their support for each component. Instead, the overall score is best correlated with the most negatively rated component, ranked-choice voting. Such downweighting appears to exist across all three ballot measures, though it is only significant and substantively large on this issue. Thus, when faced with a multi-provisional ballot, individuals do not always weigh their opinion equally between the components. When they do vary in this context, respondents appear to weigh negatively viewed components more heavily than those they view positively.

The Conditions for Negativity Bias

The striking result from the analysis above is the difference between the overall and composite support scores, and particularly so for the election reform measure. Respondents' overall scores appear more correlated with their most negatively rated component than the composite score. Notably this negativity bias, while present for all propositions, only manifests in a significant difference in support for the election reform measure. What makes respondents evaluate the election reform measure differently than the other two measures?

The election reform measure sits in a potentially unique situation compared to the other measures in our experiment. First, despite their prevalence within the study of political science, ranked choice voting and open primary elections—two core components of the measure—received far less national or local news coverage, and voters may be less informed regarding their meaning and details (Chapp and Aehl 2021; Fahey, Weissert, and Uttermark 2018). Second, unlike either the election security or marijuana measures, the election reform does not benefit from pre-existing partisan signals regarding the policy changes (Kimball et al. 2021). Without these signals, voters cannot lean on their partisan identities when forming an opinion like the other two measures. Thus, being uninformed regarding a complex topic and unable to rely on their political identity, the literature suggests that respondents' evaluations may reflect a cognitive bias.⁸ As we discussed above, in this case we expect the public to disproportionately weight down their overall evaluations based on their least favorable component(s), or a negativity bias.⁹

As a test of this theory, we construct an ordered logistic regression model for each measure's overall score. We control for an individual's politics through party identification, ideology, and self-reported importance of partisan identity. To examine if the difference between our measures results from their complexity or saliency, we also control for media consumption, political sophistication and education.

8. Similarly, Dyck and Pearson-Merkowitz (2019) expect framing effects to be stronger on less salient issues than salient ones, which they relate to “easy” and “hard” issues à la Carmines and Stimson (1980).

9. Since we do not ask respondents about their ballot measure vote choice or preference for maintaining the current policy, a pure test of status quo bias is beyond our design.

