Heuristic Decision Making

EDWARD G. CARMINES and NICHOLAS J. D'AMICO

Abstract

The idea of decision-making shortcuts, or heuristics, originated in psychological work explaining why individuals diverged from rational behavior. Political scientists have viewed shortcuts more positively. Applied to research on voter decision-making processes, scholars have discovered the ubiquitous use of shortcuts by voters. These shortcuts are simplified decision-making strategies that help voters compensate for a lack of detailed political knowledge about candidates and issues. Despite their widespread use, scholars continue to debate over whether these shortcuts are truly useful tools in helping citizens make good choices in the voting booth. Recent work has suggested that one fruitful way to resolve this debate is to consider the influence of political institutions and the ways in which they structure the decision environment. In this essay, we explore the psychological origins of heuristic research, its application to political science, and the ensuing debates over the efficacy of these shortcuts. We end with a discussion of recent research on institutions and the decision-making environment, and how these factors might alter what scholars know about heuristic decision making.

INTRODUCTION

Since the 1960s, scholars have discovered that most Americans are uninterested in politics and lack basic knowledge of the main features of our constitutional system of government (Campbell, Converse, Miller, & Stokes, 1960). Despite hopes that political knowledge and interest might grow with the advent of widely available information via the television and Internet and steady increases in formal education, such hopes have proved unwarranted (Delli Carpini & Keeter, 1993, 1997). Rather, the increased availability of television and Internet political news has simply facilitated the ability of political experts to expand their knowledge while the majority of citizens continue to avoid news and politics (Prior, 2007). These findings have troubling normative implications for democratic politics. How can democracy, which many believe depends on the participation of an informed citizenry, function properly? However, in spite of such theoretical troubles and normative concerns, American democratic elections and politics have continued to endure.

One group of scholars has sought to explain how democracy can function effectively, even with a largely uninformed citizenry, by referencing a decision-making strategy first explored in psychological research. The idea was that individuals were using decision-making shortcuts, or *heuristics*, that allowed them to make effective political decisions on the basis of limited knowledge. These numerous shortcuts, with a particularly well-known heuristic being political party labels, allowed voters to make sense of the larger political environment while relying only a small part of the available political information.

The heuristics literature has faced several criticisms, including a question of how much knowledge is needed to use a heuristic to begin with, whether using heuristics actually helps voters make good choices, and what process exactly is driving individuals to use heuristics. In this brief essay, we discuss the beginnings of heuristics research in psychology and how political scientists brought it into the study of political behavior and decision making. Then we discuss recent trends in the heuristics literature, including its most serious criticisms and how scholars have responded to them. Finally, we end with a consideration of the major issues and questions that are still present in the field and which are in need of further discussion and analysis.

FOUNDATIONAL RESEARCH

PSYCHOLOGICAL UNDERPINNINGS OF HEURISTICS

Decision making basically involves individuals choosing a course of action in order to achieve a particular end result. Individuals will collect information about the different alternative actions and select the alternative that best achieves their goals. The idea of decision shortcuts first emerged in decision-making psychology as an explanation for why individuals verge from rational behavior in their choices and evaluations. These decision-making tools were seen as ways for individuals to quickly arrive at a decision, often with minimal effort. The problem, from this point of view, was that while easy to use, these shortcuts often led individuals astray in their choices and judgments. This was the major argument of the heuristics and biases research program, best represented by the work of Kahneman and Tversky (Kahneman & Tversky, 1972; Tversky & Kahneman, 1973).

Their studies showed that in predicting the probability of an event occurring, individuals tended to use information that was unrelated to the base probability of the event. Instead, individuals relied on information that was readily available or made assumptions based on more stereotypical thinking. For example, in one experiment, subjects were asked to estimate the probability of a student obtaining a graduate degree in a wide variety of fields. A

control group made this estimation with no other information. One of their test groups was given a description of the student as very intelligent, with a need for order and clarity, and an appreciation for science fiction (among other descriptors). When given this information, the test group drastically increased the probability of the student obtaining a degree in the fields of science, engineering, and math—despite the fact that there is a much higher probability of graduate students entering the fields of education or the humanities. Test subjects were led astray by their perceptions that the student was stereotypically representative of a scientist. While this information was available and cognitively easy to process, its use actually interfered with an individual's rational thinking and estimations.

