

Research Creativity and Productivity in Political Science: A Research Agenda for Understanding Alternative Career Paths and Attitudes Toward Professional Work in the Profession

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ABSTRACT

A growing body of research investigates the factors that enhance the research productivity and creativity of political scientists. This work provides a foundation for future research, but it has not addressed some of the most promising causal hypotheses in the general scientific literature on this topic. This article explicates the latter hypotheses, a typology of scientific career paths that distinguishes how scientific careers vary over time with respect to creative ambitions and achievements, and a research agenda based on the preceding components for investigation of the publication success of political scientists.

A notable body of research explores the correlates of creativity and productivity of political scientists (Hesli and Lee 2011; Klingemann, Grofman, and Campagna 1989; Masuoka, Grofman, and Feld 2007a; 2007b; Roettger 1978; Somit and Tanenhaus 1964). This scholarship, like that on the productivity of entire political science departments, is motivated principally by intellectual curiosity. Yet, Hesli and Lee (2011, 393) observed that knowing the determinants of faculty creativity and productivity could help us understand the research success of demographic subgroups such as ethnic/racial minorities and women as well as individual scholars generally.

A larger literature on this topic spans many disciplines and has marshaled a great variety of evidence. It includes case studies of notable, creative scientists (e.g., Holmes 2004; Simonton 1988); laboratory analyses of the creative process (e.g., Amabile, Hennessy, and Grossman 1986); and analyses of the motivational, psychological, and sociological attributes of scientists (e.g., Feist 2014; Simonton 2014).

This article proposes a research agenda to advance such work on political science as well as the theoretical and applied goals that motivate that research. It considers especially the promising hypotheses in the general literature that have not been tested for political scientists.

MAJOR ASSUMPTIONS FOR THIS RESEARCH AGENDA FROM THE GENERAL LITERATURE

It is important, first, to distinguish and relate the concepts of research creativity and productivity. The almost universal definition of creative research is that it is novel in its discipline *and* is recognized as unusually novel or valuable by other practitioners in the field (e.g., Amabile 1996, 33). Research productivity, in contrast, is operationalized as a scholar's number of publications. Yet, Simonton (1988, 84–88) marshals considerable evidence from many disciplines that high productivity is the best predictor of high acclaim for original research by one's scholarly peers.

Existing studies of creativity in political science adopt the preceding conceptual definitions. Klingemann, Grofman, and Campagna (1989) and Masuoka, Grofman, and Feld (2007a; 2007b) measured creativity by citation counts, whereas Roettger (1978) and Somit and Tanenhaus (1964) surveyed scholars in the field for assessments of other researchers' contributions to the discipline. Masuoka, Grofman, and Feld (2007b, 133) also stated explicitly that political scientists' "impact or academic contribution" can be measured by cumulative citation counts to their published work. Hesli and Lee's (2011) analyses of self-reported productivity also comport with the preceding conceptual definitions in light of Simonton's (1988) findings that higher productivity is associated with higher esteem among one's peer scientists.

The preceding observations connect directly with studies in which numbers of publications or citation counts are the criteria for productivity or creativity and, therefore, are the dependent

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variables to be explained. Analyses of the predictors of these measures are fundamental to our understanding of the general correlates of scholarly success. Yet, the general literature on scientific creativity points to additional ways by which we should account for scholarly success. As explained in more detail herein, considerable evidence indicates that scientific career paths differ in notably different ways among individual scientists. Documenting the frequency of those individual paths *and their distinctive*

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causes will lead to new understanding of scientific work and supplement what we can learn from studies of aggregate publications and citations.

MAJOR FINDINGS OF EXISTING RESEARCH ON THE PRODUCTIVITY OF POLITICAL SCIENTISTS

Klingemann, Grofman, and Campagna (1989); Masuoka, Grofman, and Feld (2007a, 2007b); Roettger (1978); and Somit and Tanenhaus (1964) identified from citation counts or peer evaluations those especially creative or influential political scientists in the discipline. The scholars highly ranked by these methods generally earned their PhDs at especially prestigious departments (but with more from “up-and-coming” departments over time); mostly hold faculty positions at moderately to highly ranked PhD departments; and are especially likely to be male and not an ethnic minority.

