

Decomposing political knowledge: What is confidence in knowledge and why it matters

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ABSTRACT

While political knowledge has been conceptually defined with two constructs – accuracy and confidence in factual information – conventional measurement of political knowledge has relied heavily on retrieval accuracy. Without measuring confidence-in-knowledge, it is not possible to rigorously identify different types of political informedness, such as misinformedness and uninformedness. This article theoretically explores the two constructs of knowledge and argues that each construct has unique antecedents and behavioral consequences. We suggest a survey instrument for confidence-in-knowledge and introduce a method to estimate latent traits of retrieval accuracy and confidence separately. Using our original survey that includes the measure of confidence-in-knowledge, we find that misinformed citizens are as engaged in politics as the well-informed, but their active involvement does not guarantee informed political choices. Our findings warrant further theoretical and empirical exploration of confidence in political knowledge.

“Think of the person who makes a true statement based on adequate reasons, but does not feel confident that it is true.

Obviously, he is much less likely to act on it, and, in the extreme case of lack of confidence, would not act on it.”

–Pears, “What is Knowledge?” (1971, p.15)

1. Introduction

Political knowledge is an important factor to understand citizens' attitudes and behavior in the political domain. A certain level of political knowledge increases citizens' ability to connect their interests with specific public issues and promotes political participation, whereas lack of such knowledge and a strong belief in false information misguide citizens' policy preferences (Kuklinski et al., 2000). Moreover, a growing literature suggests that misinformation can be more detrimental than the mere lack of correct information since it misguides citizens' policy preferences (e.g., Kuklinski et al., 2000) and cannot be easily corrected (Berinsky, 2017; Lewandowsky et al. 2012; Nyhan and Reifler, 2010). This, in turn, will endanger the quality of democratic governance (Hochschild and Einstein, 2015).

It is also well acknowledged that the typical way of measuring political knowledge entails biases and limitations. Measuring political knowledge by scaling how accurate survey respondents' answers for a series of questions about political systems, political figures, and current

affairs cannot distinguish a response based on guessing from one based on strong belief in the retrieved information. Consequently, the conventional measurement that relies solely on retrieval accuracy inevitably results in misidentification problems, particularly in studies where the distinction between individuals who hold incorrect information based on strong belief (misinformedness) and those who give incorrect answers due to guessing (uninformedness) is critical. Previous research has proposed various methods to deal with this issue, but most of them are post-hoc survey tools applied at the analysis stage to detect guessing behavior or to reveal latent levels of political knowledge. Yet, there has not been much of advancement in survey design to cope with this measurement problem.

In this study, we propose a method to decompose two aspects of political knowledge – *accuracy in retrieving information stored in memory* (hereafter, *retrieval accuracy*) and *confidence-in-knowledge*. In doing so, we use a simple survey instrument to capture confidence-in-knowledge, an under-appreciated aspect of political knowledge, to solve the measurement issue in political knowledge. The survey instrument is useful in handling the biases due to guessing and allows us to fully address the two constructs that are used to conceptually define political knowledge and different types of political informedness. We also introduce a statistical method for latent scaling, an extension of Item Response Theory (IRT) models, that identifies the two constructs of political knowledge in two independent dimensions. Using this method we estimate

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individual respondents' latent traits for the ability to accurately retrieve stored information (latent accuracy) and for the level of information accessibility and familiarity (latent confidence).

We administer an online survey in the UK that includes the survey instrument to measure confidence-in-knowledge. Using the estimates from our method, we map individual survey respondents on the conceptually defined two-dimensional space of political knowledge. Our empirical analysis shows that the confidence-in-knowledge measure can help overcome limitations of the conventional survey measures of political knowledge (that primarily focus on retrieval accuracy).

In this paper, we first demonstrate that respondents' reported levels of confidence in their responses to factual questions (i.e., confidence-in-knowledge) could be a good proxy of the availability and accessibility of political information. Particularly, we demonstrate that the confidence-in-knowledge measure is necessary to define various types of "informedness" and to empirically distinguish the misinformed from the uninformed drawing on previous conceptual work. With the two decomposed constructs of political knowledge, we revisit existing theories about the causes and effects of political knowledge to identify which construct of political knowledge is more strongly associated with the relevant political variables. In this replication analysis, we find that misinformed citizens (highly confident but less accurate) are as active as well-informed citizens (highly confident and very accurate) in political engagement. Overall, this study contributes to a better understanding of political knowledge by demonstrating potential biases when using the traditional measure as the sole proxy of political knowledge and advantages of incorporating the confidence-in-knowledge construct in the measurement of political knowledge.

