Don't Just Ask Me for Facts!

Measuring Political Sophistication using Open-Ended Responses

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Abstract

There is a broad consensus among scholars of political science and public opinion that the American electorate is not well informed about politics. Interestingly however, there is no agreement in the discipline about *how to measure* how little citizens actually know. While many studies rely on simple factual political knowledge questions to assess sophistication, others have criticized this approach from methodological and theoretical perspectives. We propose a new measure of political sophistication based on open-ended survey responses about individual preferences and evaluations of the most important problem facing the country. We presents results from the 2012 American National Election Study (ANES) and show that ...

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1 Introduction

On of the fundamental concepts in the study of political attitudes and behavior is political sophistication and knowledge (Converse, 1964; Delli Carpini and Keeter, 1996). While most scholars emphasized how little people know about politics, the question of how to assess individual knowledge has been subject to re-occurring scholarly debate (e.g. Mondak, 2000; Mondak and Davis, 2001; Sturgis, Allum, and Smith, 2008; DeBell, 2013; Pietryka and MacIntosh, 2013). Many analyses exclusively rely on individual levels of political information measured by factual knowledge questions. However, recent research points to important differences between types of knowledge questions that have previously been disregarded (Barabas et al., 2014). Furthermore, scholars argued that factual political knowledge as measured in many surveys may not be theoretically relevant (Lupia, 2006) and the conceptualization of political sophistication should rather take into account how people structure their attitudes and beliefs (e.g. Luskin, 1987). As such, measuring sophistication solely based on answers to political trivia may misclassify respondents who cannot recall these facts, but do indeed have a coherent framework of political ideas.

We propose an alternative measure of political sophistication based on individual responses to open-ended questions about attitudes towards major parties and presidential candidates. We make inferences about the respondents' level of political sophistication and belief constraint by focusing on *how* respondents describe their preferences and beliefs. More specifically, we consider the diversity in topics raised by respondents based on structural topic models (Roberts et al., 2014) as well as other characteristics of individual open-ended responses, in order to assess the degree to which political attitudes are structured and expressed in a more complex manner. We suspect that the diversity in topics a respondent discusses, or the detail with which they speak about the topics they mention, will covary with other political knowledge measures. We therefore compare the text-based measures to common factual knowledge items as well as the interviewer assessment of the respondent's political knowledge as benchmarks.

Overall, we hope to show that our measure of political sophistication can provide novel insights compared to conventional knowledge measures, since it is conceptually closer to the actual structure and constraint of political belief systems (see for example Tetlock, 1983; Luskin, 1987). Furthermore, developing valid measures of political sophistication based on open-ended responses will provide new

opportunities for comparisons of political knowledge across time and contexts.

2 Political Knowledge and Sophistication

In his seminal study, Converse (1964) examined the degree to which citizens hold constrained belief systems about politics. In the paper, belief systems are defined as "a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence" (Converse, 1964, 207). The analyses showed that the majority of the electorate does not hold structured and constrained belief systems, understand abstract ideological concepts, or hold stable issue positions.

This pessimistic view regarding the competence of the US electorate has been supported in multiple subsequent analyses. Delli Carpini and Keeter (1996) showed that large parts of the American electorate are not sufficiently informed about politics. Furthermore, there are systematic differences in political attitudes and behavior between citizens who are well informed compared to those who are not. Such a finding is problematic from a normative perspective, since it indicates that differences in levels of information can result in unequal representation in the political system (see also Althaus, 1998; Kuklinski et al., 2000; Gilens, 2001). However, rather than relying on the degree to which individuals hold constrained belief systems, Delli Carpini and Keeter (1996), conceptualized knowledge as the awareness of key democratic values, which was measured using factual knowledge questions (see also Carpini and Keeter, 1993). A broad range of studies focused on similar factual knowledge measures as indicators of sophistication (e.g. Zaller, 1991; Jacoby, 1995; Gomez and Wilson, 2001). Most prominently, Zaller (1992) argued for the measurement of political awareness using tests of neutral factual information about politics, since they "more directly than any of the alternative measures, capture what has actually gotten into peoples minds" (Zaller, 1992, 21). However, other research casts doubt on this assertion, both from methodological as well as theoretical perspectives.

