



Political Science and the Scientific Enterprise

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Abstract

The substance of politics generally attracts more interest among political science students than the methodology of studying it. This study assesses the scientific status of political science as an academic discipline by examining the debate surrounding the core of the field and the establishment of scientific standards within it. The study further identifies existing threats to the scientific endeavor in political science and evaluates the effectiveness of current control mechanisms for combating fraud and deviations by political scientists, alongside an analysis of whether the outcome of political analysis should prioritize explanation or prediction. The study, which adopts a qualitative approach and an explanatory research design, finds that political science is a mature scientific discipline by all standards. However, it is a type of science that does not solely focus on prediction, as seen in the natural sciences. The objective of political science, like other social science disciplines, is to be less wrong over time. The study concludes by affirming the validity of the scientific method as the most rigorous path to knowledge, despite the uncertainties inherent in political science research, and reiterates the need for scholars to uphold ethical standards in conducting political science research.

Subject Areas

Politics

Keywords

Political Science, Scientific Enterprise, Validity, Deviations

1. Introduction

The art-versus-science debate in political science has persisted for decades. Robert Dahl presents both perspectives, asserting that political analysis is an art acquired through practice and training, while it becomes a science when students of politics test their generalizations and theories [1]. While science is a method of discover-

ing truth, Karl Popper insists that merely appealing to observation and experiment does not make a method of inquiry satisfy scientific standards [2]. Consequently, merely infusing observation and experimentation into the academic study of politics, as it is widely practiced in most parts of the world today, does not make the inquiry a scientific endeavor. Thus, based on Karl Popper's logic, political scientists must rely on the criterion of falsifiability as an integral part of the scientific method in producing and disseminating knowledge about politics.

Science is a systematic method of gaining knowledge. Robert Dahl explains that science is a way of organizing information that proceeds from observation to classification and measurement. Some disciplines are generally associated with science because their subject matter more readily permits the use of the scientific method, a method that was subsequently applied to them earlier. In *The Logic of Scientific Discovery*, Karl Popper sought to establish rules and norms to guide scientific investigations. He argues that only falsification can be logically demonstrated in scientific inquiry [3]. Thus, scientists must abide by a set of rules that ensures that their propositions are falsifiable and accepted only if they have withstood rigorous attempts to show them to be false. Popper's basic rule, which Mulkey & Gilbert elucidate, is that scientists should formulate conjectures that can be refuted [4]. However, rather than seeking to validate these conjectures, they should attempt to disprove them. What refutation does is unveil other ways of thinking, thereby advancing knowledge. Popper's philosophy of action is intended to influence people's practical acts and choices in science and politics.

However, not everyone agrees with Popper. Thomas Kuhn, for instance, rejects the notion of falsification, arguing that it is impossible to know the real world. Thus, propositions relating to the social world are only true or false within the context of specific paradigms [5]. Kuhn's work gave hope that social scientists could attain the same level of legitimacy as physicists or chemists if they conducted their analysis within well-defined paradigms. The popularity of Kuhn's idea among social scientists led Horgan to refer to him as a reluctant revolutionary [6]. Paradigms have taken up a broader meaning that is more sophisticated than Kuhn's elucidation of the concept.

The influence of scientific philosophers like Karl Popper and Thomas Kuhn varies in the natural and social sciences. Two studies that were published in 1981 reached similar conclusions. Mulkey & Gilbert find that members of a scientific research network in biochemistry did not frequently cite Popper, even though many of the researchers were familiar with small bits of his work. Also, Rigney finds that natural scientists turn to philosophy for guidance when they lose their sense of direction. Social scientists, on the other hand, "appear to be more than 25 times as likely as natural scientists to cite the works of philosophers like Popper, Kuhn, Hempel, and Nagel, even though these philosophers have devoted the major share of their attention to problems in the natural sciences" [7]. It will, therefore, be fair to say that the philosophy of science is always a fallback option during periods of uncertainty about science, which explains why there is more talk about

Popper than the implementation of his ideas.

Lieberson & Lynn project Darwin's work on evolution as a model for effective linkage of theory and research [8]. Science is thus a systematic endeavor, and the goal of political science, like other social science disciplines, is to carry out systematic inquiry into political phenomena [9]. The uncertainty inherent in political science research does not mean that scientific findings cannot be used to make important policies or decisions; it only implies that political scientists must adjust their expectations of science while adopting an open mindset that accepts every research result as a temporary truth that can be altered by new evidence.

