

The Role of Heuristics in Enhancing Political Interest: A Cognitive Appraisal Theory of Political Interest

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Abstract

Political behavior research finds that most individuals seek political information, learn about politics, and participate in politics not only because they stand to gain or lose much from political outcomes but also simply because they find politics interesting. How and why do individuals become interested in specific political messages and issues? How does an instant, short-term interest in politics develop into a long-term, sustained interest in politics? This study attempts to answer these questions by proposing a novel theoretical approach to political interest, highlighting emotional and cognitive aspects of interest. Drawing on appraisal models of interest in psychology that suggest individuals' assessments of their capability to cope with incoming information (appraisal of coping potential or comprehensibility) as a necessary condition for interest, I extend the theory incorporating the role of heuristics in enhancing the appraised coping potential in understanding of politics. Implementing an experiment that reflects different situations in which heuristics are more or less useful to comprehend political events, I assess whether the use of heuristics can substitute for experience and knowledge in allowing people to cope with politics and therefore find it more interesting. The experimental results support the proposed mechanism.

Keywords

Political interest, appraisal theory, coping potential, comprehensibility, heuristics

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A cognitive appraisal model of political interest

Introduction

One of the consistent findings in decades of research in political behavior is that most individuals seek political information, learn about politics, and participate in various types of political activities, not only because they stand to gain or lose much from political outcomes but also simply because they find politics interesting (e.g., Curran, Iyengar, Lund, & Salovaara-Moring, 2009; Delli Carpini & Keeter, 1996; Eveland Jr., 2001; Luskin, 1990; Prior, 2005). All of these findings suggest that an interest in politics plays a fundamental role in the behaviors central to a well-functioning participatory democracy. Similar to sports fans or music lovers, people seek out and attend to political information when they expect such attention to be rewarded with a positive emotional response—that of interest.

Despite the substantial importance of political interest as a key—perhaps the most important—determinant or predictor of political knowledge and participation, there has been little explicit theorizing regarding the nature and sources of political interest beyond correlational relationships. This state of our knowledge about political interest is well summarized by Marcus Prior: “[W]e do not understand where political interest comes from and could thus not recommend how to increase it” (Prior, 2010, p.747).

This study attempts to advance our understanding of political interest by suggesting a novel theoretical approach. Starting with a general question, “What is an interest?”, I propose a theory to reflect cognitive processes when we face “political” matters (e.g., political events and messages). The theoretical work draws upon cognitive appraisal theory of interest in psychology (e.g., Silvia, 2006) but further extends it for interest in politics.¹

A key implication of the general appraisal structure of interest is that people become interested in an event or stimulus when they think they can cope with the information (appraisals of “coping potential” or “comprehensibility”). That is, *ceteris paribus*, those who appraise a political event or message as being comprehensible or understandable are more likely to be interested in and pay attention to it. This perspective echoes the findings from an extensive literature in political science devoted to demonstrating the importance of individuals’ political knowledge, intellectual capability, and education for political interest

¹ By political interest, I primarily consider interest in political messages or events. People obtain political information through conversations with others, but much of the information in these conversations is merely repetition or second-hand, previously mediated information

and political sophistication (e.g., Campbell, Converse, Miller, & Donald, 1960; Delli Carpini & Keeter, 1996; Gordon & Segura, 1997; Luskin, 1990; Milner, 2002), which, from the appraisal theorist's view, all contribute to enhancing individuals' (appraised) comprehensibility of politics.

However, such emphasis on education and knowledge tends to ignore an alternative mechanism through which political events or messages can become more comprehensible (and thus interesting): the use of simple information shortcuts or heuristics. While heuristics have been an important topic in the study of political information processing, this attention has not usually extended to discussions of political interest. In this study, I propose a theoretical framework of political interest by incorporating the role of heuristics in enhancing the appraised comprehensibility; and, thus, an interest in politics.

The empirical section assesses the micro-foundation of the theory—whether heuristics can substitute for experience and knowledge when people cope with an event or object—and therefore find it more interesting. To examine this alternative mechanism, I conduct an experiment in an abstract form where “the availability of heuristics” is manipulated and other potential pathways to the emotion of interest (e.g., individuals' knowledge and previous experiences) are controlled by design.

The proposed appraisal theory of *political* interest sheds light on the cognitive and emotional aspects of political interest (i.e., why some people are more interested in politics than others), providing important implications for the relationships between political sophistication, political interest, and the use of political heuristics. Highlighting the role of heuristics, it also provides a theoretical foundation for how political contexts shape cross-national differences in political interest (i.e., why there are dramatic differences in the levels of political interest across countries). The theoretical implications and empirical contributions are discussed with a suggestion for a future research agenda.

What We Know (and What We Do Not Know) about Political Interest

In political science, political interest has long been considered (and evidenced) to be one of the key fundamental political predispositions of individuals that “varies widely among individuals but exhibits a good deal of stability for the same person through successive election campaigns” (Campbell et al., 1960, p.102). This view is supported by the stability of

the degree of individuals' political interest over time (e.g., Prior, 2010) and the strong association between political interest and a series of demographic and psychological factors, including age, education, and political knowledge (e.g., Luskin, 1987; Verba, Burns, & Schlozman, 1997).

Another line of research shows that an individual's interest in politics can vary with political contexts. Studies on the effects of electoral campaigns and political communications show that individuals become more interested in politics when stimulated by certain types of information, such as negative political advertisements (e.g., Ansolabehere & Iyengar, 1995; Iyengar & Kinder, 1987). Studies also revealed that levels of political interest change along with the occurrence of noteworthy political events and information contexts, including election campaigns, the salience and competitiveness of the election, the presence of unconventional candidates, and the (subsequent) media exposure (e.g., Boulianne, 2011; Butler & De La O, 2010; Lupia & Philpot, 2005; Strömbäck & Shehata, 2010).

Although the two lines of research contribute to our understanding of political interest, we still do not have an adequate theory to understand the process and the mechanism through which people become interested in political matters (short-term interest in politics) and go on to maintain this level of interest (long-term political interest). The origins of political interest are also unknown, as political socialization theorists find that political interest is actually the weakest aspect of parent-child transmission (Jennings & Niemi, 1968; Jennings, Stoker, & Bowers, 2009), contrasting to the high congruency in partisan identification between parents and children. Thus, proposing a theoretical framework for political interest represents a substantial contribution to the scholarship if the theory can explain how the short-term experience of being interested in political stimuli can develop into a long-term interest and why politically interested people react differently to political stimuli in everyday life than do politically disinterested people.

Cognitive Appraisal Theories of Interest: Approach to Interest as an Emotion

As political scientists consider political interest to be a core motivation for seeking information and participating in various political activities, psychologists define interest as *a feeling* of wanting to investigate, become involved in, or extend or expand the self by incorporating new information and having new experiences with the person or object that

has stimulated interest (Izard, 1977, p.216). Psychologists also find that interest has its own defining features as an emotion: It accompanies physiological changes in facial and vocal expressions, has distinctive patterns of cognitive appraisals (Silvia, 2006), and has adaptive functions (Libby, Lacey, & Lacey, 1973; Sansone & Smith, 2000). As a kind of positive emotion, often nicknamed “knowledge emotion” or “curiosity emotion,” interest shares characteristics with other positive emotions, such as pride, enjoyment, and relief in that it “rewards” certain adaptively useful behaviors.²

Given the defined nature of interest as an emotional state, an approach using a cognitive appraisal model—a model that explains why we experience certain kinds of emotions—should be useful to understand “political” interest. The term “appraisal” refers to a direct, immediate, and intuitive assessment of the situation we face. The assessment often proceeds effortlessly and generates emotions automatically (Arnold, 1960; Ellsworth & Scherer, 2003). The key premise of appraisal theory is that individuals experience an emotion only after (consciously or subconsciously) appraising events or stimuli in a particular abstract structure and that, upon making the appropriate set of appraisals, the corresponding emotion occurs. For example, the appraisal structure for anger in response to an event appears to have four elements: 1) appraising the event as relevant to a goal, 2) appraising the event as incongruent with the goal, 3) appraising the event as a threat to one’s social or self-esteem, and 4) blaming someone for the treat. When these appraisals happen, the emotion of anger should occur.