Covariate Influence on Overall Ballot Support

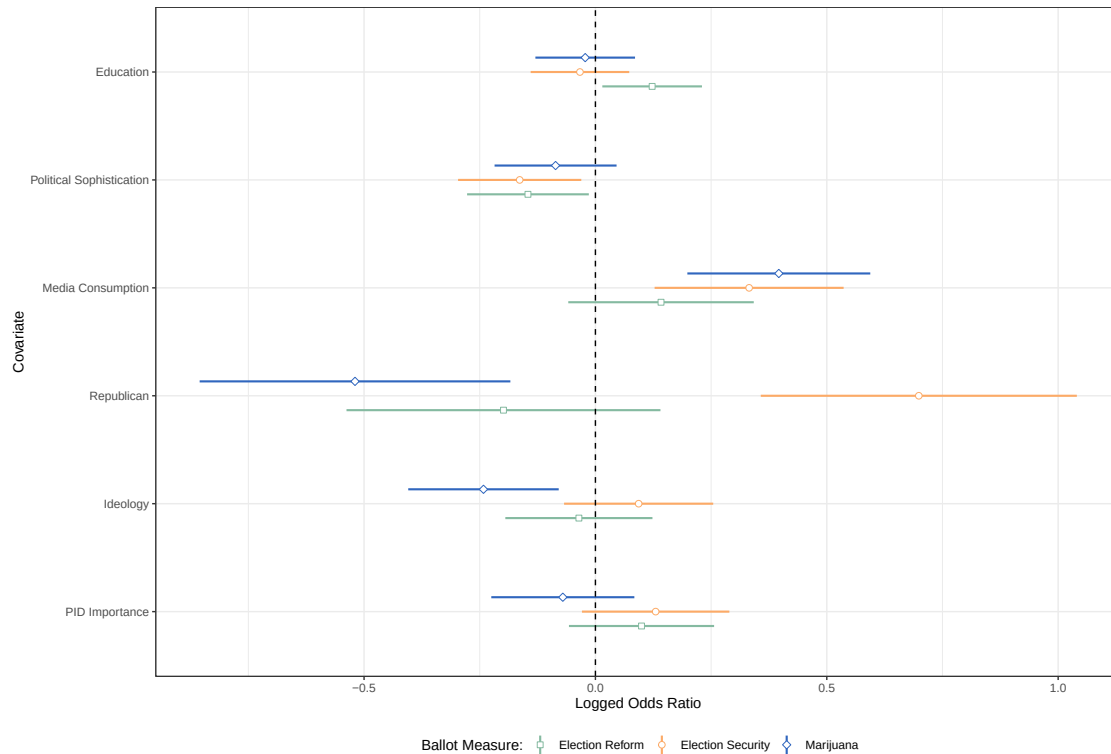


Figure 3: The plot presents the change in logged odds from individual ordered logistic regressions with 95% Bonferroni corrected confidence intervals. Full regression results and complimentary composite score regressions are in the Appendix

The results presented in Figure 3 largely corroborate our initial theory. An individual's partisan identity appears only to influence evaluations of the election security and marijuana measures, but not evaluations for the more complex and less politicized election reform measure. Additionally, education and political sophistication appear to significantly affect individuals' overall support for the election reform measure, albeit in opposite directions. Despite our expectations surrounding differences in news saliency, media consumption has no significant effect on our election reform measure. However, this lack of an effect is likely due to the sparse media coverage surrounding the election reform measure and its policies.¹⁰ Overall, these results suggest that for complex ballot measures that lack clear partisan cues, individuals likely engage in negativity bias, disproportionately weighting down their overall evaluations based on their least favorable components.

10. See Figure B1 in the Appendix.

Discussion

Ballot measures provide voters a direct opportunity to decide on salient policy issues. As these measures grow in policy complexity through the inclusion of multiple provisions, it is vital to understand whether and how voters can evaluate these measures effectively. Our analysis takes an important step in examining how voters calculate their support for three real-life measures containing multiple provisions. Through a novel survey experiment, we find that voters' overall evaluations of politically salient issues with clear partisan messaging are consistent with their average support for each individual provision. However, for measures covering complex issues that lack clear partisan cues, voters exhibit a negativity bias. This bias leads voters to disproportionately weigh down their overall evaluations based on their least favorable provision. Overall, the negativity bias in aggregating multiple provisions suggests that the uphill battle to generate support for ballot measures is even steeper than previously acknowledged especially when voters have any negative preconception of the measure or its components.

Normatively our results bring mixed implications for direct democracy. On a positive note, voters appear capable of processing complex multi-provisional ballot measures and evaluating them in line with their policy preferences. This finding is a potential relief as critical—and often complex—issues such as abortion access, voting rights, and criminal justice reform have recently been left for voters to decide on directly. However, this may only be the silver lining for democracy. First, voters' ability to evaluate consistently appears limited to salient or familiar policy issues. Asking voters to decide on new or innovative policies may produce undo resistance or hesitancy. Second, voters appear heavily reliant on partisan cues when evaluating each measure. Without such cues voters dock their overall support for the measure, pinning them to their least supported provision. The findings suggest that political actors pursuing legislative change via ballot measures can play into partisan polarization to strategically build support, while those who favor the status quo would benefit from complex, multi-provision measures that have yet to be sorted along partisan lines. Additionally attempts to win over bases with so-called "candy" provisions may do more harm than good, if they choose controversial policies.

Competing Interests:

The author(s) declare none.

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Supplementary Appendix

All or Nothing: Voting on Multiple Provision Ballot Measures

Lucas Boschelli*

Dino P. Christenson†

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*PhD Candidate, Department of Political Science, Washington University, MSC 1063-228-207, One Brookings Drive, St. Louis, MO 63130. E: boschelli1@wustl.edu, P: (314) 935-5810.

†Associate Professor, Department of Political Science, Washington University, MSC 1063-228-207, One Brookings Drive, St. Louis, MO 63130. E: dinopc@wustl.edu, P: (314) 935-5810.