Comparably, Hesli and Lee (2011) examined the determinants of numbers of self-reported publications from a sample of political scientists surveyed in 2009. Their most notable findings are that faculty teaching in a PhD department with good resources to support research, who had a relatively light teaching load, and who were male produced more published research. They also found that productivity is higher in departments judged by the respondents as having a less-collegial climate.

To summarize, existing research on the creativity and productivity of political scientists especially supports common expectations in the general literature about the importance of *contextual factors* associated with one’s doctoral program and institutional appointment. Further, findings in political science studies on how various characteristics of one’s home department enhance or weaken publication prospects point to a global or latent attribute of departmental research orientations. However, the full range of individually supportive and not supportive attributes might be parsed in future research.

The existing research on political scientists also has produced findings like those in other scientific disciplines about how women and members of ethnic minority groups are relatively less productive or cited. These findings on gender differences in citation rates and publications in political science also comport with those of other analyses for our discipline (see, among many others, Dion, Sumner, and Mitchell 2018). However, analyses of the *causes* of this disparity have produced mixed findings (e.g., Dion, Sumner, and Mitchell 2018; Djupe, Smith, and Sokhey 2019; Hesli and Lee 2011, 400–402;

Matsuoka, Grofman, and Feld 2007a, 139–41). The research agenda advanced here might explicate those causes.

Two notable lacunae exist, however, in the studies of productivity among political scientists when they are contrasted with the general literature on scientific creativity. First, existing work on the creativity of political scientists has not considered individual attitudes toward research, which have been widely linked to creativity in scientific as well as many other endeavors.

(For extensive reviews of research on scientific creativity, see Feist 2014 and Simonton 2014.) Without evidence on the importance of such attitudes, existing findings in the political science literature may be misleading at worst or incomplete at best.

Second, future work on creativity and productivity in political science also could prove innovative with regard to the latter concern. Existing research on individual attitudes and scientific work is deficient in two respects. First, most of it is eclectic and exploratory in terms of specific attitudes under investigation. Ideally, such work would be grounded in a systematic conception of relevant attitudes, such as the “Big Five” attitudinal typology (John, Naumann, and Soto 2008) or the “intrinsic versus extrinsic motivation” (IM/EM) typology (Amabile 1996). Second, although existing research that uses one of these two measurement schemes found strong evidence for specific attitudinal relations with scientific creativity, the subject samples were typically students and members of the lay public (also noted by John, Naumann, and Soto 2008, 124–36, as one example for the Big Five typology). Applications of either scheme to samples of academic scholars are rare and limited with regard to the range of predictor variables they considered (e.g., Feist 1993; Grosul and Feist 2014). Yet, research using either attitudinal scheme would be facilitated because of the common conceptual definitions *and* validated operational survey measures for all of the attitudes in the IM/EM typology (Amabile, Hill, Hennessey, and Tighe 1994) and the Big Five typology (John, Naumann, and Soto 2008).

Another limitation of existing research on this topic in political science is that it has not considered distinctive career paths demonstrated in the general literature. The long-standing belief that scientists do most of—or their best—creative work when young is validated in part by *aggregate* data on over-career publication rates. However, that belief is challenged by empirical studies that show considerable variation in age-related productivity over *individual* careers (e.g., Cole 1979; Galenson 2006; 2010; Holmes 2004, 72–102; Simonton 1988, 75–84). The latter studies have not led to a systematic formulation of alternative career paths but they found, as examples, that some scholars do their best work when young, others at advanced ages, some produce highly creative work throughout their careers, and some produce notable work early and then effectively end their career as active scholars. Inspired by these findings, I formalized a typology of individual scientific career paths. For a full accounting of scientific creativity, we should understand the causes of these

different career paths as well as the aggregate numbers of publications and citations.

A TYPOLOGY OF SCIENTIFIC CAREER RESEARCH PATHS

The work on career paths in science cited previously and my observations of careers in political science lead to the following typology. It identifies career paths based on the number and quality of publications or citations at different career stages. As presented here, the typology assumes that the population of interest is political science PhDs who enter full-time faculty positions.

