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## Does Question Wording Predict Support for the Affordable Care Act? An Analysis of Polling During the Implementation Period, 2010–2016

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### ABSTRACT

The Patient Protection and Affordable Care Act (ACA) continues to be the subject of fierce political debate in the United States. Drawing on issue framing theory, together with research on wording effects in survey responding, we tested how common differences in the wording of ACA surveys relate to apparent public support for the law. We report on a content analysis of  $N = 376$  U.S. national opinion surveys fielded during a more than six-year period, beginning 23 March 2010 (when President Obama signed the bill into law) and ending 8 November 2016 (Election Day), and use ordinary least squares (OLS) regression models to predict public support for the law as a function of variation in question wording. We coded questions gauging general sentiment toward the law for differences in issue labeling (e.g., Obamacare, Affordable Care Act), whether or not they referenced particular political entities (e.g., President Obama, Congress) or segments of the public (e.g., You, Your Family), various opinion metrics (e.g., Support, Favor), and different response options (e.g., Repeal, Expand) which we used to model aggregate levels of support. The results revealed several key differences in question wording—for example, generic references to the Healthcare Law were employed much more frequently than Obamacare or Affordable Care Act—a number of which reliably predicted aggregate levels of public support. The discussion considers possible explanations for these patterns and reiterates the value of attending to questionnaire design features when interpreting survey data about politically contentious health policy issues.

In March of 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act (ACA), also known colloquially as “ObamaCare.” The landmark federal healthcare legislation represents a significant extension of federal power into the healthcare arena and remains highly contested, especially with regard to its individual mandate provision, which took effect in January of 2014 and requires most Americans to have health insurance or to pay a tax penalty (Chandra, Gruber, & McKnight, 2011). The law also forbids health insurance companies from denying coverage to persons with pre-existing conditions and mandates employers to provide health insurance to their full-time employees or face stiff fines (ObamaCareFacts, 2015). Due to the intense media coverage and public interest concerning the law (e.g., Gans, 2014; Hopper, 2015), dozens of polling organizations have issued hundreds of surveys to gauge its reception among the general public. Naturally, these survey questions differ in word choice and form. In the present study, we ask to what extent, if any, do these wording differences relate to observed public support for the law?

In doing so, we draw on the large literature from communication, psychology, political science, and related fields on framing theory and related effects (Chong & Druckman, 2007;

Entman, 1993; Scheufele, 1999). Frames are often conceived as interpretative packages (Gamson & Modigliani, 1989) that are rendered salient, typically through language, and guide how audiences process issue-related information (Entman, 1993). Demonstrations of the influence of different frames on choice preferences, referred to as framing effects, have proliferated in recent decades across the social sciences (Druckman, 2004), including numerous instances in which seemingly insignificant differences in the wording of survey questions appear to dramatically effect survey responses. For example, Americans appear more supportive of anti-democracy rallies when asked whether they should be “forbidden” versus “allowed” (see Hippler & Schwarz, 1986). More recent examples are evident in polling on the Boston Marathon tragedy that referenced a “terrorist” or “domestic” attack involving “bombs” or “weapons of mass destruction” (Associated Press, 2013; Franzen, 2013; Levs & Plott, 2013), and that fewer Americans report believing that “global warming” is really happening, compared to “climate change” (e.g., Schuldt, Konrath, & Schwarz, 2011). Although wording or labeling differences, in and of themselves, may not necessarily constitute different frames (Lakoff, 2010; Schuldt, 2016), they are nevertheless capable of shaping the cognitive content that becomes accessible in the minds of survey respondents, thereby increasing the likelihood that the

content will be used to answer the survey question at hand and carrying important implications for apparent public opinion toward important issues of the day (see Schwarz, 1999, for an overview).

Below, we first consider common question wording variants in Affordable Care Act surveys and related research, before turning to the present study: a systematic content analysis of 376 national-level surveys fielded over a more than six-year period beginning on 23 March 2010, when President Obama signed the ACA bill into law, and ending on Election Day (November 8th) of 2016.