A Survey Details

A.1 Research Ethics Statement:

Recruitment:

The administration and recruitment of our study were conducted by the survey firm Qualtrics from July 2022 until August 2022. The firm used vendors to source the panel. Panelists received a survey invite from the panel vendor (through email, text, app, etc.) with the time commitment and compensation amount. The larger survey panel in which our sample was embedded was sampled to be demographically representative of Missouri's general population, with an over-sampling of likely primary voters. Respondents were not given specific details regarding the survey until they decided to participate to avoid self-selection bias. Participants could start or stop the survey at any time, opt out of the survey at any point, and receive no penalty. All panelist participated in the survey online. **Figure A1** displays an example recruit notification for a Qualtrics survey.

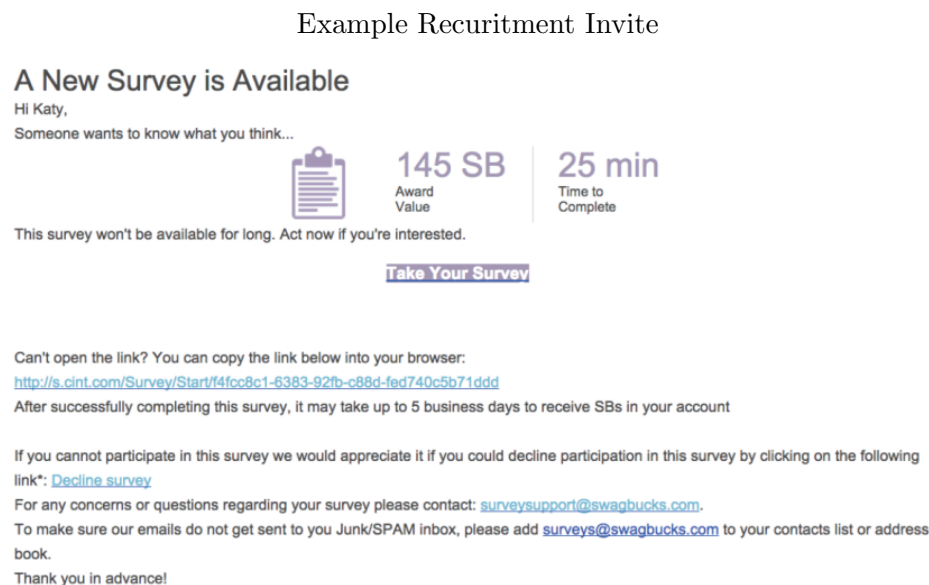


Figure A1: **Please note:** this is an example invite potential participants received, and not the specific one used for this survey.

Consent:

Before beginning the survey, all respondents were presented with an informed consent agreement. This agreement disclosed the purpose of the survey, the types of questions asked, our university, the length of the survey, and the anonymity of their responses. Respondents were also provided an email contact for our research team as well as the email and phone contact for our university's Human Research Protection Office.

Compensation:

Qualtrics does not compensate participants directly, rather they pay their respective vendor for each panel participant's response. These vendors then compensate participants directly. Each panel vendor used by Qualtrics had their own compensation agreement with their panelists for taking the survey (i.e., gift cards, cash, airline miles, etc.). Each participant received between \$4-6

in compensation for their participation. Regardless of how long it took respondents to complete the survey, they were compensated for the projected survey time of 15 minutes. The average respondent completed the survey in less than 10 minutes.

Deception:

Our study and the larger survey in which it was embedded did not engage in any form of deception.

Confidentiality:

All survey data were anonymized, and only aggregate levels of the responses were presented within the results of this letter.

Harm and Impact:

The risks to respondents were minimal as they were presented with hypothetical ballot measures and asked for their support of the measures. The ballot measures covered common policy issues often discussed within online forums, televised news programs, and local newspapers.

IRB Approval:

Our study received IRB approval from our university on July 5th, 2022.

Preregistration:

Our study was not preregistered.