HEURISTICS APPLIED TO POLITICAL SCIENCE

The emergence of heuristics from an explanation of biased thinking into a useful theoretical tool in political science owes much to the research of Herbert Simon. Simon's work on human behavior critiqued the classic rational approach to decision making that was dominate at the time. He argued that in many complex choice situations, humans often lack the mental capabilities to tackle decisions as if they were omniscient payoff calculators that rational choice theories had assumed. Simon's theory of bounded rationality was based on the premise that the human mind's potential for perceiving and solving complex problems is very limited (Simon, 1957). This is not to say that humans are "stupid," as some have reduced the argument, but that theorists should accept the limited mental capacities of humans as a matter of pure biology. To correctly understand human behavior, scholars need to go beyond the simplistic assumptions of pure rationality and consider both the structure of task environments and the computational capabilities of actors. In Simon's estimation, these two elements served as the dual blades of a pair of scissors and, when taken together, would give theories of decision making their cutting power (Simon, 1990).

   The broad implications of Simon's theory of bounded rationality were threefold: that individuals selectively perceive information, that they deal with problems one at a time rather than simultaneously, and that humans process information slowly and imperfectly, because of limited memory and a weak ability at numerical calculation (Lodge, 1995; Simon, 1990). In short, humans would behave rationally but only to the extent that their capabilities allowed them. This meant that, by necessity, individuals would limit the amount of information they integrated into their decisions, because of the high costs of obtaining full information.

   This description of human thought capabilities has implications for decision making in general, but is particularly relevant to citizens' *political decision*

making, where the paucity of information is widespread. Building on Simon's work regarding bounded rationality, political scientists argued that the mass public was unable to meet the standards of the textbook model of democracy because of high information costs (Lupia, 1994; Lupia & McCubbins, 1998; Popkin, 1994; Sniderman, Brody, & Tetlock, 1991). Taking seriously V.O. Key's maxim that voters were not fools, these authors argued that it was not reasonable to expect ordinary citizens to be political experts, as it is not cost effective for the average individual to acquire such detailed knowledge. There are limits to individual human cognition that make acquiring full information impossible and even inefficient.

As a result of these cognitive limits and complex choice environments, scholars theorized that individuals were making political choices by using *heuristics*. Political scientists conceived of heuristics as tools that made individual decision making relatively easy by efficiently processing and organizing information, to the benefit of the individual. For example, according to Kuklinski and Quirk (2000), a heuristic is a mental shortcut that requires little information. Lau and Redlawsk (2006) refer to heuristics as a type of problem-solving strategy that helps keep the information-processing demands of the task within bounds by investigating less than the complete world of information demanded by rational searches. The commonality across these definitions is that heuristics were seen as decision tools that involved utilizing limited amounts of information to make political decisions. However, in order for these theoretical ideas to be taken seriously, scholars had to answer two key questions. First, "Was there evidence of individuals using of heuristics?" And second, "Did heuristics help or hinder individuals in making political choices?"

EXAMPLES OF HEURISTIC USE

In answering the first question, scholars have found a plethora of evidence supporting the use of shortcuts (Lupia, 1994; Lupia & McCubbins, 1998; Popkin, 1994; Sniderman *et al.*, 1991). So much so that heuristic use has now become the conventional wisdom among political behavior scholars (Lau & Redlawsk, 2006). While it is not possible here to examine each and every one of these heuristics in turn, we will provide an overview of three theoretically important and prevalent heuristics, notably the partisan, endorsement, and likability heuristics.