What does the appraisal structure of *interest* look like? According to Paul Silvia (2005, 2006), one of the leading appraisal theorists of interest, interest involves two sets of judgments, i.e., the extent to which an individual will display interest in some events depends on how they appraise the event along two dimensions: a *collative* and a *coping potential* (or *comprehensibility*) dimension.³

² At the same time, experimental studies have shown that interest is distinct from other positive emotions (Day, 1967; Kashdan et al., 2009; Russell, 1994; Turner & Silvia, 2006); for example, we can certainly be interested in something that we do not find enjoyable or that we find unpleasant.

³ Silvia’s theory is built upon past theories of interest and summarizes and synthesizes them. Firstly, interest stems from events that are new, complex, and unfamiliar (Berlyne 1960); and

Collative Dimension

The first set of judgments in the appraisal structure occurs on a number of variables related to a *novelty check*. These include whether people judge something as new, ambiguous, complex, obscure, uncertain, unexpected, and so forth. They are named collative variables because they involve comparing incoming information with existing knowledge or comparing several regions of a differentiated stimulus field (Silvia, 2006, p.33).

The two most studied collative variables are novelty and complexity. Much of the empirical literature has explored collative variables for an interest in aesthetic domains and demonstrated that novelty and complexity (along with the appraisal of comprehensibility, the second dimension, explained later) leads to increased interest in abstract paintings, music, and poems (Berlyne, 1970; Cupchik, Shereck, & Spiegel, 1994; Millis, 2001; Russell & Milne, 1997; Walker, 1980). In such studies, a typical way of testing the effect of the appraisal of collative variables is implementing experiments manipulating collative variables. For example, researchers test the relationship between complexity and interest by showing subjects with pieces of abstract paintings made up of polygons with an experimentally manipulated number of sides (e.g., Day, 1967; Eisenman, 1966; Russell, 1994).

Comprehensibility Dimension

The second component in the appraisal structure is an appraisal of individuals' ability to cope with or comprehend an event. Appraisal theorists refer to this as an appraisal of *coping potential* or *comprehensibility* because it involves the consideration of whether individuals have the skills, knowledge, and resources to deal with an event (Lazarus, 1991). The comprehensibility appraisal has both cognitive and emotional components. Cognitively, it captures more than simply whether a person understands the event; it also refers to situations in which events are not understood but are understandable (Silvia, 2006, p.59). Emotionally, an event that is comprehensible is one in which an individual knows how to feel about the event.

In case of interest, upon appraising something on the collative variables, people appraise the likelihood that the event will become understandable, thus coherent and clear (the appraisal of comprehensibility) (Silvia, 2006, p.57). An initially interesting issue can

secondly, interest comes from tasks in which a person's skills match the level of challenge related to the task (optimal experience theory, see Csikszentmihalyi, 1990).

therefore become uninteresting when someone feels unable to form a coherent understanding of it. Conversely, a confusing text can become interesting if its hidden meaning is revealed (Silvia, 2006). Thus, this is an appraisal of whether the individual is likely to be able to (or try to) understand or “cope with” the events. Given this, the appraised comprehensibility is a *necessary* condition for individuals to be interested in an object or an event.⁴

Unlike collative variables, for which scholars are predominantly interested in manipulating them to test its effects on interest, the appraisal of comprehensibility has usually been a variable to be controlled for in revealing appraisal structure. The comprehensibility is typically measured by asking simple questions about previous experiences or familiarity with a domain of the question. For example, to capture (and control for) an individual’s coping potential with paintings, researchers of aesthetic interest asked subjects whether they have ever taken an introductory class on art or painting.

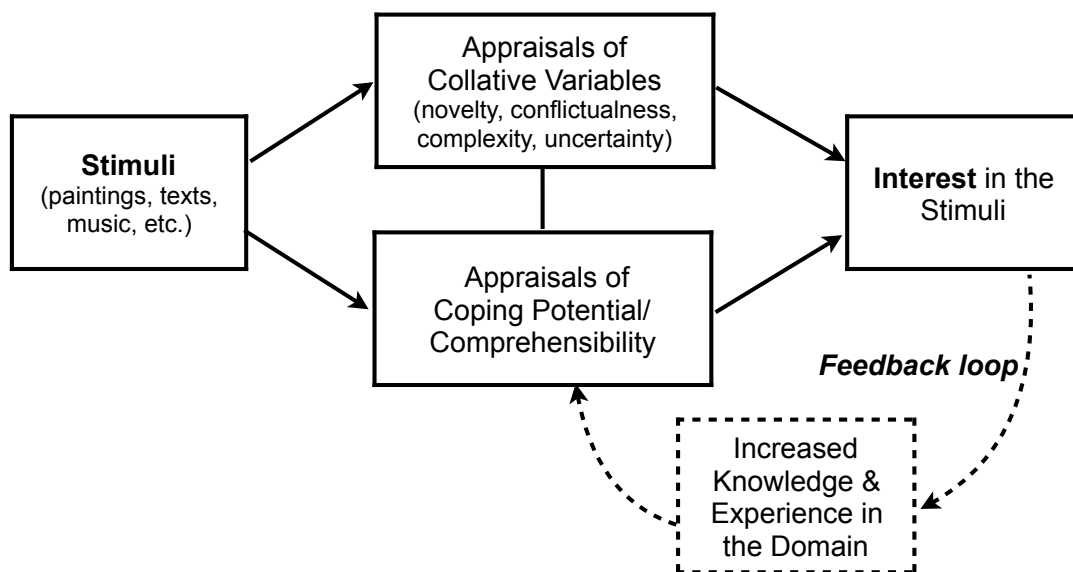
The Development of Long-Term Interest from a Discrete Experience of Interest

The two-dimensional appraisal structure of interest suggests important implications for our understanding of political interest and its connection to political knowledge. In particular, the comprehensibility dimension addresses two important implications: It suggests 1) how and why interest is inter-connected with knowledge, and 2) how short-term emotion of interest can enhance and reinforce interest (and knowledge) in further events of the same kind (long-term interest).

⁴ For example, suppose that we encounter the following message: “Ultracold Reactions Probe the Frontiers of Quantum Chemistry.” This message may contain an idea that might be appraised as new and complex (collative variables). However, the comprehensibility of this message and whether someone expects that they will be able to understand the story largely depends on their background knowledge. A layperson would not likely have expectations about what kinds of information this message is going to deliver but would recognize that the story is about some scientific finding (“quantum chemistry” is a giveaway). The individual might know that such stories are tailored to some experts and students in quantum chemistry and that it is unlikely that her further attention would help her clarify what “Ultracold Reactions” means or the finding the message is going to deliver. Conversely, this message is more likely to be comprehensible for a chemistry or physics fan. Such a person might not yet fully understand all of the elements in the message (or the complete connection between the elements introduced in the headline) but will expect that they will be able to figure that out if they continue to read the story. The message is thus appraised comprehensible because they are able to place the parts of the message they do not understand into a framework of things they do understand. They therefore expect the whole message to become understandable with some additional attention.