A.2 Sample Composition

In Table A1 we provide the composition of our survey sample compared to Missouri's general population, general voters, and primary voters. We generated statistics for Missouri's general and primary voters using a commercial voter file provided by L2. Our survey was targeted to be demographically representative of Missouri's 2022 general population and was conducted as part of a survey of likely primary voters within the state of Missouri. In Table A3, we also provide the balance between our treatment and control conditions. We find no evidence that our treatment and control groups statistically differ across covariates.

Table A1: Detailed Survey Composition

Characteristic	Sample	State	General Voters	Primary Voters
Race:				
White	80.66	80.08	81.00	82.03
Black	12.37	12.34	6.26	6.38
Other	7.77	7.56	12.74	11.78
Gender:				
Women	53.02	51.04	52.79	51.33
Men	44.80	48.95	46.40	47.96
Age:				
18-34	31.61	28.43	15.89	11.31
35-55	33.42	32.17	32.72	29.36
55+	34.86	39.39	51.37	59.32
Education				
Less than HS	4.97	8.61	3.99	3.67
Highschool	31.79	30.52	29.50	30.47
Some College+	63.23	60.86	66.49	65.85

Note: General and Primary voter demographics were generated using a commercial voter file provided by the company L2.

Table A2: Covariate Balance Between Experiment Groups

Characteristic	Control	Treatment	Δ	p-value
Race:				
White	0.791	0.783	0.008	0.757
Black	0.112	0.118	-0.006	0.769
Other	0.022	0.029	-0.007	0.442
Gender:				
Women	0.532	0.528	0.004	0.882
Men	0.449	0.447	0.003	0.925
Age:				
Age 18-34	0.329	0.306	0.023	0.413
Age 35-55	0.339	0.329	0.010	0.718
Age 55+	0.332	0.365	-0.033	0.248
Education				
Less than HS	0.047	0.052	-0.006	0.673
Highschool	0.310	0.325	-0.015	0.592
Some College+	0.643	0.622	0.021	0.479
Miscellaneous				
Total Count:	553	554	-	-

Note: Differences were calculated using Welch Two Sample t-tests. We find no significant differences between our treatment and control groups.

A.3 Ballot Measure Prompts:

In Figure A2, Figure A3, and Figure A4 we provide the ballot measure prompts for our survey experiment. Below each prompt we provide both our treatment and control questions asked directly following each prompt. We randomized the order of the ballot components within the treatment questions to avoid question ordering effects.

Figure A2: Election Security Measure Prompt

A potential ballot measure asks:

" Do you want to amend the Missouri Constitution to:

- require votes to be counted by hand not by machines;
- require all ballots to be paper ballots;
- require a state-issued ID or driver license to vote;
- permit early voting no more than fourteen days prior to election;
- allow observers inside and outside polling stations to take pictures;
- allow the state General Assembly to adjust or void any vote totals it determines appropriate in presidential elections; and
- create the crime of treason against persons for voter fraud, failure to report results timely and certain poll worker actions?

State and local governments estimate ongoing costs of at least \$24 million per election, but the total cost is unknown. Local governments estimate savings of at least \$80,000 annually and at least \$42,000 for each general election in a presidential election year. State governmental entities estimate no savings. "

Control: How much do you support or oppose this measure?

(Strongly Oppose - Strongly Support 4pt Likert scale)

Treatment: How much do you support or oppose each aspect of this measure?

(Each Strongly Oppose - Strongly Support 4pt Likert scale)

1. Prohibit the use of machines to tabulate votes.
2. Require government issued voter identification
3. Limit early voting to no more than 14 days before an election
4. Allow for poll observers
5. Allow the state legislature to adjust or void vote totals
6. Make voter fraud a crime of treason

Figure A3: Marijuana Measure Prompt

A potential ballot measure asks:

"Do you want to amend the Missouri Constitution to:

- remove state prohibitions on purchasing, possessing, consuming, using, delivering, manufacturing, and selling marijuana for personal use for adults over the age of twenty-one;
- require a registration card for personal cultivation with prescribed limits;
- allow persons with certain marijuana-related non-violent offenses to petition for release from incarceration or parole and probation and have records expunged;
- establish a lottery selection process to award licenses and certificates;
- issue equally distributed licenses to each congressional district; and
- impose a six percent tax on the retail price of marijuana to benefit various programs?