Partisan heuristics leverage single pieces of information to help the individual make the voting decision (Kuklinski & Hurley, 1994; Nicholson, 2005; Rahn, 1993). Individuals identify the political party they feel closest to and then inform their vote by choosing the option that matches their own political identity. This heuristic works because partisan affiliation cues tend to

provide useful summaries of the alternatives, allowing individuals to infer other relevant information from this single piece of summary information. The importance of such partisan cues is well documented in political science research. Indeed, a consistent and major finding is that the best predictor of voting choice in US elections is an individual's partisanship (Campbell *et al.*, 1960; Lewis-Beck, Jacoby, Norpoth, & Weisberg, 2011).

A second heuristic, introduced primarily by Brady and Sniderman (1985) and garnering significant controversy, is the likability heuristic. This is a strategy individuals use to identify the political positions of the major political parties without having much knowledge of the ideological philosophies underpinning the two major US parties. In determining where a party or group stands on an issue, the individuals first determine how much they like or identify with the group. Then they combine this information with their own positions on issues. The shortcut works by assuming that groups that individuals like will share their opinions on issues, while groups they dislike will share the opposite opinion on the same issues.

A third heuristic is the endorsement heuristic (Lupia, 1994; Lupia & McCubbins, 1998). This shortcut works just the opposite from the likability heuristic. As individuals try to determine their own opinions on political issues or how to vote, they look to major social groups for cues. Such groups often provide endorsements, indicating to citizens how they should behave. Using both voting data on California insurance reform as well as experimental work, scholars showed that citizens could compensate for a lack of knowledge by relying on the endorsements of social groups, such as the AARP, BBB, or NAACP. Individuals decided which social group to take their cues from simply based on how close they felt or how much they liked any particular group. Thus, they allowed these groups to analyze policies and candidates for them, while still being able to make choices that matched their overall preferences.

RECONSIDERING VOTING HEURISTICS

All of these studies found evidence of heuristic use and, the authors argued, evidence for the efficacy of heuristics. This was typically measured by determining whether individuals were able to behave in a manner that matched their preferences. However, further study of heuristics complicated the picture. In particular, scholars began to question whether using heuristics really allowed low-information voters to bridge the knowledge gap. Althaus (1998) and Bartels (1996) found that despite the use of heuristics by low-information individuals, their political behavior and opinions significantly deviated from that of the more knowledgeable. While low-knowledge voters might be able to compensate somewhat by using heuristics, they fall far from behaving as

if they had full political information. These findings undermined one of the core theoretical points of heuristic use in political science: that they allowed individuals to use little information to behave as if they were fully informed.

Another line of criticism questioned whether these heuristics could be used by low-information voters to begin with. For example, Luskin (2000) argued that when scholars actually specified the decision process of the likability heuristic, the information needed it to use it was significant. Individuals needed to have information about the ideology of groups, an idea of how much they like these groups, and what opinion these groups hold on major political issues. Citizens who reach this point, Luskin argues, sound much more like political experts rather than the mass of uninformed citizens. These criticisms raised a serious question regarding the importance of heuristics in explanations of political behavior. If heuristics failed to improve decision making and required large amounts of political knowledge, then the entire research program would fail to deliver on its two major claims.

NEW TRENDS IN SCHOLARSHIP ON HEURISTICS

In the face of these criticisms, scholars approached the problem from two major angles. The first was a consideration of the role played by political institutions in facilitating heuristic use. Institutions, by organizing the way information is processed and presented to citizens, could help provide the initial amount of political knowledge needed to use some heuristics. The second was a debate over exactly how scholars should assess the usefulness of heuristics. Rather than comparing the behavior of low- and high-information individuals, scholars have developed independent criteria to measure decision effectiveness. However, these new measures are not without their own controversy.

HEURISTICS AND INSTITUTIONS

A key insight that served to structure this new view was Simon's admonition that human rationality can only be understood as the dual product of both the task environment and the capabilities of individuals themselves. Scholars began to study more closely not just the psychological reasons behind why individuals use heuristics, but how the use of these heuristics is facilitated or impeded by the political context.