### Question Wording in ACA Surveys

Surveys of Americans' opinions toward the ACA have referred to the law with a range of labels—from the "Affordable Care Act" (emphasizing its financial benefits) to "Obamacare" (emphasizing the president's role in its development), as well as more general descriptions including the "health care law passed [...] in 2010" and "bill that makes major changes to the country's health care system" (Newport, 2013). Beyond the label chosen for the law itself, a variety of response options have been employed in assessing public sentiment (as noted in tables below), including those asking respondents if they "generally approve or disapprove," whether they feel that it is "wonderful," "progress," "a step backward," "disastrous," or "how pleased or disappointed [they] would be" should the law be "repealed." Survey questions have also differed in whether they name key sponsors of the law, with some referencing the "law President (Barack) Obama signed" or that was "passed by Barack Obama and Congress."

Despite this heterogeneity of survey question wording and form in ACA polling, little is known regarding how these differences may relate to public opinion about the law since its passage. This is an important gap, given that key provisions have yet to take effect and the strong politicization that has long shrouded the law, from its passage (Rigby, Clark, & Pelika, 2014) and state-level implementation (Haeder & Weimer, 2015) to its role as a major issue in the presidential campaign of Donald Trump (e.g., Haberkorn, 2016). Prior work offers some suggestive evidence. For example, a wording experiment by Gallup Research randomly assigned respondents to report their opinion toward "the 2010 healthcare law that restructured the American healthcare system" on a question that labeled the law as either the "Affordable Care Act" or as "Obamacare." The Affordable Care Act wording yielded the greatest support for the law (45%), while mentioning Obamacare only yielded the least support (38%) (Newport, 2013). Other studies examining the role of framing in recent healthcare reform focused on the pre-implementation period from 2009–2010 (e.g., Brodie et al., 2010; Jacobs & Mettler, 2011), with one analysis finding that support for the ACA's public insurance option ranged from 47% to 65%, when the word "insurance" was omitted versus when the word "Medicare" was used, respectively (Grande, Gollust, & Asch, 2011).

Although previous research suggests that question wording may play an important role in polling results in the ACA,

significant questions remain. First, the bulk of extant research was conducted before the bill was signed into law—in other words, when the ACA was a possibility rather than a political reality affecting the lives of millions. Relevant and high profile events occurring during the intervening years, such as problems with the Website healthcare.gov (Mullaney, 2013), have provoked renewed political debate and widespread media coverage that likely hold consequences for public opinion. Moreover, whereas prior work on question wording in the ACA context (and in public opinion research more generally) has examined how effects vary across demographic groups (e.g., Democrats vs. Republicans) at a single point in time (Newport, 2013), relatively little is known regarding how question wording may relate to sentiments expressed toward the law in the aggregate and over a longer period of time.

The present study aims to address these gaps through a comprehensive content analysis of polling questions conducted by multiple polling organizations over a more than six-year period, from March of 2010 to November of 2016, to uncover prominent question wording variants used in ACA surveys and their possible public opinion effects.

### Method

We analyzed survey questions appearing in U.S. national opinion polls conducted between 23 March 2010 (when President Obama signed the ACA into law) and 8 November 2016 (Election Day) that were itemized in the iPoll databank, a source for U.S. national public opinion survey questions archived by the Roper Center for Public Opinion Research at Cornell University. The selected time-frame covers 80 months of the ACA's implementation period, including President Obama's reelection and a number of highly contested political races—including the 2016 presidential campaigns—in which the ACA was a key issue, and the high volume of opinion polling that co-occurs with the national election cycle.