Figure 1 illustrates such a mechanism via a feedback loop between knowledge and comprehensibility. Having an interest in an object or a domain motivates learning. In turn, *ceteris paribus*, the obtained knowledge renders a larger set of events in the domain interesting by enhancing appraised comprehensibility. This important feedback loop between knowledge and comprehensibility is central to understanding how one moves from interest in one event or message to a more comprehensive and general interest as a state or personal trait that differs across individuals.

Figure 1: Appraisal Structure of Interest (based on Silvia, 2006)



Specifically, a discrete experience of interest in a particular domain motivates two things. First, it motivates expectations that if a person pays attention to or explores similar events in the future, they would be similarly rewarded with positive feelings of interest. Second, it motivates increased attention to that event, which often results in learning—the acquisition of knowledge about facts relevant to the general topical domain of the event (e.g., Hidi, 1990)—and this new knowledge augments the ability of the individual to cope with or understand further (potentially more complicated) events and messages in that domain.

This feedback loop provides a sensible explanation about why political scientists have consistently observed 1) a strong association between knowledge and interest, 2) a life-long stability in levels of political interest (i.e., once interested in politics, people seem to stay

interested), and 3) large interpersonal differences in levels of political interest. This explanation also echoes previous empirical findings about how individuals' capabilities and motivational opportunities—reflected in several demographic variables, such as education, income, and age—are associated with levels of political knowledge, which in turn is associated with levels of political interest (Bennett, 1988; Campbell et al., 1960; Delli Carpini & Keeter, 1996; Luskin, 1990) and that more politically sophisticated individuals are more likely to be interested in more complex political messages (Gordon & Segura, 1997, p.130).

An Appraisal Model of “Political” Interest

The Role of Political Heuristics in Coping with Politics

Given the central role of comprehensibility, a key question to ask when applying the theory to *politics* is “what makes politics comprehensible?” Based on appraisal theory in psychology and empirical findings in political science, an easy answer will be that: Comprehending politics requires that individuals utilize their existing knowledge or previous experiences to make inferences about politics so that they appraise politics as something they can cope with. Individuals with substantial stores of knowledge and broad experience will thus be able to comprehend a wealth of political messages and likely be interested in them.

However, detailed knowledge and previous experience are not the only sources that help people “cope with” politics. This story likely rings false with many of the students of political behavior who recognize that relatively few people actually pay close attention to politics. As widely known, the general public is not very well equipped with the detailed knowledge required to fully understand political processes and their consequences (e.g., Alvarez & Brehm, 2002; Converse, 1964; Delli Carpini & Keeter, 1996). For many individuals, however, this lack of knowledge does not seem to result in a lack of interest in politics. The “uninformed but interested” seems to comprise a central character in modern democratic politics.

How do we square this with the appraisal theory of interest described above? The answer lies in a breadth of research that shows that, despite a lack of detailed knowledge, the average individual can cope with politics by relying on a set of information shortcuts or heuristics, such as party and ideological labels (e.g., Lau & Redlawsk, 2001; Popkin, 1994; Rahn, 1993; Sniderman, Brody, & Tetlock, 1991). These studies demonstrate how the use of

political heuristics can substitute for detailed knowledge when coping with politics. For instance, uninformed citizens express vote preferences by substituting party labels for detailed knowledge of candidates (e.g., Schaffner & Streb, 2002), and citizens in countries where coalition government is the norm can predict who will form a coalition government by using two simple pieces of common knowledge—the largest party and the party ideologically closest to it (Fortunato, Lin, & Stevenson, 2014), which eventually helps to cope with the complexity in their political systems.

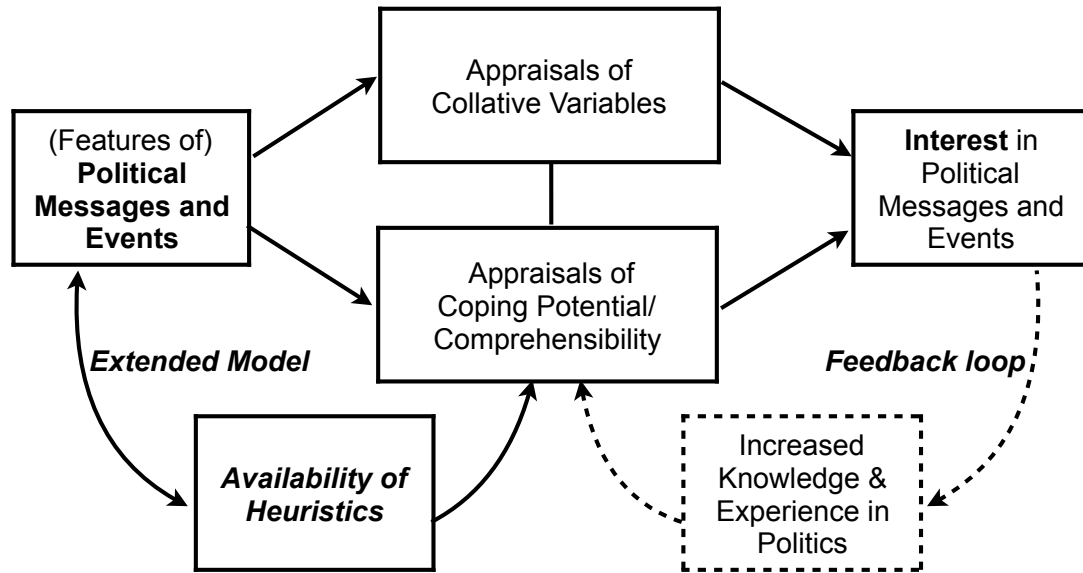
The use of political heuristics therefore helps to orient individuals with respect to political events (both cognitively and emotionally), even if they have relatively little relevant background knowledge, thus allowing citizens to “cope with” politics. That people use heuristics in decision-making and perceiving and comprehending things happening in the outside world has long been studied, both in heuristics research in general (e.g., Chaiken, 1980; Gigerenzer & Goldstein, 2011; Tversky & Kahneman, 1974) and in politics more specifically (e.g., Downs, 1957; Kuklinski & Quirk, 2000; Lau & Redlawsk, 2001; Page & Shapiro, 1992; Popkin, 1994). However, this attention has not usually extended to discussions of political interest.

Thus, what is missing in the previous theory to understand “political” interest is this alternative mechanism through which the use of simple information shortcuts helps individuals to appraise political events (and, thus, to find them interesting) by substituting for the use of knowledge or past experiences.⁵ This mechanism has yet to be considered in the appraisal models of interest in psychology. The theory for the micro-foundation of political interest I suggest here therefore extends the appraisal models in psychology to include a role

⁵ Note that the ability to utilize heuristics does not require a high level of political sophistication. Rather, the use of heuristics must be considered so basic and common sense that a large portion of general population can utilize. For example, the bit of sense—which most people ought to possess—that leftist parties are more prone to increase taxes and that rightists are not is enough to utilize ideological (Left–Right) heuristics in the sense that the individual has expectations or inferences about a whole political story in a news article once the article invokes left or right cues in a small part of the message (e.g., news headline), to which the individual is initially exposed. This is because, by definition, a heuristic is a strategy that “guides information search and modifies problem representations to facilitate solutions” (Goldstein & Gigerenzer, 2002, p.75) and that “ignores information to make decisions faster, more frugally, and/or more accurately than more complex methods” (Gigerenzer & Goldstein 2011, p.454).

for heuristics in enhancing comprehensibility and interest in politics. Figure 2 illustrates the extended model.