The emphasis of context began to bring political institutions into the picture. While heuristics might require some information in order to be utilized, institutions often provided this information to citizens. For example, the endorsement heuristic requires citizens to be aware of all the

many different social groups and have information about how trustworthy each group is. This is not information that is easily obtained. But political institutions, similar to an independent news media, readily provide this information to voters. The media increases penalties to public figures and organizations that employ deceptive information and endorsements (Lupia & McCubbins, 2000). Voters can quickly assess which organization and endorsement to trust based on readily available information from the news media (consider factcheck.org). These institutions thus facilitate the use and effectiveness of an endorsement heuristic.

   Indeed, the above-mentioned role of institutions was demonstrated in a series of experiments (Boudreau, 2009). In these experiments, subjects had to solve mathematical problems, while receiving assistance from an endorser who knew the answer and could give subjects a hint. However, the subjects and the endorsers had opposed interests at times, with the endorsers wanting the subjects to get the problems wrong. This matches the situation observed during elections, where political groups have an incentive to distort the truth in order to lead voters astray in their electoral choices. In this context, the endorsement heuristic performed very poorly. But when the experiment added a random element of independent verification of what the endorser was suggesting, endorsers radically decreased the times when they deceived. Just as the news media provides a check on political misinformation, these experimental institutions provided a needed check to facilitate the use of an endorsement heuristic. Also, this research demonstrated that with institutions present, subjects with very little sophistication were able to perform just as well as very sophisticated individuals. While heuristics alone could not fill the performance gap found by Bartels and Althaus, heuristics and institutions in conjunction could.

   Scholars have worked to identify other institutions that are theoretically important in facilitating the use of different heuristics. This includes elements such as the number of political parties (Sniderman, 2000). Parties serve to decrease the number of choices that voters have to deal with at the ballot box or in terms of political opinions. Rather than being presented with the full spectrum of choices, voters in the United States typically just have to decide between the two options corresponding to the Democrats or Republicans. This limited choice set eases decision making as individuals do not have to consider a wide range of policy options or candidates but a pared down list that results from a two-party system, thereby allowing for easier cognitive processing of options. Thus, a voter could use a partisan heuristic with very little knowledge of the larger ideological philosophy undergirding the party system.

MEASURING HEURISTIC EFFECTIVENESS

In responding to critics of the usefulness of heuristics, much of the debate has centered on how to define a "good decision." Many authors reject the premise put forward by Bartels and Althaus, which directly compares high-information and low-information voters to check for equal behavior/performance. Some have taken a much broader approach. They argue that rational action should be evaluated not through comparisons with experts but by evaluating the quality of individual decision-making process itself (Lupia & McCubbins, 2000). From this perspective, it is necessary to probe an individual's reasoning behind any particular decision in considering whether it is rational or not. The problem with such an evaluation is that it could quickly spiral into most decisions being justified as rational if an individual displays some thought process—no matter how minimal—in reaching the final choice. However, this perspective is useful because it decoupled evaluations of individual rationality from comparisons between the mass public and experts.

Building on this research, scholars have tried to create quantitative rubrics assessing whether voters make the right choice at the ballot box. However, achieving this is no small task. Kuklinski and Quirk explain that scholars seeking to evaluate citizens' political competence must include four major elements (Kuklinski & Quirk, 2001). Measures of political competence must (i) identify the task the actor is to perform, (ii) state the criterion by which the performance is to be evaluated, (iii) identify an empirical indicator of that criterion, and (iv) identify standards, in relation to the values of the criterion. In selecting a criterion for evaluating performance, care must also be taken to ensure that the criterion is both necessary and sufficient for successfully performing the task. In the case of voting, while the task is easily identified, it is much more difficult to determine how to evaluate an individual's performance at the ballot box, let alone an empirical measure of this indicator.

The most prominent attempt to develop such an indicator is the measure of "correct voting" developed by Lau and Redlawsk (1997). This measure looks at an individual's policy preferences, partisanship, and social group memberships to create an indicator of which political candidate is the best fit for the voter. This measure has the advantage of creating a neutral comparison point for both knowledgeable and unknowledgeable voters. This is superior to the direct comparison method used by Bartels and Althaus given psychological research which showed that the very knowledgeable were themselves susceptible to poor decision making at times (Gigerenzer, Todd, & ABC Research Group, 1999).