State governmental entities estimate initial costs of \$3.1 million, initial revenues of at least \$7.9 million, annual costs of \$5.5 million, and annual revenues of at least \$40.8 million. Local governments are estimated to have annual costs of at least \$35,000 and annual revenues of at least \$13.8 million."

Control: How much do you support or oppose this measure?
(Strongly Oppose - Strongly Support 4pt Likert scale)

Treatment: How much do you support or oppose each aspect of this measure?
(Each Strongly Oppose - Strongly Support 4pt Likert scale)

1. Legalize the use of marijuana for adults 21 years or older
2. Require a registration card for personal cultivation with prescribed limits;
3. Allow individuals convicted of non-violent crimes to petition for their release from incarceration and/or have their record expunged
4. Establish a lottery selection process to award licenses and certificates
5. Issue equally distributed licenses to each congressional district
6. Impose a 6% tax on the sale of marijuana

Figure A4: Election Reform Measure Prompt

A potential ballot measure asks:

"Do you want to amend the Missouri Constitution to:

- make primary elections for statewide office, Missouri General Assembly and United States Congress open elections in which all candidates appear on a single ballot;
- establish ranked-choice voting, also known as instant-runoff voting, for general elections, in which voters can rank the four candidates that succeeded from the primaries; and
- require that each voting machine can produce an individual, permanent paper record for each vote cast that the voter can inspect and that must be preserved for use in an election audit.

State and local governmental entities estimate costs of \$2.7 million to at least \$5.2 million in one-time costs, and ongoing costs of at least \$27,000 annually, \$170,000 each primary election, \$152,000 each general election, and \$117,000 for all other elections. State and local governmental entities estimate no savings."

Control: How much do you support or oppose this measure?
(Strongly Oppose - Strongly Support 4pt Likert scale)

Treatment: How much do you support or oppose each aspect of this measure?
(Each Strongly Oppose - Strongly Support 4pt Likert scale)

1. Make primary elections for statewide office, Missouri General Assembly and United States Congress open elections in which all candidates appear on a single ballot
2. Establish ranked-choice voting, also known as instant-runoff voting, for general elections, in which voters can rank the four candidates that succeeded from the primaries
3. Require that each voting machine can produce an individual, permanent paper record for each vote cast that the voter can inspect and that must be preserved for use in an election audit

A.4 Political Sophistication Questions:

Below we provide the four question battery used to generate a political sophistication score for each of respondents. An individual's level of political sophistication is total number of questions answered correctly.

US Senate: For how many years is a United States Senator elected—that is, how many years are there in one full term of office for a U.S. Senator?
(Choices 1 through 10)

Supreme Court: What job or political office does John Roberts now hold?
(4 Choices)

Filibuster: A filibuster in the U.S. Senate can be used to prevent legislation from coming to a vote. How many votes are needed to end a filibuster?

(4 Choices)

Current Political Events: Ontario declared a state of emergency after truck drivers parked their rigs in the middle of intersections in Canadian cities, blocking traffic, and, in some places, bringing daily life and business to a standstill to protest what?

(4 Choices)

A.5 Demographic Survey Questions:

Below we provide the demographic questions used to performed the analysis within the paper. Some responses were recoded in the analysis for ease of interpretation.

Gender: How would you describe your gender?

(Converted to binary categories)

1. Man
2. Woman
3. Other
4. Prefer not to say

Education: What is the highest level of school you have completed or the highest degree you received?

(Converted to 1-7 scale)

1. Less than high school degree
2. High school graduate (high school diploma including GED)
3. Some college, but no degree
4. Associate's degree (2-year)
5. Bachelor's degree (4-year)
6. Master's degree
7. Doctoral degree (PhD)
8. Professional degree (JD, MD)

Race: What is the highest level of school you have completed or the highest degree you received?