### Analytic Set

We first conducted a general search for questions related to the ACA by searching its two most common monikers—"Affordable Care Act" and "ObamaCare"—in addition to the words "health" and "law," to account for more generic references (e.g., "healthcare reform law," "the 2010 healthcare law"). All questions appeared on U.S. national polls, most of which sampled likely voters using telephone or Web sampling methods. Polling organizations included media outlets such as CNN, ABC, CBS, and Fox News; academic institutions such as Harvard University and Quinnipiac University; and polling firms such as Gallup, Kaiser, and Pew. For each survey question returned by the "Affordable Care Act" ( $N = 232$ ) and "Obamacare" searches ( $N = 199$ ), we visited the original poll source to identify other potentially relevant questions in the same survey. For questions returned by the "health" and "law" search (excluding questions referencing "Obamacare" or the "Affordable Care Act,"  $N = 3,306$ ), we examined each to find additional wording variants not identified in previous searches.

From this initial set ( $N = 3,737$ ) we narrowed the focus to questions that gauged general approval of the ACA, excluding those that (a) grouped the ACA with other issues, (b) gauged public knowledge rather than approval, (c) focused on the respondent's feelings toward a *politician's* stance on the law, (d) focused on rollout of health insurance marketplaces (i.e., healthcare.gov) rather than the law itself, (e) featured response categories that were idiosyncratic to a small number of polls (e.g., asking about how angry or sad the law made them feel), or (f) pertained more directly to one of the law's key provisions (e.g., the individual mandate) rather than overall support for the law itself. We entered each remaining question as a search term into the iPoll databank to identify other instances in which the same question appeared in different polls and eliminated redundant polling questions (i.e., same question from the same poll) that were returned from more than one search. Overall, this procedure resulted in  $N = 376$  survey questions that gauged U.S. general sentiment toward the ACA during the focal timeframe.

### Question Coding

We generated an exhaustive list of wording variants (or frames) appearing across the 376 survey questions and submitted each to two independent coders to quantify their use. Inter-rater reliability was high (kappa coefficients  $> 0.85$ ); we resolved disagreements via discussion and came to consensus on every code in the dataset.

### Analytic Approach

We began the analysis by examining the relative frequency of various wording choices and response categories. We next explored trends in the use of these frames over time by stratifying the dataset into three time periods which are roughly equivalent in terms of number of polls from the analytic set (about 33% in each)—March 2010 to November 2012, December 2012 to March 2014, and April 2014 to November 2016. We also examined whether and how support for the law varied across the various polling organizations represented in our analytic set by stratifying the results by polling firm (for those who conducted  $N > 5$  polls) and estimating levels of support for that firm's polls. For analytic purposes, in cases where multiple organizations collaborated on a poll (e.g., CBS News/*New York Times* poll), we grouped survey questions by the lead organization (e.g., CBS News), yielding 25 unique polling organizations.

We then performed a series of ordinary least squares (OLS) regressions on the final analytic set ( $N = 376$ ) in which we regressed aggregate-level support for the law onto the main independent variables representing whether or not a frame was present in a particular polling question (response categories capturing degrees of approval such as “strongly approve” and “approve” were combined prior to analysis; we included variables if they occurred at least five times in the analytic set). All models also included a binary variable capturing whether or not each question featured a neutral

response category (e.g., “neither agree nor disagree,” which we would expect to reduce the proportion of respondents in both the support/approve or oppose/disapprove categories), as well as a linear time trend variable representing the number of months elapsed since the law's passage. Finally, the models included two sets of dummy variables. The first set coded for key time periods during the implementation period that prior research suggested may be associated with changes in overall support for the ACA—namely, the two months prior to the 2012 presidential election (i.e., September and October of 2012), the initial open enrollment period that was stymied by technical glitches (October and November of 2013), the run-up to the 2014 mid-term elections (September and October of 2014), the month following the Supreme Court's ruling which upheld the ACA's individual mandate (July of 2015), and the two months prior to the 2016 presidential election (September and October of 2016). The second set of dummy variables controlled for unique polling organizations.