Figure 2: An Appraisal Model of Political Interest



This framework introduces the second path through which political events or messages become comprehensible: the availability of information shortcuts or heuristics.⁶ The empirical section examines the causal mechanism in the extended part—the linkage between the availability of heuristics, appraisals of comprehensibility, and the degree of interest. The empirical contribution of this paper is, thus, in establishing *whether heuristics can substitute for knowledge and experience in allowing people to appraise an event or an object as comprehensible, and so find it more interesting.*

Further Implications and Research Inquiries

⁶ By “availability” I refer to a situation where at least two conditions are met. First, the stimuli (e.g., political messages) should provide a kind of information cue or heuristics and, second, an individual exposed to the heuristic should be able to utilize it to comprehend the stimuli (e.g., make inferences or expectations about the political story in the message). Heuristics can also be said to be available when the use of a specific heuristic often (rather than infrequently) leads to a correct prediction and expectation that captures the reality in political events (more precisely, the “usefulness” of heuristics).

The proposed theory has important implications and raises new questions to be answered in future research. I discuss them here as the conclusion of the theory section before proceeding to the empirical section. First, it is important to reveal the kind of collative variables that invoke interest in political matters. Whilst novelty and complexity (along with uncertainty and conflictualness) are the most studied appraisals that matter for interest in various aesthetic domains, it has yet to be validated whether they also matter for political interest. Moreover, there can be other collative variables (than those already found in other domains) that would invoke interest in political matters, such as salience and significance (e.g., how important is a particular political event to me?).

Second, dynamic relationships among appraisal variables are also of interest for future research. Previous studies in aesthetic domains, for example, found a reversed U-shape relationship between complexity (one of the collative variables) and interest. That is, the complexity of an object or event increases interest to some extent; but if appraised as too complex, interest decreases. This is probably because a high level of complexity reduces the comprehensibility or coping potential. Such a dynamic relationship could exist for political interest, as we barely know about how it works with political messages and events.

Lastly and more importantly, the alternative pathway in the theory has important implications for a comparative study of political interest in terms of understanding why political interest varies so dramatically across countries (e.g., why citizens in Belgium are generally much less interested in politics than in the Netherlands). The theory tells that this is probably because the provision of heuristics in typical political messages and the extent to which they are useful for coping with political discussion is largely defined by political context. Table 1 summarizes several common political heuristics that help individuals make inferences about the specific information required to comprehend politics: People make inferences about an individual candidate's standpoint by relying on the candidate's party affiliation even when lacking detailed knowledge about the candidate; political parties' standpoints (or the directions of their policies) using their respective relative positions in an abstract Left-Right dimension; and the outcome of government policies by predicting who will participate in forming a coalition (where coalition formation is the norm).

Table 1: Political Heuristics and Its Usefulness/Availability in Comprehending Politics

Type of Information	Heuristics	Contexts
Individual politician's standpoint	Party label	When parties are more coherent; parties are more institutionalized; parties play a central role in producing electoral candidates
Political parties' standpoint	Left-right heuristic	When party competition centers on L–R dimension; L–R dimension comprises fewer issues
Prediction of policy outcomes	Coalition formation heuristic	When it is easy to predict winners from election results; there are regularities (patterns) in coalition formation

However, these heuristics are not always available or useful but largely defined by political systems and contexts. For example, party labels are of little use as an information shortcut to infer the standpoints of individual politicians in countries where numerous new parties emerge every election and where many independent candidates run for election. In contrast, when members within a party have very similar preferences and behave very coherently and political parties have longer histories, using party heuristics will be very useful to comprehend or “cope with” politics. As such, the predictability and regularity of political events is the essence of the political contexts that matter for the availability and usefulness of political heuristics. This insight about the key characteristics of heuristics is reflected in the manipulation of the availability and usefulness of heuristics in the experiment in order to test whether heuristics can substitute for knowledge and experience in allowing people to appraise an event or an object as comprehensible (and, thus, find it interesting).

Testing the Micro-Foundation of the Theory

This section first addresses potential challenges and concerns for testing the mechanism with a quasi-realistic setting (i.e., when using partisan and ideological heuristics from the real world for an experimental setting). I then introduce an experimental design that attenuates such concerns and simultaneously tests the proposed mechanism.

A Challenge to Testing the Mechanism with a Quasi-Realistic Setting

In testing the proposed mechanism, it is substantively important to control for the use of prior knowledge and experience to comprehend an object given that the key contribution of

the alternative pathway is highlighting the role of heuristics in substituting for individuals' knowledge and experience in coping with an object or an event. However, it is impossible to control effectively for the various kinds of knowledge and experiences that an individual might use to comprehend politics (e.g., political messages as the main stimuli) within an experimental setting. Moreover, using political heuristics from the real world as the main experimental treatment could bring in home-grown preferences and confounding effects in comprehending experimental tasks. This could complicate the estimation of the causal effects of the availability of heuristics and possibly render it impossible to detect them. Below is an example that demonstrates such concerns.

As party cues and ideological labels are two of the most common political heuristics, some might think that a way to test the causal path is to manipulate the availability of them in an experiment, for example, having a party or ideological label available (e.g., in a short political message, such as a news headline) in the treatment and unavailable in the control setting. Imagine, then, a hypothetical situation in which there are two political news headlines—one with a party cue and the other without—and the two news headlines are very similar to each other in terms of the appraisal of novelty, difficulty, complexity, and the like (the collative variables) for a hypothetical reader. If the individual demonstrates a higher level of interest in a news story headlined with a party cue (e.g., “Many Democratic Congressmen Promise to Vote YES on Drake Amendment”) than the other (equivalent) story headlined with no party label, the individual's higher interest in the former political message is the exact outcome we may expect to see. This is because we expect that receiving a party cue (“Democratic”) may allow them to form an expectation about the “Drake Amendment” (about which they might have no prior knowledge); that the Amendment might be something in line with the Democratic Party's policy platform on issues such as tax cuts and government regulation. If this is the case, their thinking that they may be able to cope with the message might motivate them to read the news story (which is an outcome behavior driven by interest), and the source of their coping potential might be the provision of the partisan cue.

To ensure that the use of heuristics is the source of their appraisal of comprehensibility, however, we must detect if the subject had *a priori* knowledge about the Drake Amendment or other elements in the headline. Asking questions before the subject is

exposed to the headline is not a good idea, because it renders the stimuli (news headlines) not a new item of information and sometimes invokes framing effects. Asking questions to detect *a priori* knowledge afterwards is also problematic, as the subject already processed the information and probably developed expectations about the news story when asked about their knowledge of the topic. As such, when using realistic political examples in the experimental setting, it is a major challenge to distinguish between the mechanism we want to test and those that are confounding.

Another concern is how it is also possible that the individual was interested in the party-cued message not only because the party label helped them to expect that they can understand the message but because of their positive valence toward the Democratic Party itself.⁷ Such a valence reaction triggered by a party label occurs independently of the mechanism described in the theory and often leads to selective exposure to new information (Sears & Freedman, 1967, for a review). If this is the case, the valence reaction may either block out the individual's further attention (e.g., to Republican-cued messages) or motivate them to pay attention directly to the message (e.g., to Democratic-cued messages), bypassing the appraisal process, including the assessment of comprehensibility. Exploring the causal path using a set of real-world partisan (or ideological) heuristics therefore involves difficulty in validating whether the treatment is functioning as an information shortcut (which enhances the appraised coping potential) or as another emotional trigger (which blocks or bypasses the appraisal process).