This paper assesses the scientific status of political science as an academic discipline. It delves into the debate about the core of political science [10] [11] and the establishment of scientific standards within the discipline. It also examines the effectiveness of existing control mechanisms for combating fraud and deviations by political scientists, as well as whether the outcome of political analysis should be explanation or prediction. Finally, the paper identifies some threats to the scientific enterprise in political science and evaluates whether these threats have hindered the discipline. The paper concludes that political science is a science, a mature scientific discipline by all standards. However, it is a type of science that does not aim for prediction, unlike physics. Our goal in social sciences is to get less wrong over time. Also, there are sound arguments for making political theory the core of political science. However, this core must be inclusive and represent all interests in the discipline. Additionally, the various types of exclusions, particularly those based on race, as discussed by Walton *et al.* [12], and gender, as illuminated by Ferguson [13], must be eradicated. Strict enforcement of standards and the promotion of replication studies are control mechanisms that activate the self-correcting powers of science [14]. The paper asserts that the scientific method remains the most rigorous path to knowledge, even though it can be messy and tough.

2. Method

This research adopts a qualitative approach and an explanatory research design to examine the claim of political science to the scientific enterprise. The qualitative approach offers a deeper understanding of the research subject, while the explanatory research design enhances the comprehension of a phenomenon that has not been adequately studied. Thus, this research design permits rigorous and in-depth investigation [15].

Data for the study were obtained from published books, peer-reviewed academic journals, newspaper articles, and internet sources. The data was collected through a deep reading of texts, and the information gathered from the selected texts was subsequently analyzed using content and thematic analysis to clarify the discussion in a manner that enables the reader to understand how political science as an academic discipline relies on scientific methods to produce and disseminate knowledge about politics.

3. Result and Analysis

The following themes that emerged from the findings are analyzed and discussed below.

3.1. Political Science and the Scientific Method

Hypothesis testing and theory building are essential to the scientific method. However, mastering sophisticated statistical methods may not advance science in political science, with the significance of clear concepts and accurate identification of variables in political analysis. Almond notes that both David Easton and David Truman criticized political science for being backward among the social science disciplines in the 1950s when the behavioral revolution swept across the social sciences. Almond further explains how “The Chicago School” subsequently led political science down the scientific path. Chicago School scholars like Charles Merriam, regarded as the founder of the behavioral approach in political science, were at the forefront of adopting statistical methods to enhance the rigor of their research. Since gaining ground in the discipline, the Chicago school political science model, also referred to as American-type political science, distinguished by its focus on scientific methods, has spread globally.

In terms of their approach to research, political scientists can be classified into neopositivists and interpretivists. Those who belong to the neopositivist paradigm share fundamental assumptions about the world and how it should be studied, including the kind of knowledge that should be generated. However, they differ in their approach to investigating these assumptions. On one hand, those who adopt the statistical approach generally aim to generalize across many cases while presenting their findings in probabilistic terms. On the other hand, scholars who adopt the case or comparative approach seek detailed explanations of individual cases, presenting findings that are specific to these cases without attempting to generalize. In interpretive research, human beings are viewed as agents actively constructing their societies through everyday activities rather than being mere objects. The interpretive orientation toward knowledge emphasizes meaning-making and contextuality, recognizing the importance of language in this process.

3.2. The “Core” of Political Science

The last decades of the twentieth century were reserved for reflections and intense debates among political scientists regarding the organizational and methodological status of their discipline. Almond claims that political science is separated along ideological and methodological dimensions. For him, it is this methodological separateness that limits the discipline. He, thereafter, calls for political theory to be made the “core” of political science. This call led Monroe *et al.* to examine the nature of contemporary political science in a roundtable discussion at the 1989 APSA meeting. Political scientists like Monroe, Shapiro, and Barber claim that issues of politics, power, influence, and authority should be at the core of political science. Others like Gunnell and rational choice theorist, Shepsle, sided with Al-

mond that political theory should be at the core of political science. Although Shepsle suggests that the rational choice school will play a significant role in the emergence of political theory and comparative politics as the core of political science. What becomes apparent from this conversation is the need for unity within the discipline. There is a need for constant intra-disciplinary conversations between political scientists, which must include scholars from different approaches within the discipline. Ferguson insists that political science must be open to interdisciplinary perspectives and epistemological questions. This will ensure that there is a synergy between political science and other social science disciplines.