We began by testing a model in which we included each variable simultaneously and proceeded to exclude (stepwise with backward elimination) question wording or response category variables that did not predict approval at levels approaching statistical significance ( $p < .10$ ; the time-related variables and polling organization dummies were retained in the model). We repeated this process three times by randomly selecting alternative non-significant variables to ensure that the order of the backward elimination process did not influence the results. Final models were equivalent in three different backward deletion iterations, giving us confidence that the results are not an artifact of the method used. Variance Inflation Factors (VIFs) were  $\leq 1.795$  for all variables in the final model.

Finally, we tested whether pairwise interactions between terms describing the law (e.g., “Affordable Care Act,” “Obamacare”) and how approval was measured in response categories (e.g., support, approval, favor, etc.) increased the variance accounted for in the model. None of these combinations increased the model's r-square by more than 0.01, so these results are not shown or considered further.

## Results

### Descriptive Results

Table 1 displays descriptive statistics for the frequency of each wording variant in the analytic set. Survey questions most frequently referred to the healthcare law in general terms (e.g., “healthcare reform,” “health care law”; 92%); in contrast, specific references to the “Affordable Care Act” (14.6%) or “Obamacare” (11.7%) were less frequent.<sup>1</sup> The term “reform” (49.2%) was common, appearing more often than references to political entities, such as “president,” “Obama,” and “Congress” (11.7%, 14.6%, and 18.1%, respectively). For measuring approval, improvement-related terms such as “better off,” “benefit,” “easier,” and “helped,” were commonly used (30.6%), as was the term “favor” (35.1%).

<sup>1</sup>Some questions included more than one descriptor.

**Table 1.** Frequency of question wording categories in ACA surveys, 2010–2016, grouped by theme.

Theme	<i>n</i> of valid cases (%)
Name of the Law	
Obamacare (includes similar forms, e.g., Obama-Care)	44 (11.7)
Affordable Care Act	55 (14.6)
Healthcare Law (includes healthcare legislation, healthcare reform, healthcare reform bill, law that restructured U.S. healthcare system, health care plan)	346 (92.0)
Reform	185 (49.2)
Bill	81 (21.5)
Political entities referenced in the question	
President	43 (11.4)
Barack Obama (not including “Obamacare,” which was captured above)	54 (14.4)
Congress (includes “Senate” or “House”; not counting “lawmakers”)	68 (18.1)
Unit of reference (if specified)	
Our family/families	40 (10.6)
Our country (includes similar forms, e.g., nation, U.S. citizens)	57 (15.2)
Opinion metric	
Support	30 (8.0)
Approval	42 (11.2)
Warm (e.g., asks about how “warm” or “cool” the respondent feels)	33 (8.8)
Favor or favorability	132 (35.1)
Better off (includes similar forms, e.g., help/helped, easier, benefit)	115 (30.6)
Response options	
Presence of a neutral response option	165 (43.9)
Has response option for expand the law	19 (5.1)
Has response option for keep law as is	47 (12.5)
Has response option for repeal or repeal and replace	49 (13.0)

Note. We coded all categories dichotomously (0 = absent, 1 = present). Responses were not mutually exclusive within a category. There was a total of  $N = 376$  polls (cases) in the dataset.