(Converted to binary categories)

1. White, non-Hispanic
2. Black, or African American, non-Hispanic
3. Asian
4. American Indian, Native American, or Alaska Native

5. Native Hawaiian or Pacific Islander
6. Hispanic, Latino, or Latinx
7. Other

Income: What is the highest level of school you have completed or the highest degree you received?
(Converted to 1-7 scale)

1. Less than \$20,000
2. \$20,000-\$39,999
3. \$40,000-\$59,999
4. \$60,000-\$79,999
5. \$80,000-\$99,999
6. \$100,000-\$149,999
7. \$150,000 or more

Party Id: Generally speaking, do you think of yourself as a Democrat, Republican, Independent, or what?
(Converted to binary indicators)

1. Democrat
2. Republican
3. Independent
4. No preference
5. Other

Party Id Importance: Regardless of whether you identify as a Democrat, a Republican, an Independent, or something else, how important is that party identification to you?
(Converted to 1-4 scale)

1. Very important
2. Moderately important
3. Slightly important
4. Not very important

Ideology: How would you describe yourself in ideological terms?
(Converted to 1-7 scale)

1. Very liberal
2. Liberal
3. Slightly liberal

4. Moderate
5. Slightly conservative
6. Conservative
7. Very conservative
8. Not sure

Media Consumption: Generally speaking, how closely do you follow politics (on TV, radio, newspapers, on the Internet, or elsewhere)?
(Converted to 1-4 scale)

1. Very closely
2. Fairly closely
3. Not very closely
4. Not at all

A.6 Dependent Variables By Treatment

Table A3: Dependent Variable Between Experiment Groups

Variable	Control (C) or Treatment (T)	Mean	SD
Overall Support:			
Election Security	C	2.68	0.95
Marijuana	C	2.82	0.99
Election Reform	C	2.73	0.90
Composite Support:			
Election Security	T	2.73	0.69
Marijuana	T	2.88	0.62
Election Reform	T	2.95	0.71
Election Security:			
Prohibit Voting Machines	T	2.45	1.07
Require Voter ID	T	3.12	1.00
Limit Early Voting	T	2.90	1.00
Allow Poll Observers	T	2.9	1.01
Adjust Vote Totals	T	2.04	1.06
Voter Fraud Treason	T	2.96	1.03
Marijuana:			
Legalization	T	2.93	1.10
Cultivation Registration	T	2.98	0.96
Expunge Records	T	2.91	0.99
License Lottery	T	2.58	1.00
License Cong. Dist. Equally	T	2.95	0.91
Sales Tax	T	2.97	1.03
Election Reform:			
Open Primaries	T	3.01	0.93
Ranked Choice Elections	T	2.72	0.96
Paper Record	T	3.11	0.92

Note: Composite measures of support are the average support for each measure's individual provisions.

B Supplemental Analyses

B.1 Support for Ballot Measures

In the following section, we briefly describe the level of support for the ballot measures within our sample. Table B1 shows the support and opposition towards each of the three proposed

ballot measures in our survey: election security, marijuana legalization and election reform.¹ The dichotomies are a result of grouping the Likert scales for slightly support and strongly support together, as well as slightly oppose and strongly oppose together. We do so for the full sample in the first table, and then by party identification in the second and third tables.

Table B1: Support for Three Ballot Measures

Ballot Measure	Oppose	Support
<u>Full Sample:</u>		
Election Security	38.0	61.9
Marijuana	34.1	65.9
Election Reform	36.8	63.2
<u>Republicans:</u>		
Election Security	25.2	74.7
Marijuana	40.2	59.8
Election Reform	35.6	64.4
<u>Democrats:</u>		
Election Security	45.0	55.0
Marijuana	24.8	75.1
Election Reform	37.3	62.7

Note: The table only includes respondents who provided their overall support for a ballot measure. A respondent is in support of a measure if they answer ‘slightly support’ or ‘strongly support’ and in opposition if they answer ‘slightly oppose’ or ‘strongly oppose’.