Using this measure, Lau and Redlawsk studied patterns of heuristic use with both experiments and survey research. They found, as did previous

work, that heuristic use was prevalent among voters of all levels of political sophistication. In an effort to economize on their decision making, all voters rationally try to use shortcuts. However, Lau and Redlawsk found that while heuristics did tend to help all citizens make better choices, they were more helpful to the politically knowledgeable. This interaction between the use of heuristics and political knowledge seems to be a step back for heuristics research. While it shows that heuristics are indeed widely used as well as being effective tools for making political decisions, it keeps open the debate over whether low-information voters can use them to effectively compensate for a lack of political knowledge.

FUTURE AREAS OF RESEARCH

Despite the progress made in understanding how heuristics are used and how effective they are, major areas of research remain underexplored. This includes a greater exploration of the role played by decision context and political institutions, as well as a greater understanding of how heuristics interact with levels of political knowledge in determining a final political choice.

While some scholars led a call for greater research on the influence of institutions on the use of heuristics, little work has actually been done. The work cited is among the few pieces that have examined institutions and heuristics, with much of it still only theoretical and not empirically tested. Many other political institutions should be examined to determine how heuristics are used and how effective they are. This includes an array of institutions that vary across democratic countries, such as the type of electoral system used or the number of political parties. These institutions are closely connected to vote choice and as such, are intimately related to how information on political choices is collected and organized by voters. While Sniderman has suggested the importance of these institutions, no research has empirically explored them in a cross-country analysis.

Scholars should also attend to the other environmental factors and political contexts that might influence heuristic use. This includes a wide array of contexts within the United States. There is already evidence that the use of a partisan heuristic is conditioned on the candidate context. When candidates take policy positions that contradict their party's ideology, voters become more wary of using a partisan heuristic (Arceneaux, 2007). Other contexts could prove as important in facilitating or discouraging heuristic use. This includes the level of election (national vs state vs local) or type of election (executive vs legislative). For instance, in local elections where voters tend to know very little about any candidates, certain voting shortcuts such as name recognition might be particularly prevalent.

In addition, scholars need to more thoroughly and carefully explore the interactive relationship between political knowledge and heuristic use that has been identified by Lau and Redlawsk. The evidence presented by Lau and Redlawsk, while confirmed across both experimental and survey research, contradicts a large body of research which shows heuristics to be effective tools for low-information individuals. In particular, a new wave of psychological research has been able to show that some fast and frugal heuristics are particularly helpful for low-information voters (Gigerenzer *et al.*, 1999). To resolve this discrepancy, it will be necessary to expand the universe of heuristics examined and their measurement. While their experimental work has a very sophisticated measure of heuristic use, Lau and Redlawsk reduce voting shortcuts to a simple measure of partisan strength in their survey work. This is an extremely rough measure of heuristic use, and certainly not representative of the use of many different heuristics. Voting heuristics are not a monolithic strategy, as Lau and Redlawsk themselves show in earlier work, and cannot be conglomerated into a single variable. Future research must develop better survey measures of the heuristic use and then test the interaction of heuristics and political knowledge individually.

Finally, scholars must begin to integrate cognitive theories of heuristic decision making with institutional explanations. For the most part, previous research has focused on cognitive and environmental explanations separately. However, as Simon admonished, a complete understanding of human decision making is only possible when these two strands are integrated. Previous work has been crucial in laying the foundations for what scholars currently know. But the time is now ripe to begin integrating these perspectives into a unified theory of what factors influence the use and effectiveness of heuristics. Such a unified theory is particularly important as scholars could then begin to identify the comparative importance of individual cognition and the decision environment, as well as determine whether some previously important variables lose their explanatory power once factors from the other side are introduced into the mix. This is the crucial task of researchers, going into the next decade of inquiry into political decision making and political heuristics.

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