**Table 2.** Frequency of question wording categories in ACA surveys, 2010–2016, grouped by theme and time period.

Theme	Time period		
	3/2010–11/2012	12/2012–3/2014	4/2014–11/2016
Name of the law			
Obamacare (includes similar forms, e.g., Obama-Care)	3 (2.4)	18 (14.5)	23 (18.0)
Affordable Care Act	1 (.8)	31 (25.0)	23 (18.0)
Healthcare Law (includes healthcare legislation, healthcare reform, healthcare reform bill, law that restructured U.S. healthcare system, health care plan)	124 (100.0)	110 (88.7)	112 (87.5)
Reform	96 (77.4)	58 (46.8)	31 (24.2)
Bill	32 (25.8)	21 (16.9)	28 (21.9)
Political entities referenced in the question			
President	19 (15.3)	11 (8.9)	13 (10.2)
Barack Obama (not including “Obamacare,” which was captured above)	10 (8.1)	24 (19.4)	20 (15.6)
Congress (includes “Senate” or “House”; not counting “lawmakers”)	10 (8.1)	24 (19.4)	34 (26.6)
Unit of reference (if specified)			
Our family/families	16 (12.9)	22 (17.7)	2 (1.6)
Our country (includes similar forms, e.g., nation, U.S. citizens)	27 (21.8)	19 (15.3)	11 (8.6)
Opinion metric			
Support	15 (12.1)	5 (4.0)	10 (7.8)
Approval	10 (8.1)	12 (9.7)	20 (15.6)
Warm (e.g., asks about how “warm” or “cool” the respondent feels)	16 (12.9)	10 (8.1)	7 (5.5)
Favor or favorability	48 (38.7)	41 (33.1)	43 (33.6)
Better Off (includes similar forms, e.g., help/helped, easier, benefit)	49 (39.5)	53 (42.7)	13 (10.2)
Response options			
Presence of a neutral response option	66 (53.2)	68 (54.8)	31 (24.2)
Has response option for expand the law	0 (0.0)	0 (0.0)	16 (14.8)
Has response option for keep law as is	3 (2.4)	11 (8.9)	33 (25.8)
Has response option for repeal or repeal and replace	5 (4.0)	9 (7.2)	35 (27.3)

Note. We coded all categories dichotomously (0 = absent, 1 = present). Responses were not mutually exclusive within a category. There was a total of  $N = 376$  polls (cases) in the dataset.

Table 2 displays the same summary descriptive data from Table 1 broken down by the three time periods. A few trends may be noteworthy. First, references to “Obamacare” and the “Affordable Care Act” were infrequent during the early months of the implementation period (2.4% and 0.8%, respectively); instead, survey questions almost exclusively referenced the “healthcare law” or similar language, a pattern that abated over

time. Second, references to political entities appeared to shift over time—for example, although “Congress” was referenced relatively infrequent early on (i.e., mentioned in just 8.1% of polls during the March 2010–November 2012 period), references increased to over 25% in the third and final time period, from April 2014 to November 2016, a pattern that likely reflects the increased public debate over whether lawmakers should

dismantle the law following President Obama's departure from office. A third, and related, point is the increase in the number of polling questions that make reference to repealing and/or replacing the law, as well as keeping it as is, both of which were observed in over 25% of survey questions analyzed in the final period (up from just 4% and 2.4%, respectively, in the first time period).

Figure 1 shows that mean public support for the ACA varied substantially across organizations, ranging from a high of 56.4% (in the Bloomberg poll) to a low of 32.2% (in the Associated Press poll). It is important to note that polling organization is highly associated with specific question wordings and formats—and in some cases, time—making it difficult to parse the independent effects of wording choices and response categories from effects of other differences between polling firms (e.g., sampling strategies, weighting for various demographic factors). Nevertheless, when we exclude dummy variables that code for polling organization from our regression models, the pattern of the results remains largely unchanged.<sup>2</sup>

### Regression Results

Our main analysis takes the form of a multiple OLS regression model design to examine the relationship between question wording and support for the ACA. Table 3 displays the results. The

comprehensive multivariable model, accounting for 65.6% of the variance in approval, suggests that several of the differences in question wording were indeed consequential. Perhaps most notably, questions and response categories that referenced repealing the law (e.g., “tell me if you think it should be kept or repealed”) or both repealing and replacing the law (e.g., do you feel Congress should keep or “repeal and replace the health care reform law”) showed about 9% greater approval on average. Conversely, questions that asked respondents to consider the law's effects on others, such as family (e.g., “will you and your family be better off or worse off...”) showed less approval (by 13%), as did those that made reference to “expanding” the law (by about 7–8%). Questions that included a neutral response category (e.g., “neither support nor oppose”) showed about 3–4% less approval on average, consistent with a general tendency for survey respondents to endorse middle options when they are explicitly offered, and those that did not include any of these framing devices (the constant in the model) had below-majority levels of support at the start of the observation period (41%, as reflected by the model constant).