Overall, our results show that all three of the measures garnered more support than opposition. If we are to take “slight support” as indicative of a supportive vote, then all three ballot measures would have passed were they to have been included on the 2022 primary election ballot.² The only measure to meet the requirements for inclusion on the general election ballot several months later was marijuana legalization. While the measure passed, it did so with less support than our sample suggests, 53.1% (1,089,017 votes) relative to our 65.9%. Weighting the results to match expected primary and general election results move support for each of the three measures down only slightly to 62.63%, 64.39% and 60.29%, respectively for primary voters, and down to 62.59%, 63.95% and 59.58%, respectively for general election voters.³

Breaking the sample down by partisanship, we find familiar patterns of support. Democrats were most supportive of marijuana, Republicans of election security, both at about 75% support. Most importantly for our subsequent analyses, Republicans and Democrats were closest in their levels of support for election reform, at 64% and 63%, respectively. The issue did not carry the same partisan divide as election security and marijuana legalization. Thus, our three ballot measures do a good job of providing some partisan variance, with one issue favorable to each party and opposed

1. In Table B.1 within the Appendix, we provide a table disaggregated across all levels of support and opposition.

2. We did not specifically ask how the respondents’ would have “voted” on such a ballot.

3. We generated population weights using a commercial voter file provided by L2.

by the other, and one with similar partisan support.

B.2 Alternative Support Table Specification

In Table B2 we present support for each member disaggregated between individuals who slightly support and strongly support each measure. While individuals are overall supportive of the measures, the majority only slightly support each measure.

Table B2

Ballot Measure	Strongly Oppose	Slightly Oppose	Slightly Support	Strongly Support
<u>Survey:</u>				
Election Security	14.08	24.00	41.52	20.40
Marijuana	13.00	21.12	36.28	29.60
Election Reform	10.29	26.53	42.41	20.75
<u>Republicans:</u>				
Election Security	4.02	21.26	48.85	25.86
Marijuana	14.94	25.29	36.78	22.99
Election Reform	12.64	22.99	47.13	17.24
<u>Democrats:</u>				
Election Security	18.68	25.26	38.16	17.89
Marijuana	12.11	19.21	36.05	32.63
Election Reform	9.21	28.16	40.26	22.37

Note: The table only includes respondents who provided their overall not composite support for a ballot measure.

B.3 Conditions of Negativity Bias: Full Regression Results

In Table B3 we provide the full regression results for our analysis of the conditions for negativity bias. In addition to the ordered logistic regression models for each measure's overall score, we also provide ordinary least squares models for each measure's composite scores.

Table B3: Comparison of Covariate Influence on Ballot Support

	<i>Dependent variable:</i>					
	Election Security		Marijuana		Election Reform	
	(1)	(2)	(3)	(4)	(5)	(6)
Education	-0.033 (0.054)	-0.040* (0.018)	-0.022 (0.055)	-0.017 (0.017)	0.123* (0.055)	0.013 (0.019)
Political Sophistication	-0.164* (0.068)	-0.034 (0.023)	-0.086 (0.067)	-0.001 (0.022)	-0.146* (0.067)	-0.035 (0.025)
Media Consumption	0.332* (0.104)	0.019 (0.036)	0.396* (0.101)	0.091* (0.034)	0.142 (0.102)	0.123* (0.040)
Republican	0.699* (0.174)	0.407* (0.060)	-0.520* (0.171)	-0.200* (0.057)	-0.199 (0.173)	-0.044 (0.066)
Ideology	0.093 (0.082)	0.071* (0.028)	-0.242* (0.083)	-0.044 (0.026)	-0.036 (0.081)	-0.001 (0.030)
Party Id Importance	0.130 (0.081)	0.131* (0.028)	-0.070 (0.079)	0.053* (0.027)	0.100 (0.080)	0.014 (0.031)
Constant		2.280* (0.146)		2.732* (0.137)		2.615* (0.160)
Score Type	Overall	Composite	Overall	Composite	Overall	Composite
Model Type	OLR	OLS	OLR	OLS	OLR	OLS
Observations	554	553	554	553	554	553
AIC	1423.678	-	1445.452	-	1415.254	-
Adjusted R ²	-	0.139	-	0.053	-	0.018

*p<0.05

The table above presents the results of a series of regressions with standard errors presented within parentheses. Each regression highlights the covariate influence on both overall and composite scores of support for each ballot measure.

