

Grant Writing and the Hidden Curriculum: Mentoring and Collaborating Across Disciplines

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ABSTRACT Submitting grant proposals is becoming an increasingly common expectation—and, in some cases, a requirement—in the discipline of political science as well as other social sciences and the humanities. However, writing a grant with a good chance of success at getting funded is not part of standard mentorship or pedagogy in our discipline. It is a part of the hidden curriculum, where grant-writing skills often are taught informally in working with a principal investigator. This article describes the process and structure of writing a grant to provide a roadmap for scholars to follow in submitting externally funded projects. The article describes an Institutional Review Board–approved survey about mentorship and grant writing and discusses the importance of socialization, professionalization, and administration in supporting scholars in writing and obtaining grants.

Submitting grant proposals is becoming an increasingly common expectation—and, in some cases, a requirement—in the discipline of political science as well as other social sciences and the humanities. However, writing a grant with a good chance of success at getting funded typically is not part of standard mentorship or pedagogy in these disciplines. It is a part of the hidden curriculum—that is, the unwritten set of rules and norms in academia that often determine an individual's degree of quantifiable success—defined as matriculation, job attainment, tenure, and promotion. Grant-writing skills often are taught informally while working with a principal investigator (PI) (Chatelain 2018), but many students and junior faculty do not have access to this type of mentoring relationship. This article describes the process and structure of writing a grant to provide a roadmap for scholars to follow in submitting externally funded projects. Writing grants entails a steep learning curve, and the skills involved in writing, obtaining, and completing grants are different from those typically taught to prepare students for success in academia (figure 1).

The motivation for this article is the dearth of explicit pedagogy and mentorship on grant writing in political science and philosophy, juxtaposed with the increased expectations for scholars to submit

and obtain external funding (University of North Carolina, Chapel Hill 2020). Part of disciplinary training is learning to write like a social scientist (Pownier 2014). However, writing a grant is a time-consuming and not always intuitive process, and the opportunity costs for pursuing external funding—especially for students and contingent or pre-tenure faculty—often are prohibitive (Ponjuán, Conley, and Trower 2011). The return on the time investment is uncertain, and there are few resources available to demystify the process. We hope this study contributes to a body of best practices and encourages robust discussions about writing and obtaining grants within departments and professional organizations. We also evaluated several syllabi for university-level courses on grant writing, which include many references to literature and best practices for writing grants (Browning 2008; Geever and McNeill 1997; Howlett and Bourque 2016; Karsh and Fox 2019; O'Neal-McElrath, Kanter, and English 2019).

DEMOGRAPHIC PATTERNS IN GRANT WRITING

We fielded an Institutional Review Board (IRB)–approved survey (N=100) to better understand how political scientists and humanities scholars approach grant-writing mentorship (Windsor and Kronsted 2022). The majority of respondents identified political science and philosophy as their primary field (figure 2). Half of the survey respondents were junior in their field—either a graduate student or pre-tenure faculty (figure 3). Two thirds of respondents did not have tenure; one third did. Two in five respondents were senior faculty members. More than 66% of the respondents identified as women, slightly more than 25% identified as men, and 3% identified as nonbinary or third gender.

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Figure 1
Core Grant-Writing Competencies