With regard to time, although the linear time variable did not significantly predict variance in support for the law over-and-above the wording effects reported above, the dummy variable for the enrollment period in 2013 was a significant negative predictor of support ( $b = -.03, p < .05$ ). This finding is consistent with prior content analyses reporting the

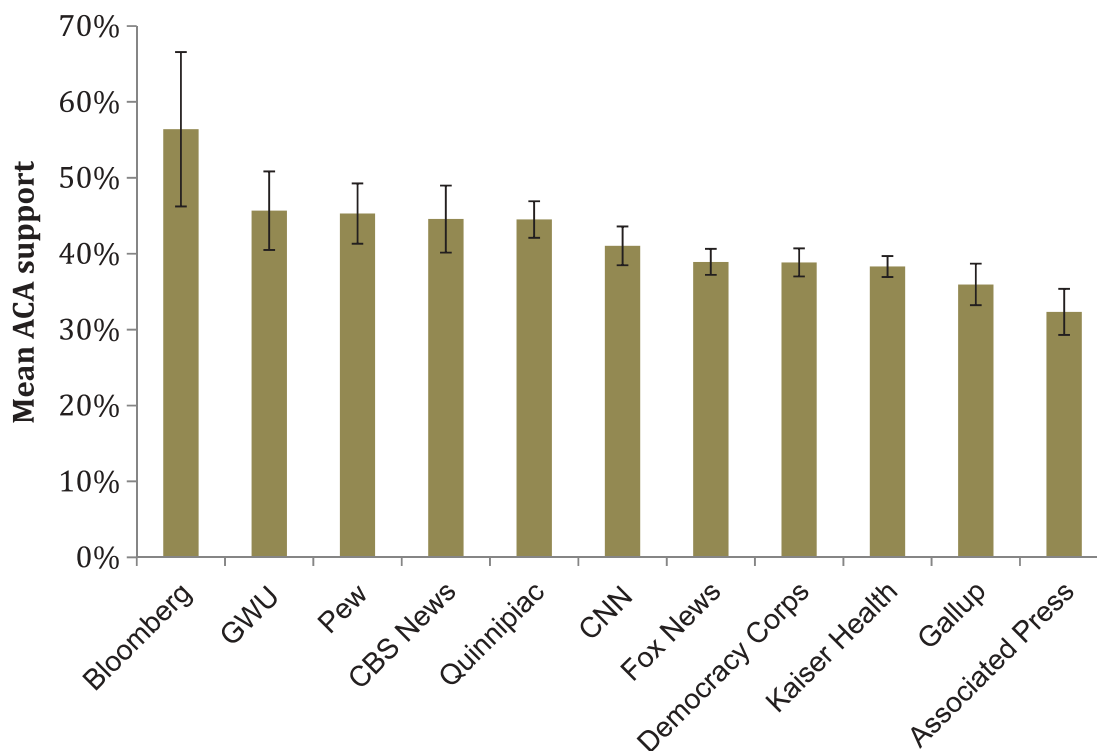


Figure 1. Mean ACA support by polling organization.

Note. Organizations with  $n < 5$  surveys do not appear here (i.e., ABC News, Allstate, American Conservative Union Survey, CNBC, Harvard School of Public Health, IMS Health, NBC News, NPR, Politico, Resurgent Republic, Suffolk University, University of Connecticut, United Technologies, and YG Network). Error bars represent the 95% confidence interval.

<sup>2</sup>When the dummy variables for polling organization are excluded from the model, two additional results emerge: references to “support” ( $b = -.04, p < .001$ ) and the dummy variable coding for the 2014 mid-term elections ( $b = .04, p < .10$ ).