B.4 Ballot News Coverage:

Within the body of the paper, we claim that each of our ballot measures varies regarding news coverage, with our election security measure theoretically having the least. To evaluate this claim, we examine the news coverage from Missouri's five most prominent newspapers and their websites.⁴ For each newspaper, we search both the title and content of all published articles from January 1st, 2022 until December 31st, 2022 for mentions of our ballot measures or their relevant policy areas. For example, for our election security measure, we searched for "Missouri Changes to Voting Procedures Initiative" and additional terms such as "poll watchers," "election security," and "voter id laws." This process allows us to capture Missouri citizens' broad exposure to each measure and its associated policy issues. We plot the monthly totals in Figure B1. As we theorized, both our election security and marijuana measures received consistently greater news coverage over the year. Interestingly, the election reform measure sometimes received as much coverage as our other measures but received less than half of the total coverage.

4. The newspapers included within our sample are: The Kansas City Star (www.kansascity.com), St. Louis Post-Dispatch (www.stltoday.com), Springfield News-Leader (www.news-leader.com), St. Louis Business Journal (www.bizjournals.com/stlouis), and Riverfront Times (www.riverfronttimes.com)

Newspaper Coverage of Ballot Measures and Associated Policy Issues

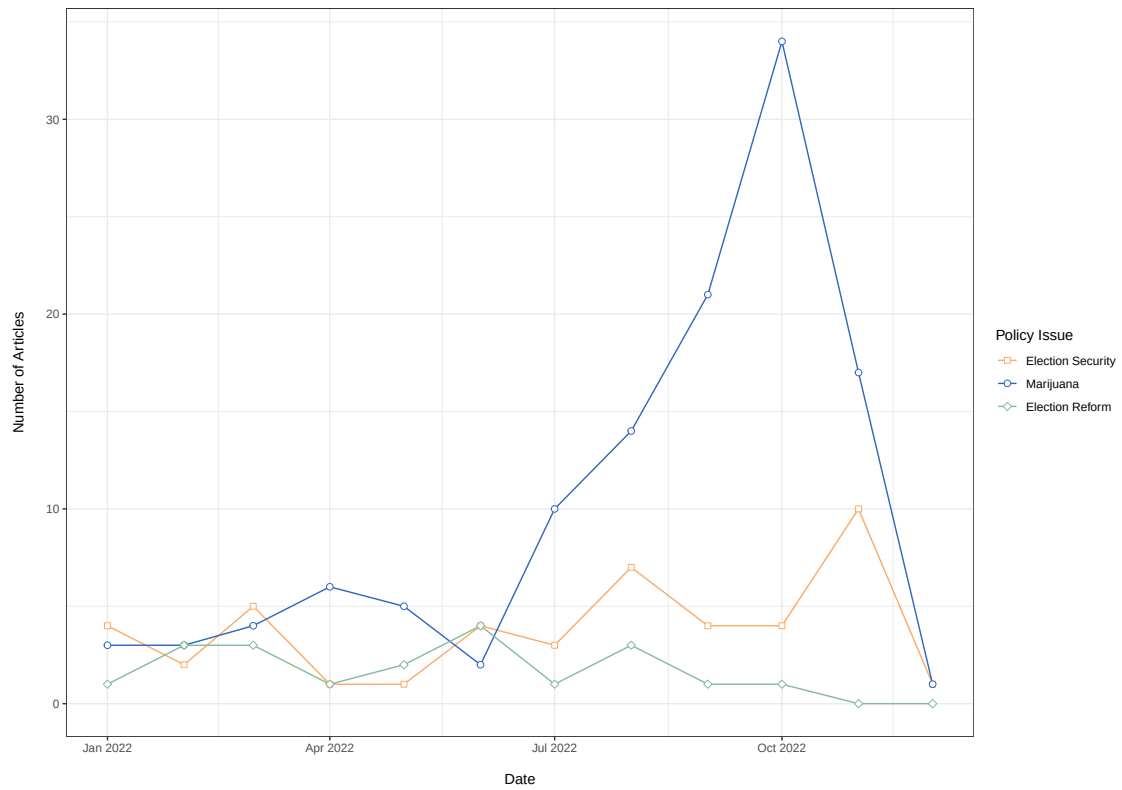


Figure B1: Monthly news coverage of policy issues from Missouri's five largest newspapers.