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However, it could be modified easily to include alternative populations such as those discussed by Hesli and Lee (2011, 405) and Masuoka, Grofman, and Feld (2007a, 144). Many reasons may account for careers that follow each path, and it is for intellectual, applied, and pedagogical purposes that we explore them.

Untenured Non-Producers

Cole's (1979, 966) distinction of those who publish little or no creative work is logically necessary to account for all of the major typological possibilities. Presumably, individuals in this category would not earn tenure at a university where publication success is a major criterion for that award.

One-Hit Wonders

This title comes from research on music composers but it also applies to some scientific careers. Even young members of our profession are likely to be aware of scholars who published a paper in a major journal early in their career—and effectively are never heard from again. These individuals presumably are unlikely to earn tenure in their first faculty appointment, although their later career path may evolve in various ways.

Tenured but No Longer Productive

Virtually every political science department includes some members who never publish again after they are tenured. Professional and personal circumstances might explain why this happens—but what are the most important of those circumstances?

Tenured “Under-Achievers”

These individuals continue to publish scholarly work after earning tenure but not at the level of quality they produced to earn it. Two common career-path transitions of this type might be from (1) pre-tenure publications in premier outlets to publications in only specialty-field outlets; and (2) pre-tenure publications in specialty-field outlets to publications in mostly low-prestige outlets.

Career-Long Sustained Producers

These individuals continue to produce new research after they are tenured that is comparable to that which earned them tenure. Members of this broad category also might exhibit either

of two paths: some continue to publish in the premier outlets of the discipline as they did to earn tenure, whereas others continue to publish in specialized outlets as they did before earning tenure.

Scholars Who Produce Remarkable “Late Works”

This category is inspired by the notion of “late work” in art and music, for which some musicologists provide especially informed conceptions (e.g., Solomon 1998, 385–425). It also comports with Galenson's (2010) observations about the late work of some scientists. The late-career work of a political scientist who fits

this type, then, would be dramatically novel compared to work produced earlier in the career.

RESEARCH DESIGNS FOR ADVANCING THE AGENDA OUTLINED HERE

Curious readers may have already envisioned research for addressing the issues raised previously. Because research design is a creative task, many paths forward can be imagined. I outline three broad types of research that are logically interrelated and that would contribute to an integrated understanding of productivity and creativity in this discipline. These types of research vary in complexity and difficulty of implementation; however, each could contribute important knowledge on this topic. I also explicate two measurement opportunities that can be carried out independently and contribute to a broad research program on this topic.

AGGREGATE-DATA COHORT ANALYSIS

With this design, we can examine the relationships of many contextual and demographic variables on career-research paths, numbers of publications, types of publications (i.e., premier or specialized outlets), and citations for one or more annual cohorts of political scientists who assumed their initial faculty positions at times that allow the examination of their career research path. How might such a study be mounted? Plausibly representative if not totally complete lists of individuals taking new assistant-professor positions have been routinely reported in *PS* in the “People” section. Exploratory research on one annual cohort of individuals from that journal who are in the 55- to 65-year-old age range today demonstrated that most have professional webpages that document their career, publications, and certain demographics. Modest online detective work provided comparable information for most of the remainder. Data on publications and citations are available for this cohort in the Social Science Citation Index (SSCI) component of the Web of Science, which also was used by Masuoka, Grofman, and Feld (2007a) to assess political scientists' productivity and contributions to the profession. The types of venues in which this cohort published and at what stages of their career could be assessed using their online information supplemented by the SSCI.

Research of this type cannot assess attitudinal effects on career paths, productivity, and creativity. However, it is relatively easy to execute, requires only aggregate and largely readily available

data, and informs more extensive work of the types discussed herein—especially by documenting the frequency of the alternative career paths.