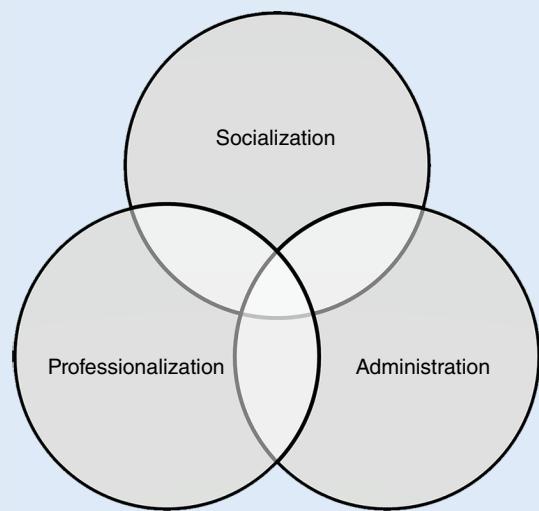
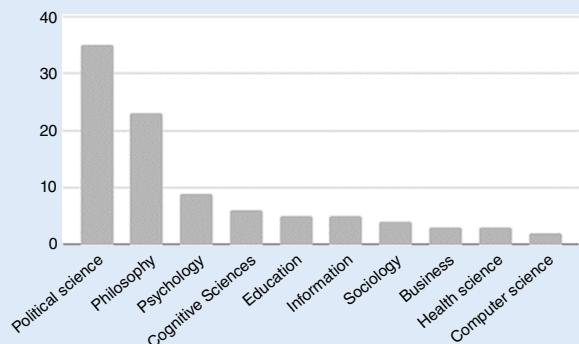


Figure 2
Respondents by Discipline



This demographic trend is noteworthy and does not align with broader trends in grant submissions. The National Institutes of Health (NIH), for example, receives approximately twice as many grant applications from men as from women; in 2020, approximately 35% of the grants it funded were submitted by women—an increase from only 24% of grants awarded to women in 2000

Despite growing expectations for writing and obtaining grants, whether internally or externally funded, our survey shows a lack of mentorship and deliberate pedagogy to help scholars achieve this milestone.

(National Institutes of Health 2021). We interpret the overrepresentation of women in our survey respondents as a function of its intended purpose: to assess mentorship practices. Most mentorship programs in political science, and the social sciences and humanities more broadly, are facilitated by women, for women.

Only recently have men been encouraged to engage actively in mentorship best practices (Windsor, Crawford, and Breuning 2021; Windsor and Thies 2021).

SOCIALIZATION: LEARNING THE GRANT-WRITING WORLD

Grant writing is not easy and neither is navigating the grant-writing world. This section describes the social skills and mentoring practices required to navigate the grant-writing world.

Teach Your Students Well

Grant-writing socialization is the process of learning the norms and expectations associated with obtaining sponsored funding. The central question of our survey focused on how the knowledge of grant writing is transmitted (figure 4), and its central finding was that the current socialization process is informal and insufficient to meet professional demands. More than half of survey respondents reported that they taught themselves how to write grants. One in five respondents indicated that a mentor or advisor taught them; the remainder indicated that they learned in a workshop or a class or read a book. Several respondents reported having never written a grant. Whereas 66% of respondents believed writing grants and getting funded was very important in their discipline, this same percentage of faculty reported that their graduate students were relatively unaware of the significance of writing and obtaining grants. Of the respondents, 33% reported that obtaining grants is encouraged but not required and 25% reported that it is required for tenure and promotion. More than 33% of respondents reported that it is the norm to apply for grants in their discipline.