**Table 3.** Ordinary least squares regression predicting approval of the affordable care act, 2010–2016.

Independent variables	Model-predicted approval
Model constant	.410***
Name of the law	
Obamacare	–
Affordable Care Act	–
Healthcare Law	–
Reform	–
Bill	–
Political entities referenced	
President	–
Obama	–
Congress	–
Unit of reference (if specified)	
Our family/families	–.136***
Our country	–
Opinion metric	
Support	–
Warm	–
Favor or favorability	–.027***
Better off	–
Response options	
Presence of a neutral response option	–.037***
Has response option for expand the law	–.077***
Has response option for keep law as is	–
Has response option for repeal or repeal and replace	.091***
Temporal influences	
Linear time trend (months since first date in set)	–
Presidential election cycle (dummy for September/October 2012)	–
First open enrollment period (dummy for October/November 2013)	–.025**
Mid-term election cycle (dummy for September/October 2014)	–
Supreme court decision to uphold mandate (dummy for July 2015)	–
Presidential election cycle (dummy for September/October 2016)	–
Dummy variables for polling organization	Included
Model R-squared ( $N = 376$ )	.656

Note. The linear time trend variable represents months elapsed since the first month of our analytic time period (March 2010). We began by testing a model in which we included each variable simultaneously and proceeded to exclude (stepwise with backward elimination) question wording or response category variables that did not predict approval at levels approaching statistical significance ( $p < .10$ ; we kept all time-related variables in all models). We repeated this process three times by randomly selecting alternative non-significant variables to ensure that the backward elimination process did not influence results. Final models were equivalent in three different backward deletion iterations. Variance Inflation Factors (VIFs)  $\leq 1.795$  for all variables in the comprehensive model. \*\* $p < .05$ ; \*\*\* $p < .01$

proliferation of negative advertising targeting the Affordable Care Act in many locations during these periods (Fowler, Baum, Barry, Niederdeppe, & Gollust, 2017; see also Gollust, Barry, Niederdeppe, Baum, & Fowler, 2014).

## Discussion

In describing social issues, communicators must make choices about language—regarding level of detail and which aspects to emphasize, among others—that structure and shape how audiences think about and interpret issue-relevant information (Nelson, Clawson, & Oxley, 1997; Tversky & Kahneman, 1981). In the case of public opinion, these choices are faced not only by political and media elites but also by polling organizations that are tasked with formulating survey questions that validly and reliably gauge popular sentiment about a given issue, but that invariably take different forms. An important task for social scientists is to examine how these different survey forms and word choices relate to the responses obtained, which can offer valuable insights into the role played by design features of the survey instrument in public opinion dynamics—over and above more “rational” attitude and preference formation dynamics that are often assumed to underlie public opinion (Druckman, 2001).

The present results suggest that the wording of survey questions appears to play a significant role in apparent public opinion regarding the Affordable Care Act, which remains a highly contested political issue. Wording differences appearing in national polls conducted by a range of survey organizations—including media groups, universities, and leading health organizations—predicted varying levels of observed approval for the ACA during the law’s implementation period. For example, questions that made reference to “repealing” or “repealing and replacing” the law showed significantly greater levels of support—the only wording difference found to positively relate to support—whereas questions that referenced the implications of the law for “your family,” among others, showed less support. Although the present study was not focused on uncovering explanations for the specific patterns (as compared to whether question wording was related to apparent support for the law, more generally), the heightened support observed when questions referenced the prospect of repealing the law may reflect loss aversion (e.g., Tversky & Kahneman, 1981). In other words, priming survey respondents to consider the prospect of “repealing” a law granting new rights to millions of Americans may evoke negative feelings that manifest in the form of greater support for the law (Eckles & Schaffner, 2010; Levy, 2003). Although a

thorough examination the underlying mechanisms for these observed effects is beyond the scope of this study, the finding that question wording accounted not only for a significant share of the variance in ACA approval rates but in one case from majority disapproval to majority approval (the case of excluding versus including repealing the law as a response option—from 41% approval to 50.1% approval—the constant plus the coefficient for repeal or repeal and replace), suggests that these seemingly mundane differences in questionnaire design are consequential and worthy of further study.