2. Concerns in measuring knowledge with retrieval accuracy

Political knowledge is typically measured by counting the number of correct responses by a survey respondent to a series of questions about political facts. Despite its extensive use in various studies on citizens' behavior and information processing, this measurement is far from being perfect. First, when recalling or retrieving stored memory, individuals may forget relevant information or reconstruct the information erroneously. Second, potential biases due to the propensity of guessing are more concerning. Particularly when Don't Know (DK) is provided as a response option, the propensity of guessing is systematically related to other variables. For example, male respondents are more likely than female respondents to make a random guess instead of answering DK when they are uncertain about the correct answer. The estimated level of political knowledge therefore tends to be systematically higher for male respondents than for female counterparts even if their actual knowledge levels are the same (Mondak and Anderson, 2004). Several studies have estimated the prevalence of such biases and suggested a better survey design to reduce this bias (Miller and Orr, 2008; Mondak and Anderson, 2003, 2004; Mondak and Davis, 2001; Sturgis et al., 2008).

However, there is a more fundamental conceptual issue in the conventional measurement of political knowledge. Although the conventional measure assumes that the "accuracy" in the retrieval of stored information indicates the depth and extent of available information, political knowledge (and types of "informedness") has been conceptually defined not only with the correctness of answers, but also with the strength of beliefs in knowledge. For instance, Kuklinski and colleagues state:

"[T]o be *informed* requires, first, that people have factual beliefs and, second, that the beliefs be accurate. If people do not hold factual beliefs at all, they are merely *uninformed*. They are, with respect to the particular matter, in the dark. But if they firmly hold beliefs that happen to be wrong, they are *misinformed*—not just in the dark, but wrongheaded." (Kuklinski et al., 2000, 792–3, emphases from original)

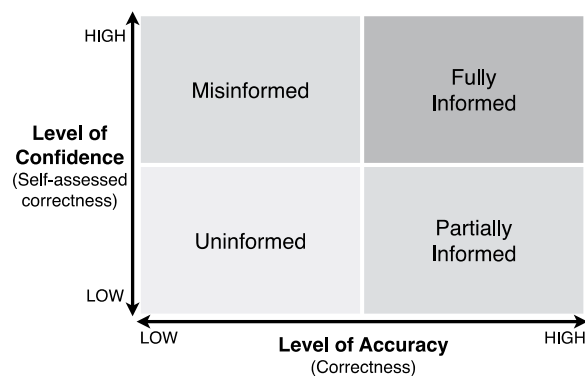


Fig. 1. Conceptualization of political knowledge.

Note: The x-axis denotes the level of accuracy, which is often measured by classic factual knowledge items, and the y-axis denotes the level of confidence – how confident individuals are about their knowledge about political facts.

Similarly, Mondak and Davis (2001) define different types of political knowledge, where the strength of belief in the correctness is the key to differentiate misinformedness from uninformedness. Pasek et al. (2015) also emphasize that we should distinguish ignorance (lacking a correct belief) and misinformation (holding an incorrect belief with confidence). To summarize, these works suggest that there are at least four types of individuals in terms of political informedness, defined by both the level of accuracy and the level of confidence-in-knowledge. Fig. 1 illustrates these four types of informedness on a two-dimensional space: misinformed, uninformed, partially informed, and fully informed.

Although the conventional measurement (i.e., retrieval accuracy) maps individuals' level of knowledge onto a single dimension (e.g., uninformed vs. fully informed), the construct of "confidence in factual knowledge" extends the space to further distinguish those who are at the same level of retrieval accuracy into two groups based on the strength of their beliefs in the correctness of their responses (misinformed vs. partially informed for those with low retrieval accuracy and fully informed vs. partially informed for those with high retrieval accuracy). The confidence-in-knowledge dimension is particularly important to identify whether a response to a factual question is based on a genuine belief or on guessing and thus to examine whether the consequences of such misbelief can be substantially different from the same incorrect answer based on guessing.

Despite broad agreement among scholars on this conceptualization, it is surprising that only a few studies have taken the confidence-in-knowledge dimension seriously both in their theoretical and empirical definition of political knowledge.¹

3. Sources of confidence-in-knowledge: information accessibility and familiarity

A general definition of knowledge is "information stored in memory." The literature suggests that there are at least two ways for individuals to express the stored information: recalling the information directly (aka objective knowledge) and indicating how sure they are that specific piece of information is available in memory (aka subjective knowledge, feeling of knowing, perceived knowledge or *confidence in knowledge*, which we use here) (e.g., Schacter, 1983). Psychologists found that the two aspects of knowledge are distinct constructs; each has a unique measure and antecedents (Park et al., 1994; Radecki and

¹ Studies on misinformation or misperception are not the exception. Lacking the measure of confidence-in-knowledge, they usually do not differentiate the misinformed from the uninformed in their empirical definition of misinformedness (e.g., Bode and Vraga, 2015; Kuklinski et al., 2000; Maurer and Reinemann, 2006; Nyhan and Reifler, 2010).

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