Methodologically, many studies raised issues related to the validity of factual knowledge questions. One fundamental problem discussed in the literature are potential biases due to guessing (Mondak, 2000, 2001; Mondak and Davis, 2001; Miller and Orr, 2008). Knowledge items that offer a "Don't Know" option essentially convolute two very distinct concepts: the individual information level as well as the propensity to guess. Based on this argument, Mondak and Anderson (2004) showed that conventional knowledge

measures overestimated the gender gap in political knowledge due to the fact that male respondents are more likely to take a guess if they are not fully informed (see also Pietryka and MacIntosh, 2013, for a more recent discussion of differential item functioning as an explanation for knowledge gaps). The conclusions drawn from these studies were to rely on closed rather than open-ended knowledge questions and omitting "Don't Know" response options (but see Sturgis, Allum, and Smith, 2008; Luskin and Bullock, 2011). Other scholars further criticized open-ended factual knowledge questions such as those administered in the American National Election Study due to problematic coding rules, which do not accurately capture partial knowledge (Krosnick et al., 2008; Gibson and Caldeira, 2009; DeBell, 2013).

Focusing exclusively on factual political knowledge has also been criticized on theoretical grounds. For example, Lupia (2006) argued that the information asked for in the item batteries has no clear relevance for individual political participation. Instead, researchers should concentrate on knowledge and heuristics that directly help citizens to make competent political decisions (see also Lupia, 1994). Responses to factual knowledge questions have further been shown to be conditional on the respondents' motivation, their partisanship, as well as monetary incentives in the survey (Prior and Lupia, 2008; Bullock et al., 2015; Prior, Sood, and Khanna, 2015). Conventional items also differ with regard to the specific dimension of political knowledge they measure (Barabas et al., 2014) and ignore important aspects such as visual cues (Prior, 2014).

Overall, the studies discussed so far suggest that the conventional item batteries have problematic measurement properties. More importantly, however, some authors raised doubts whether factual political knowledge actually captures the phenomena that are ultimately most interesting for scholars of public opinion. Converse (1964) initially discussed the level of constraint in political beliefs rather than isolated pieces of factual information about the political system. Other scholars emphasized similar conceptualizations of political sophistication. Tetlock (1983), for example, used the term *integrative complexity* to describe the variety and integration of considerations related to an issue. It is important to note that here, sophistication is not based on the content (or accuracy) of related considerations but rather on its *structure*. Luskin (1987) also defined political sophistication based on the structure of individual belief systems. More specifically, the author argues that belief systems can vary on three separate dimensions: (1) their *size* of the – i.e. the number of cognitions, (2) their *range* – i.e. the dispersion of cognition over categories, and (3) their *constraint* – i.e. the extent to which cognitions are interconnected. Po-

litical sophistication, in turn, is seen as the conjunction of these dimensions: "A person is politically sophisticated to the extent to which his or her [political belief system] is large, wide-ranging, and highly constrained." (Luskin, 1987, 860).

Such a conceptualization of political sophistication seems theoretically more interesting and useful than simple tests of factual information. However, why does such a large body of literature in political science and public opinion then only focus on knowledge questions? One answer to this question is provided in the early study by Converse (1964, 206), who stated: "what is important to study cannot be measured and that what can be measured is not important to study." Factual political knowledge is much easier to assess (albeit not perfectly) than the structure of political belief systems. Indeed, Tetlock (1983) had to rely on manual coding of policy statements of US senators in order to assess their degree of integrative complexity. Such manual coding procedures, however, become increasingly infeasible with large amounts of text data (such as in large surveys). Recent advances in automated text analyses, on the other hand, provide us with the necessary tools to derive a measure of political sophistication that captures the theoretical arguments put forward by Converse (1964), Tetlock (1983) and Luskin (1987), without the necessity of human coders. In the following, we will derive and explore such a measure based on open-ended survey responses.