The experiment must therefore be designed to accomplish the following goals: 1) no prior knowledge or experience is useful for subjects to conduct experimental tasks (so that the use of heuristics is the only available source to enhance the comprehensibility of the task), 2) the experimental setting should allow us to manipulate the usefulness or availability of heuristics, and 3) the effects of confounding variables (e.g., collative variables) need to be minimized in the experimental setting. To achieve the goals, I design an experiment in a rather abstract form (as opposed to a realistic setting), where the main task of the subjects

⁷ In contrast, if the headline is cued with Republican Party, the individual in question might actively avoid the news story due to their negative valence toward the Republican Party, even though the cue helps them to expect what the story would be.

will be “guessing,” for which individuals’ *a priori* knowledge and experience would not be useful at all.

Guessing Experiment

The experiment consists of a series of simple guessing tasks, where subjects are shown five circles of various sizes arrayed in a row from left to right. Their main task is to guess which TWO circles (out of five) will be colored in RED in the following screen. Each subject does this guessing task for 70 trials.

This setting has several advantages to test the proposed causal pathway. First, collative variables can be held constant or controlled for. For example, the appraised novelty on the guessing task itself may wane as subjects repeat the same task over many trials, interest possibly falling over time, all else being equal. As subjects are randomly assigned to control or treatment groups, however, such an over-time pattern in the appraisal of the collative variables (e.g., novelty) is unlikely to cause systematic differences across groups. Second, playing guessing games does not make any prior knowledge or experiences useful or available. This allows us to hold constant the effect of previous knowledge (probably the most important source of individual differences) and to have the availability of heuristics, the main treatment, as the only source of comprehensibility. Third, unlike the partisan or ideological cues, the task and manipulation do not directly elicit any particularly strong valence to the subjects.

By choosing such an abstract setting, I recognize the tradeoff between the external and internal validity of the results. The experimental design focuses more on achieving the latter, as it is the first empirical test of the proposed theory and the main purpose is to validate the proposed causal mechanism itself. It is, however, worth noting that the experimental setup reflects situations in which coalition government is the norm, where citizens make expectations about which parties would form a coalition. As the availability of political heuristics is essentially rooted in the regularity and predictability of political events in the given political system, I manipulate the usefulness and availability of heuristics by varying the degree of regularity in deciding which two circles to be colored in red (explained below). From a different perspective, this can indeed be seen as a more generalized test based on a theory of interest that incorporates insights from political science.

Treatment

The treatment is the availability of heuristics (in a dichotomous sense) or the usefulness of heuristics (in a continuous sense). By definition, a heuristic is a simple rule that guides people to map an abstract feature and solve (simple or complex) problems. In this experiment, a heuristic is a *hidden* rule that, once recognized, can guide subjects to map the feature of the guessing tasks and, thus, to solve the problem effortlessly and more accurately. Note that the experimental subjects were not informed of the presence of the rule at all but they might be able to learn the rule through the experimental trials if the subject is assigned to a group in which the heuristic is highly available and useful.

The hidden rule embedded in the guessing task is to make the largest circle and the one closest to the largest one red.⁸ The rule is applied to the outcome (coloring two circles red) at different rates. In a high-availability-of-heuristics situation, in 87% times of the 70 trials, subjects see that the largest circle and the circle closest to the largest are to be colored in red; whereas in a low-availability-of-heuristics situation, the rule is applied to the outcome in only about 10% of the trials (equal to the random probability of choosing two elements out of five).

That is, in the high-availability-of-heuristics situation, if a subject recognizes the presence of the pattern and applies the rule when giving their answers, they will get them correct 87% over 70 trials. In the low-availability situation, however, it is difficult to recognize (or impossible to learn) the rule because, compared to the high-availability situation, many more outcomes will occur in violation of the regularity. Subjects will thus hardly recognize (the presence of) the pattern (i.e., the heuristics will be less available in the sense that subjects will hardly notice it), and even if they somehow notice the pattern (although it is very unlikely), it will not be that useful to guess correctly. In addition, I create two more situations in between the highest-availability and lowest-availability groups. The parameters for the availability of heuristics in the four groups are described in Table 2. The

⁸ This rule is set based on the findings from Fortunato et al. (2014) that in complex political contexts where the government is formed with more than two parties, voters are able to generate accurate expectations of which coalitions are likely to form by using two simple rules: the prime minister is likely to come from *the largest party*, and *parties that are ideologically close to the PM's party* are likely to join the coalition. These two items of information are found to be very common and basic knowledge in such political contexts. Applying these simple rules effectively predicts which parties will form a coalition government, among other (mathematically and probabilistically) possible combinations of parties.

four groups receive different levels of the clarity or regularity of the pattern and thus have different learning curves and the heuristics are of different usefulness (once learned).

Table 2: Manipulation of the Availability (Usefulness) of Heuristics

	# trials where the rule is applied to two circles colored in red
Group 1 (High availability)	61/70 (87%)
Group 2	38/70 (54%)
Group 3	16/70 (24%)
Group 4 (Low availability)	7/70 (10%)

Measurements

I have two measures for the appraisal of comprehensibility (coping potential): First, the performance score (correct answers) captures how well a subject can “cope with” the task; and second, subjects’ ratings on the easiness of the task (measured on an 11-point “difficult–easy” scale). The outcome variable, interestingness, is also measured using subjects’ ratings on a “boring–interesting” dimension. The two ratings are measured a total of 13 times over the experimental trials (roughly every 5 trials from the 9th trial). I also check whether subjects recognize the presence of the rule (and the extent to which they are confident about it) by asking “Do you think the circles are colored in red in a random manner?” every 15 trials (after 9th), a total of 5 times over the experiment. This question comes after the easiness and interestingness ratings. With those measures, I expect that the level of interestingness, easiness, and the performance scores will be highest in Group 1 and lowest in Group 4.

Procedure

A total of 120 subjects were recruited from Amazon Mechanical Turk.⁹ They were paid a flat rate monetary compensation for the completion of the task. When an MTurk worker agreed to participate, she was redirected to an external link for the experimental tasks and randomly assigned to one of the four groups.

⁹ MTurk Workers are met the following three qualification requirements: located in the US, more than 500 HITs approved, and greater than 98% HIT approval rate.

The subjects were informed on the instruction page that the task will take around 15–20 minutes, and they will be asked to guess two circles out of five that will be colored in red, with an example demonstrated. After the instruction, subjects were shown a question screen with five arrayed circles (Screen 1 in Figure 3) and asked to choose two circles. Upon submitting their answers, the correct answer (two circles) is shown in red along with a table comparing their own answer and the correct answer. Based on the results in the table, they were asked to confirm their performance before proceeding to the next trial (Screen 2).