CROSS-SECTIONAL SURVEY ANALYSIS

Survey studies are more demanding to implement than the aggregate-data research described previously. Nevertheless, survey analyses of political scientists can provide evidence on how the contextual attributes of the institutions in which they work

to participate could be added to encourage participation. The Panel Study of Income Dynamics (PSID) includes especially successful procedures of this type, maintaining year-to-year re-interview response rates from 90% to 97% for its core sample (McGonagle, Schoeni, Sastry, and Freedman 2012, 270–72). Although the PSID is a household survey, many of its procedures can be adapted for a study of scientists.

Some contextual measures for such a study (e.g., PhD institution and research orientation of the scholar's home department)

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and their attitude toward their work affect their productivity—as well as how contextual and attitudinal variables interact in those effects.

Evidence for how attitudes toward professional work relate to productivity and creativity could result from analyses of survey questions from either Amabile, Hill, Hennessey, and Tighe (1994) or John, Naumann, and Soto (2008). Comparably, future research could draw many questions on other professional matters and contextual influences from Hesli and Lee (2011)—whose work is especially valuable for the range of topics covered in their questionnaire and how that instrument was constructed by consulting earlier studies; Djupe, Smith, and Sokhey's (2019) study of gender-specific manuscript-submission practices; and a forthcoming report to the APSA's Presidential Task Force on Women's Advancement in the Profession analyzing the career progress of five graduate-program student cohorts from the 1990s (Sanbonmatsu et al., forthcoming). The latter study as well as Hesli and Lee's (2011) study benefited from APSA sponsorship. Given how rare studies of scientific creativity and productivity are that collect systematic data on respondents' attitudes toward research, similar future projects also might attract external support.

A LONGITUDINAL COHORT STUDY WITH A SURVEY COMPONENT

Because both individual career paths and attitudes toward professional work may vary with time, an optimal test of their effects on productivity requires data over time. Thus, an optimal research design is a longitudinal cohort study that accounts for both contextual and attitudinal effects on productivity and how attitudes toward professional work and career paths vary over time.

For this analysis, we could collect data on annual cohorts of doctoral students earning new PhDs in our discipline. Approximately 800 PhDs have been awarded annually by American universities in recent years (American Political Science Association, 2018). An initial dataset with a few of these cohorts would ensure a sizable sample and account for changes in cohorts by field of study and other attributes. Additional cohorts could be added at little cost because the study design and procedures can be established with the initial cohorts.

Contact information for new PhDs could be obtained from PhD-granting departments, which are identified by APSA. Invitation emails, with successive reminders, could be sent to newly degreed individuals. Material or symbolic inducements

could be acquired with aggregate data. The survey component could include questions that amplify these aggregate-data measures as well as explore Big Five or IM/EM attitudinal dimensions. One also might enhance the intellectual foundation of this work and its prospects for financial support by including questions about complementary career matters—such as participants' satisfaction with their professional positions, prospects for advancement in the profession, and work–life balance.

The most important findings from such a study would not be available for a considerable time. Yet, longitudinal health and social-status studies demonstrate that valuable research reports can be produced early in the life of such a study.

MORE LIMITED CONCEPTUALIZATION AND MEASUREMENT OPPORTUNITIES

The three designs described previously require measures of scholarly accomplishment based on numbers of published works, citations to such work, or peer evaluations. The first two of these measurement options are “big data” *quantitative* research exercises that could be carried out for a sample of political scientists independent of—or as a supplement to—the full research program described herein. Measurement research for a single discipline allows for discipline-specific expertise in how the status of individual publication outlets, as well as specific publications, is assessed to create aggregate measures of high validity and reliability.

The measures of scholarly accomplishment by peer evaluation used by Feist (1993), Roettger (1978), and Somit and Tanenhaus (1964) also suggest the value of *qualitative* research that could develop measures of this type. Here also a discipline-specific focus should enhance the validity and reliability of such measures.

CONCLUSION

Scientists in every discipline are curious about the creativity of their most successful fellow disciplinarians. Many political scientists share this curiosity. What accounts for the exceptional achievements of the most creative among us? What explains the variety of research career paths in our discipline? The research agenda outlined in this article addresses these questions. It also is intended to extend the larger body of research on scientific creativity. Moreover, research such as that contemplated here on creativity within a specific scientific discipline appears especially well situated for achieving the latter goal. ■

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