3 Measurement Approach

We propose that the the dimensions laid out by Luskin (1987) — size, range, and constraint of political belief systems — can be measured by directly examining how individuals describe their political attitudes and beliefs. More specifically, we will consider individual responses to a set of open-ended questions where respondents were asked to describe aspects that they liked and disliked about both major parties and presidential candidates before the 2012 US election. Considering likes and dislikes separately, there are a total number of 8 open-ended responses where individuals describe their beliefs and attitudes towards political actors. Table 1 summarizes how different characteristics of open-ended responses can be matched to the aspects of political sophistication discussed previously.

The size of the political belief system can simply be captured as the overall length of individual responses. If people possess a larger number of considerations related to political parties and candidates,

Dimension of political belief system	Characteristic of open-ended response
Size (number of cognitions)	Overall length of responses
Range (dispersion of cognitions over categories)	Diversity in topics raised in responses
Constraint (interconnectedness of cognitions)	Diversity in response length between items

Table 1: Aspects of political sophistication and its measure in open-ended responses.

then their overall responses describing their attitudes and beliefs should be longer.

The range of cognitions over categories could be measured as the diversity in topics raised in individual responses. If individuals hold more diverse cognitions towards political actors, we should observe that they address a wider range of topics in their responses, rather than focusing on an isolated issue to describe their preferences.

The last dimension, namely the degree of constraint or interconnectedness of cognitions, is more difficult to capture in an automated way based on simple characteristics of an open-ended response. While we cannot directly measure the interconnectedness of cognitions, we argue that the diversity in response length between items could be used as a possible proxy. In order to see why this is the case, consider two hypothetical individuals who possess a belief system of similar size and range. Accordingly, we would expect that their open-ended responses should be of equal overall length and have the same degree of diversity regarding the topics. Now, suppose that for one individual, the belief system is highly interconnected, and for the other individual it is not. Holding the overall length and topic diversity of their responses constant, higher interconnectedness allows individuals to spread their response more equally across items. In other words, if considerations were not interconnected, then responding to likes as well as dislikes (for party/candidates of in/out-party), would require an increase in the overall length and diversity of the response. As such, distributing responses more equally across different items can be seen as a proxy for interconnectedness of cognitions.

Of course, the measurement strategy derived here makes strong implicit assumptions about the nature of political belief systems. However, the sole purpose of this short discussion was to suggest potential links between the theoretical construct and measurable characteristics of open-ended responses. Ultimately, it is an empirical question, whether these characteristics provide valid measures of political sophistication. Before we turn to the issue of validation, we will discuss the data and methods used in the analyses in more detail.

4 Data and Methods

The analyses presented here are based on the 2012 American National Election Study, which contains two representative cross-sectional samples. One sample was conducted by computer assisted face-to-face interviews while the other sample is based on an internet panel group. While both samples differ with regards to some of the variables measures, both samples are pooled in the analyses wherever possible. The major dependent variables are based on open-ended questions in which respondents were asked to report what they *liked* and *disliked* about either presidential candidate as well as the Republican and Democratic parties. More specifically, respondents were asked to list anything in particular that they like/dislike about the Democratic/Republican party as well as anything that might make them vote/not vote for either of the Presidential candidates and were probed by the interviewer asking "anything else?" until the respondent answered no. All open-ended responses were pre-processed by correcting spelling errors using an implementation of the Aspell spell checking algorithm in R (www.aspell.net), and deleting individuals who responded in Spanish.

5 Descriptive Results

6 Validation Performance

Ideas for evaluation:

- replicate common findings, e.g. gender gap in political knowledge (e.g. Barabas et al., 2014)
- Increase in consistency b/w policy attitudes (e.g. Prior, 2014)

7 Discussion and Conclusion

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