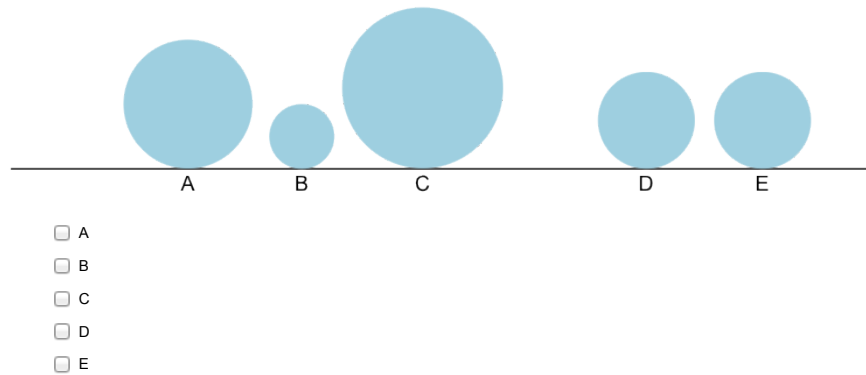
Each typical trial consisted of these two steps (question and result screens), but thirteen trials (every 5 trials after 9th) had the third step—a survey screen where subjects rate the easiness, interestingness, and (sometimes) randomness of the task (Screen 3), with each subject’s own performance score (the number and the proportion of correct guessing, from the first to the N-th trial) demonstrated on the top of the screen.¹⁰ After completing all 70 trials, they were asked whether they recognized any patterns for the red colored circles. Those who responded yes were asked to tell us in an open-ended form about the pattern they thought applied to the red circles.

With this design, if the availability of heuristics enhances the comprehensibility and thus the level of interestingness, the highest-availability-of-heuristics group (Group 1) ought to demonstrate higher interestingness (and easiness) levels in their self-reported ratings as well as a greater percentage of correct guesses than the lowest group (Group 4). Moreover, in a regression analysis, the effect of the availability of heuristics (parameters shown in Table 2, ranging from 0.10 to 0.87) should have a positive effect on the level of interestingness.

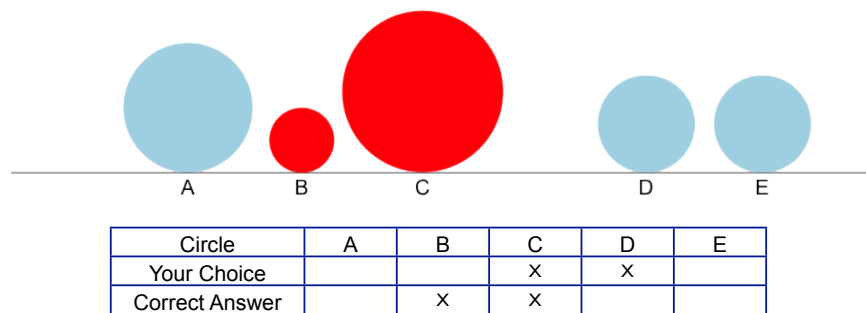
¹⁰ Subjects answered the easiness and interestingness questions in a new screen after the result screens of the 9th trial and every 5th trial thereafter (9, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, and 70th). In five trials (9, 25, 40, 55, and 70) they have an additional question about randomness (and how confident they are if they answered the circles were non-randomly colored in red [“Very confident”/“Somewhat confident”/“A little confident”]).

Figure 3: Screenshots

Screen 1 Guess which two circles will be colored in RED. Choose TWO circles from the below.



Screen 2 Check if your guess was correct!



Did you correctly guess BOTH of the red circles?

- ☐ Yes, I got both correct.
- ☐ No, I didn't get both correct.

Screen 3 You have played X trials so far, and made Y correct guesses and Z incorrect guesses (N% correct guess). How would you rate this task? Please rate what you feel about the task so far.

	5	4	3	2	1	0	1	2	3	4	5	
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
Difficult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Easy

Results

Groups 1, 2, and 3 had 29 subjects and Group 4 had 33 subjects. The experiment took 19.5 minutes on average, and no one group spent significantly more or less time on the experiment than the other groups.

Group-Level Analysis

Table 3 summarizes the performances (correct guesses), ratings on easiness and interestingness, and randomness (in determining circles in red) of the four groups. As expected, subjects in the high-availability-of-heuristics environment outperform the lower-availability groups: Group 1 ended up with a much higher number of correct guesses and rated the easiness and interestingness of the tasks higher than the other groups over the experimental trials. Such differences are statistically significant for almost every pair of the groups (at .05 level, two-tailed) with a few reasonable exceptions.¹¹

Table 3: Group Means for Performance, Easiness, and Interestingness

	Number of Correct Guesses [min, max]	Easiness (s.d.)	Interestingness (s.d.)	Thinking the pattern is non- random (%)
Group 1 (High)	19.79 [7,48]	3.30 (3.14)	4.04 (3.95)	13/29 (44.8%)
Group 2	10.38 [4,20]	3.14 (3.44)	3.85 (3.57)	1/29 (3.5%)
Group 3	7.17 [3,14]	2.31 (3.08)	2.91 (3.44)	4/29 (13.8%)
Group 4 (Low)	6.18 [1,11]	2.05 (3.18)	2.16 (2.94)	2/33 (6.1%)

Figure 4 illustrates over-time changes in the performance and ratings on easiness and interestingness of each group. The points denote the group means in the given trial, while the bar denotes the confidence interval (at .95 level).

The top panel demonstrates the over-time change in performance—the behavioral measure of comprehensibility (coping potential). The y-axis indicates the success rates (proportion of correct guesses) in the trials between the two measurement points. For example, an individual’s performance .60 at the 20th trial indicates the proportion of correct

¹¹ In pairwise group comparisons (t-tests), groups 1 and 2 do not demonstrate significant differences in easiness and interestingness, and groups 3 and 4 in performance and easiness. This result is not very surprising given the similarity of the parameters between groups 1 and 2 (and 3 and 4).

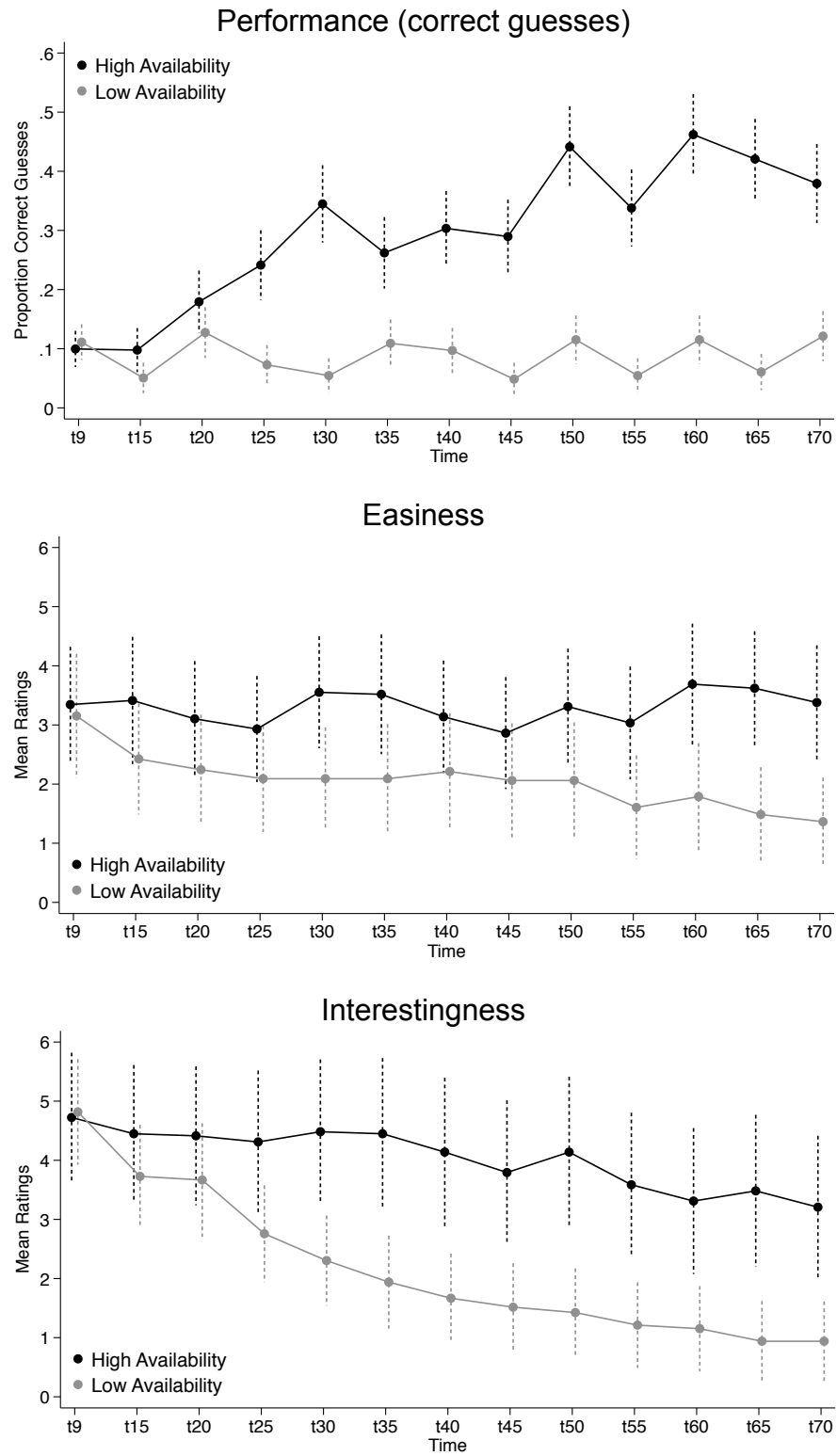
guessing in the trials between the 16th and 20th, i.e., 3 correct guesses and 2 incorrect guesses in the given period (5 trials). We observe that all four groups' performances are very similar at .10 in the first ten trials.¹² After the 20th trial, however, the high-availability group's performance significantly increases up to .50, whereas the performance of the low-availability group remained around .10.