If political theory is to be the core of political science, those theorists who dominate the subfield matter because of the potential impact of their scholarship on the discipline. Walton *et al.*'s discussion on race in political science is relevant here. He claims that the new discipline did not respond frontally to the issue of race at its inception. The reason for this can be attributed to the lack of racial diversity at the core of the discipline. Charles Mills explains this point when he discusses the whiteness of philosophy, including political philosophy. Mills alleges that "demographically, philosophy is one of the very whitest of the humanities..." [16]. Although progress has been made since the founding of the discipline, more still needs to be done to make political theory and political science more inclusive.

4. Discussion

The following discussion points highlight important talking points relating to the adoption of the scientific method in the contemporary political science discipline.

4.1. Solidifying Political Science's Claim to the Scientific Enterprise

Scientists in various disciplines have developed clear standards for evaluating evidence [17]. The importance of having clear standards in adopting the scientific method in political science can, therefore, not be overemphasized. Political science must continuously update and enforce the standards guiding the conduct of its research to forestall deviations and reinforce its claim to the scientific enterprise. Consequently, Berado warns that should deviations from standards become pervasive, the structure and credibility of the scientific enterprise would be seriously undermined [18]. The discipline of political science cannot depend solely on the normative criteria of certifying knowledge, which, according to Berado, includes universalism, communality, disinterestedness, and organized skepticism to enforce scientific standards. Researchers will continue to violate these social control mechanisms in the face of prevailing weak enforcement. Researchers deviate from acceptable standards for several reasons, including personal benefits, ideology, deadlines, emphasis on quantity over quality, etc. Promoting replicative studies is an important control mechanism for confronting fraud and deviance in political science research. Lehrer explains that the test of replicability is the foundation of modern research. Replicability is how the community enforces itself; it is a safeguard for the creep of subjectivity. However, replications can be difficult

due to changing circumstances that are characteristic of social science research, the cost of carrying out such studies, and the time invested in such endeavors.

The standard for what constitutes a scientific study in political science and social sciences in general should not be based on those developed in the natural sciences, especially physics. Both Lieberson & Lynn and Smelser [19] decry scientific sociology for adopting a model developed in physics as its standard for scientific research, and the conduct of laboratory experiments by psychologists. Smelser insists that despite severe emulations, social science disciplines have not been able to formulate grand laws.

On their part, Lieberson & Lynn recommend Darwin's work on evolution as a model to social scientists who obtain their evidence primarily from non-experimental sources. Darwin's work on evolution offers training on how to efficiently link theory and research. The lesson from this is that knowledge is cumulative, and social scientists must not be obsessed with having a right or wrong theory, which doesn't exist anyway; what exists at best is a successful theory.

The question that arises is whether forecasting or prediction should be the goal of political science. The truth is that prediction cannot be the goal of research in political science. This is an area where many political scientists have failed spectacularly and become lousy forecasters. Rather, our goal should be to explain the world rather than predict it. Political scientists must understand the peculiar nature of the subject matter of politics and overcome any inferiority complex relating to their discipline not being on par with those in the natural sciences. Kellstedt and Whitten explain that a core part of adopting a scientific approach is the willingness "to consider new evidence and, on the basis of that new evidence, change what you thought you knew to be true". This is what separates scientists from other professions, such as lawyers. For instance, while lawyers advocate a particular point of view and accumulate evidence to support their position while discrediting other conflicting evidence, scientists only take a position after their hypotheses have been tested thoroughly, and even at that, they remain open and willing to consider new evidence that may impact the position they have taken. Kellstedt and Whitten insist that "the process of hypothesis testing reflects how hard scientists are on their own theories". Nevertheless, despite the rigor of the scientific method, Clarke & Primo warn about the danger of hypothetico-deductivism, which is the idea of adhering strictly to scientific methods. According to them, social science must "embrace the fact that they are mature disciplines with no need to emulate other sciences" [20].