Beyond contributing to the literature on questionnaire design and context effects in survey research (e.g., Sudman, Bradburn, & Schwarz, 1996; Tourangeau, Rasinski, Bradburn, & D'Andrade, 1989), the present findings extend previous work on the role of question wording in the context of U.S. healthcare reform (e.g., Grande et al., 2011; Newport, 2013). By examining an especially rich set of wording variants that appeared in U.S. national opinion polls over a more than six-year period after the bill was signed into law, this study is able to examine patterns that persist despite a variety of intervening political events and—by aggregating across polling organizations and surveys—account for any systematic differences in measured support by question wording, a strategy that has recently received widespread attention for improving estimation accuracy (Borenstein, 2012). In so doing, this study highlights potentially consequential frames surrounding this highly contested and timely issue, which remains the subject of several legal challenges (Rovner & Carey, 2015) and intense political deliberation as of late 2016. These findings may also be applicable to other policy issues and provide insights into key terminology that help shape national public opinion. For example, wording that emerged here as strong predictors of approval—such as referencing the prospect of “repeal” and placing emphasis on “family”—is readily applicable to other contested policy issues with significant public health implications (e.g., anti-discrimination laws or immigration, both of which are important social determinants of health; see Berkman & Kawachi, 2000; Wilkinson & Marmot, 2003) and may also hold consequences for measured approval rates in those and other domains.

We note some limitations of this work. First, as our literature review and discussion demonstrates, the basic insight that wording matters in the context of public opinion toward the ACA is not novel and—in and of itself—offers limited value to scientists or practitioners seeking to better understand the nature of public opinion on this issue. At the same time, the present methods and results offer insights regarding the role of specific phrases and terms that are widely assumed to matter in the ACA debate, but are less often subjected to empirical inquiry—such as the role of “ObamaCare” (which was not a significant predictor of aggregate support for the law) and “repeal” language (which emerged as a significant and *positive* predictor).<sup>3</sup>

In addition, although the survey aggregation approach employed here offers the advantage of accounting for systematic differences between polling organization and

temporal dynamics, it also has limitations. This approach does not account for partisan differences in public opinion at the level of individual surveys, nor the possibility of partisanship-contingent relationships between question wording and policy support. However, by restricting our analysis to nationally representative polling (in which the proportions of respondents identifying as Republican, Democrat, and Independents are typically weighted to better approximate national prevalence estimates), we effectively hold partisanship constant. This allows us to isolate the independent impact of question wording and over time on aggregate-level support, recognizing that partisanship represents an additional source of variation that has been well-studied elsewhere (e.g., Newport, 2013). Moreover, similar to related work (Grande et al., 2011), we were unable to test for the influence of survey context effects in approval rates, such as effects of preceding questions in the survey (Schwarz, 1999).

More broadly, although this study is suggestive of question wording effects, it is important to note that it cannot afford causal inferences, given that question wording is very likely to correlate strongly with other, unmeasured variables that may contribute to these patterns. For this reason, future research on this topic would benefit from testing whether some of the associations found here (e.g., use of “repeal” as a response category predicting greater approval) replicate in fully randomized and controlled (split-ballot) survey experiments (Druckman & Lupia, 2012).

In conclusion, the current study identifies key word choices in polling questions and their association with public approval of the ACA by aggregating across polls that were conducted by a diverse set of survey organizations during the law's six-year implementation. This process revealed that approval varied significantly as a function of survey question wording. These findings can help us to better understand the stability (or instability) of public opinion, key drivers of that opinion, and situational factors (frames) that shape assessments of it. Furthermore, it can help to further encourage the public to become more informed consumers of polling information and the importance of considering an aggregation of several polls when experts, policymakers, and the public seek to gauge public opinion on important issues.

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<sup>3</sup>We acknowledge that these wording differences, while unrelated to aggregate levels of support, may indeed exert significant and unique effects among certain segments of the public (e.g., Republicans as compared to Democrats), which was not the focus of our efforts here.



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