The group comparison with the direct measure of comprehensibility (easiness) introduces a bit more noise than the behavioral measure (performance), but the result is consistent. In the second panel of Figure 4, the ratings are not as clear as in the top panel. Nevertheless, consistent with the results for the performance, the guessing task was easier for the high-availability group than for the low-availability group, and this difference becomes very apparent in the late trials (see the difference between Groups 1 and 4 after t55).

Accordingly, the outcome variable, interestingness, remains higher in the high-availability group than in the low-availability group. The bottom panel in Figure 4 demonstrates that, similar to other variables, the level of interestingness is almost indistinguishable across groups in the beginning; however, the level of interestingness for Group 4 significantly decreases after t25, whereas Group 1 remains at almost the same level as reported in the earlier trials. This over-time trend demonstrates how the availability of heuristics encourages people to “hold” their interest in the task (rather than to “increase” it). This does not harm the main argument because, as discussed earlier, the baseline interestingness curve should be monotonically decreasing given that the novelty of the task is decreasing over time, and repeating such simple tasks (over-70 trial) is a rather boring process. This time effect is more detailed in the pooled analysis.

¹² This success rate (.10) is equivalent to the random probability of choosing one pair (two elements) out of ten possible pairs (five elements).

Figure 4: Comparison of Performance, Easiness, and Interestingness



Note: Circles indicate group means (black for the high-availability-of-heuristics group and grey for the low-availability group). Dashed lines crossing the circles indicate 95% confidence interval.

Pooled Analysis

From the theory, interest is a function of three components: a set of collative variables (Θ), knowledge and experience (K), and the use of heuristics (H), where the latter two components contribute to the appraisal of comprehensibility. As this experiment is designed to rule out the K component, we can specify a regression model using the pooled data to estimate the effect of the availability of heuristics (H). In doing so, I consider the novelty of the task as a relevant collative variable (Θ), which can be considered as time effects as the novelty declines over time. The level of interestingness for an individual i in group g at time t can therefore be expressed as $Y_{igt} = \alpha + \beta H_g + \rho t + \varepsilon_i$, where H_g varies from 0.10 to 0.87 depending on the group, and I expect $\beta > 0$ and $\rho < 0$. Table 4 demonstrates the results: the baseline level of interestingness is about 4, and, as expected, the availability of heuristics increases the level of interestingness by 2.4 (when it changes from 0 to 1, hypothetically), and the novelty decreases over time.

Table 4: Regression Estimates

	Coefficients (std. err.)
Availability of Heuristics	2.422** (0.288)
Time	-0.044** (0.005)
Constant	3.924** (0.235)
Observations	1560

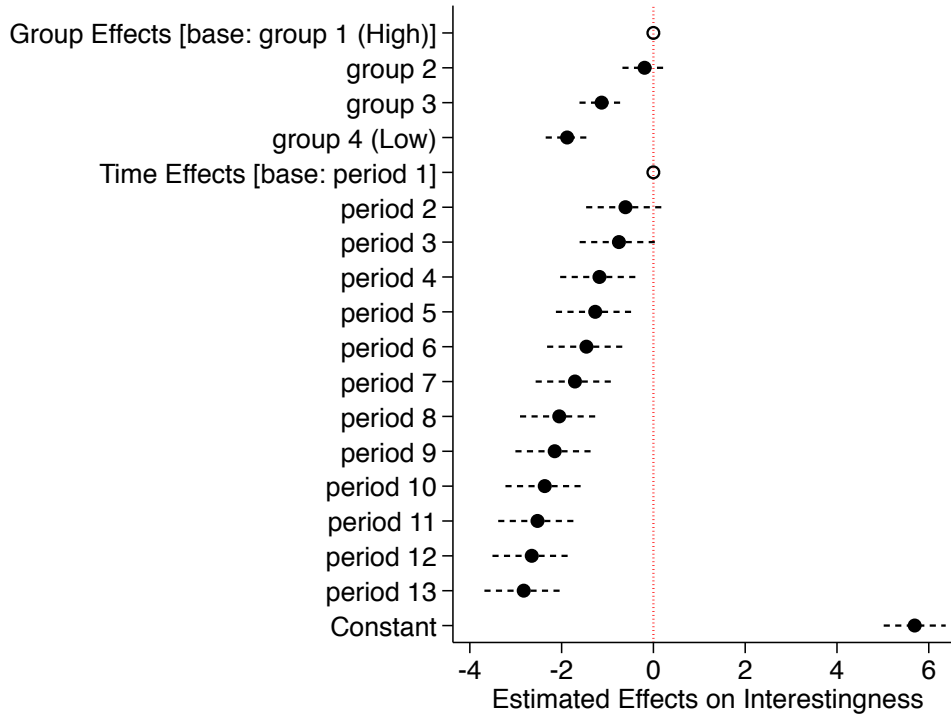
**p < 0.001

I also ran a fixed-effects model by relaxing the linearity assumption for the group (β) and time (ρ) effects.¹³ Figure 5 demonstrates the estimates from a fixed-effects regression model, where the outcome variable (interestingness) is regressed on dummy variables for each group and time period (13 trials where interestingness is measured). Consistent with the previous results, the level of interestingness is significantly lower where the heuristic is (much) less available and useful (Groups 3 and 4) than where the heuristic is available and

¹³ I estimate the following specification: $Y_{igt} = \alpha + (\beta_1 H_1 + \dots + \beta_4 H_4) + (\rho_1 t_1 + \rho_2 t_2 + \dots + \rho_{13} t_{13}) + \varepsilon_i$. The substantive results are consistent when the model includes variables for easiness and/or performances (either as an outcome or an explanatory variable).

useful at the highest level (Group 1); and the baseline level interestingness decreases over time (greater negative effects for the later trials).