Some threats to the scientific enterprise in political science include skewed or subjective ranking systems, data falsification, publication bias, undue emphasis on quantity, rather than the quality of scientific publications, non-enforcement of ethical standards, external influences that compromise the integrity of research, such as Jeffrey Epstein's Harvard connections [21]. Also, the problem of data falsification in scientific research led Kolata to state that there's a tendency when scientists are looking at data to try to validate their own idea. He then concluded

the statement in a classic Popperian fashion by stating that “the best scientists always try to prove themselves wrong” [22].

Despite the numerous challenges confronting science, it will be wrong to say that science is broken. On the contrary, science is in a very strong state; it is only plagued by a universal problem, which is that science is hard. Even the most skilled researchers are confronted with subjective choices that have huge impacts on their results. The good news is that science is self-correcting, and new studies will emerge to overturn false findings. Also, retractions should not be viewed as a stain on the scientific enterprise; rather as a sign that science is self-cleansing and correcting its mistakes. Additional ways of maintaining the standard and integrity of political science research include strengthening the peer review process, clamping down on predatory journals, promoting original research by discouraging what Freedman (refers to as the streetlight effect; a situation whereby researchers tend to look for answers where the looking is good, rather than where the answers are likely to be hiding...) [23].

4.2. Ethics in Political Science Research

Maintaining ethical standards is a requisite in all types of scientific research, including political science research, which mostly involves “human subjects” [24]. Research ethics are important for the simple reason that social scientists can cause real social, psychological, or physical harm to study participants and collaborators. Therefore, maintaining ethical behavior in research involves considering how the actions and inactions of a researcher affect research subjects and collaborators. A researcher is expected to act in a way that preserves the integrity of research subjects as human beings. Discussions about ethics in research often focus more on procedural ethics, such as the processes involved in obtaining approval from institutional and professional review boards, rather than on maintaining ethical practices in the actual conduct of research.

Fujii explains that research at American universities is guided by the Belmont Report of 1979 [25] and the IRB Guidebook of 1993 [26], which outline three principles that guide the ethical conduct of research. These are “respect for persons”, highlighting the importance of voluntary and informed consent from research participants. The principle of “beneficence” places a duty on researchers to ensure maximum benefits and minimum harm in the research process. “Justice”, which is the third principle, reiterates the importance of fairness and the elimination of prejudices in selecting research participants. While these principles exist to ensure ethical conduct of research, researchers must not limit themselves to these principles but must be willing to take personal responsibility to ensure that ethical standards are maintained in the conduct of research.

Research is a thoughtful and reflective activity that connects researchers and their audiences. Researchers should thus be less tempted to sacrifice principle for gain. To achieve best practices in the conduct of political science research, researchers must project a character that will encourage the trust of participants and

guard against biases in collecting and reporting evidence. Researchers must also explicitly ask the participants whether they could record or write down what they were told, while also specifying how the information being sought from research participants will be utilized. In other words, whether the information would be published or for the researcher's knowledge only. Also, participants must be allowed to decide what they want to disclose to the researcher during interviews or focus group discussions.

Finally, to uphold ethical standards in political science research, researchers must ensure that they do not misreport sources, distort opposing views, invent data, conceal sources, or fake results. They must also ensure that they do not submit data whose accuracy cannot be ascertained, unless this is explicitly stated in the research report.

5. Conclusion

A scientific approach to the study of politics is more engaging and desirable than one that predominantly emphasizes the substance of politics. Consequently, political science as an academic discipline relies on scientific methodologies to generate and disseminate knowledge about politics. However, it should not be surprising that some conclusions drawn from political science research may be both inaccurate and contradictory, given the difficulties in measuring concepts, gathering data, and ensuring value-free analysis. Nevertheless, political scientists must maintain ethical standards in their research, steering clear of fabricating mythical narratives about the progression of scientific ideas and oversimplifying their findings [27]. Given the prevalence of inaccurate and conflicting conclusions, alongside serendipitous discoveries in the natural sciences, including medicine. For instance, Holt explains how string theory was discovered accidentally in physics [28]. Therefore, we should anticipate that these issues will be even more pronounced in the social sciences, where measuring concepts and variables poses greater challenges [29]. Hence, political science research should not be evaluated solely based on its predictive power; rather, research outcomes should be considered as provisional responses to research inquiries.

Conflicts of Interest

The author declares no conflicts of interest.

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