Figure 5: Estimates from Fixed Effects Model



Note: The circles indicate point estimates (coefficients) and the horizontal lines the 95% confidence interval. N=1560, R-squared=0.10, Constant=5.69 ($p < .000$).

Compliers vs. Non-Compliers

Last but not least, it is important to check whether subjects received the treatment; that is, whether the subjects in Group 1 recognized the presence of the rule and, if so, whether they accurately acknowledged the pattern applied to the correct answers. At the end of the experiment, about half of the subjects (45%) in Group 1 thought there was a pattern in the red circles (see the last column in Table 3). In their written responses, most of them accurately described the rule.¹⁴ While there were a few subjects in other groups who thought there was some pattern, none of their responses to open-ended questions described it accurately.

¹⁴ One of the subjects even guesstimated the success rate, saying that the “[b]iggest one was always red and the one closest too it was as well. There was probably a 95% success rate with this and 5% random order if it wasn’t.”

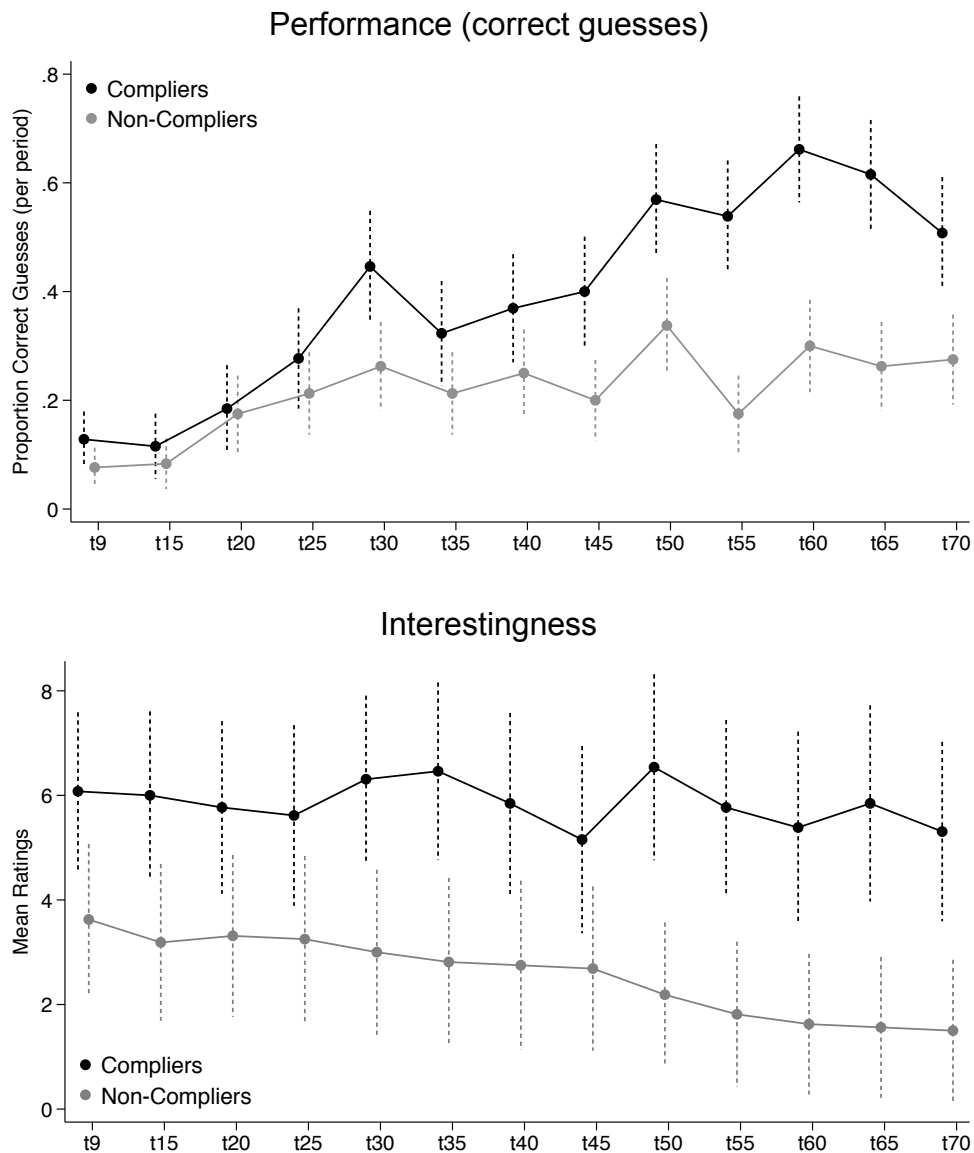
Based on the responses to this last question, I divided the subjects from Group 1 into two groups: compliers (who answered that they recognized there was a certain pattern) and non-compliers (who answered that they did not recognize any pattern). If the compliers outperform the non-compliers and their level of interestingness is significantly higher than the non-compliers, the treatment effects reported in the previous tests might be underestimated because of the non-compliers. If both groups demonstrate similar patterns in the variables of interest, this would possibly mean that non-compliers could unconsciously learn the heuristics and apply it to the activity.

The results from this additional analysis support the former: recognizing the (presence of the) available heuristics enhances the comprehensibility and thus leads them to hold a higher level of interest. As shown in Figure 6, the performance of the compliers is significantly better than non-compliers after the 40th trial, up to .70 (which is almost close to the proportion set by the parameter: .87). Further along these lines, the compliers' level of interestedness also becomes significantly higher than non-compliers after the 45th trial.

Conclusion and Discussion

Understanding political interest is fundamental to our understanding of political behavior and the quality of participatory democracy, as political interest is one of the most important predictors of the political knowledge and citizen participation that are at the core of democratic citizenship. Previous studies find that political interest is strongly associated with individuals' resources, abilities, and information context that can reduce the costs. We know, however, that people, like sports fans and music lovers, often voluntarily "bear the costs" (time and effort) to get into something with no specifically defined goals but with expectations that getting into the object will produce emotional rewards. This possibly happens when people get into politics by reading political news, paying attention to, and talking about politics. This emotional aspect of political interest, however, has yet to be explored.

Figure 6: Comparison between Compliers and Non-Compliers



Note: Both the compliers and non-compliers are from Group 1 (high-availability). Black circles indicate means for the compliers and gray circles for non-compliers. Dashed lines indicate 90% confidence interval.

This study contributes to our understanding of political interest by proposing a theoretical framework that highlights emotional and cognitive aspects of political interest. The theory provides a good explanation of how short-term interests can develop into long-term interests. The key to this connection is the appraisal of comprehensibility (or coping potential). The discrete emotional experience of interest (short-term interest) in politics encourages people to further explore political matters and obtain more information. This experience, with an increase in knowledge, further increases the comprehensibility of an individual in politics in expectation of positive emotional rewards.

The key contribution of the theory is in its extension of the existing appraisal model by incorporating the role of heuristics in enhancing the appraisal of comprehensibility, substituting for the role of prior knowledge and experience. The framework is useful not only for understanding individual differences but also for cross-contextual studies of political interest. This alternative causal pathway is empirically assessed with a unique experimental design, where the availability of heuristics is manipulated and the knowledge and collative variables are controlled within the experimental setup. The experimental results validate the proposed mechanism, finding that the availability of heuristics enhances interest. This finding raises important questions for future research. If the availability of heuristics matters for interest, we must start questioning the conditions under which political heuristics are more or less available, among others. Answering these questions would ultimately contribute to our understanding of what motivates civic engagement in politics.

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