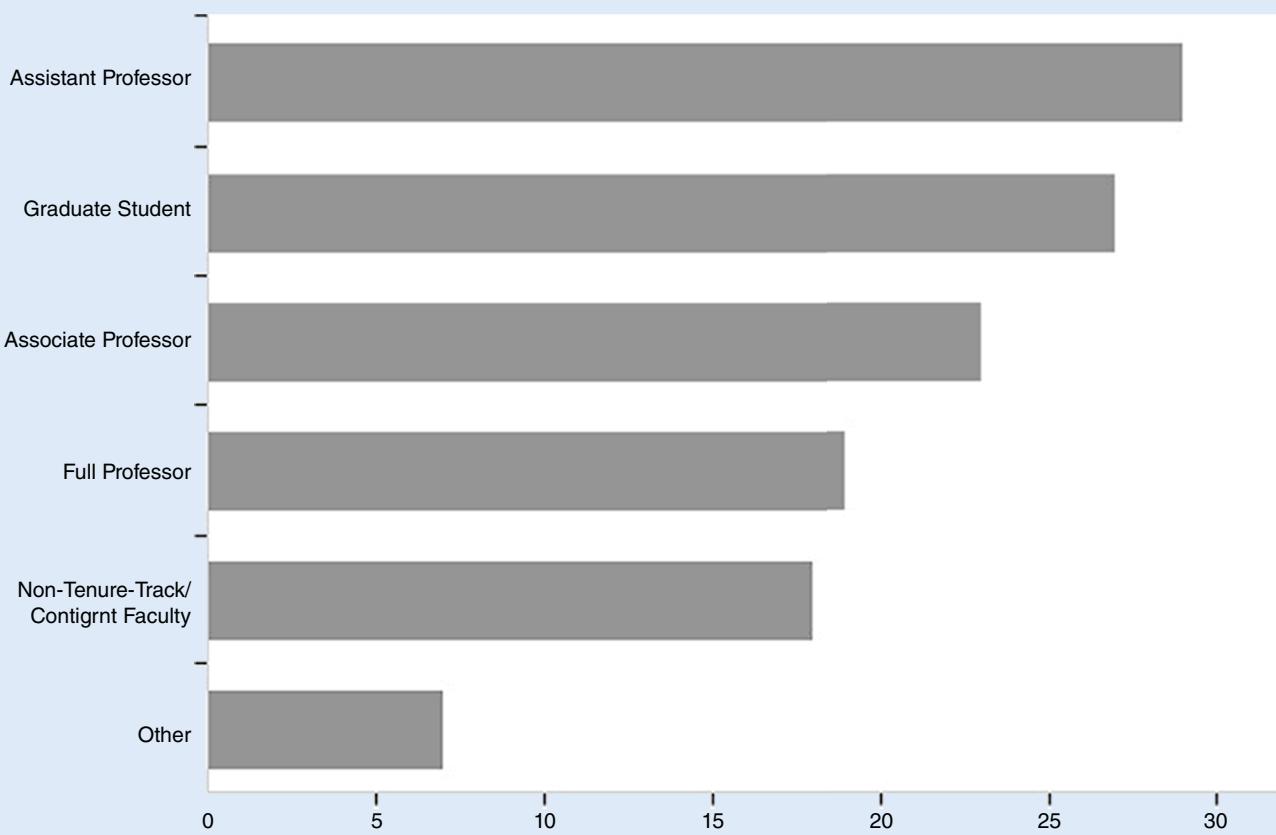
Despite growing expectations for writing and obtaining grants, whether internally or externally funded, our survey shows a lack of mentorship and deliberate pedagogy to help scholars achieve this milestone. More than 33% of respondents indicated that they do not teach graduate students how to write grants (figure 5). Rather, this skill is learned individually with an advisor or more-senior colleague or through other university resources. Unfortunately, most respondents indicated that they do not write grants with their graduate students. In practice, the majority of graduate students and junior faculty are on their own to learn the process of grant writing.

Build Relationships with the Office of Sponsored Projects (or Equivalent)

Most institutions have an Office of Sponsored Projects (OSP), Division of Research and Innovation, or Research Support Office. Almost half of respondents indicated that the OSP staff did not know them at all or only slightly (figure 6). The people in this office are the first and best resource for understanding what an institu-

tion's process is for submitting externally funded projects. It is important to make an appointment to get to know the personnel in this office because they will help with grant submissions. They will troubleshoot when problems arise and will ensure that all of the requirements for the funding agency and proposal have been met.

Figure 3
Professional Rank of Respondents



Research support services often hold workshops and tutorials for submitting grants, which is a substantial resource especially for early-career scholars (figure 7). These services provide an overview of the grant-making landscape and also outline the institution's expectations for academics who are submitting proposals. Additionally, they can help with the technical aspects of a proposal, such as preparing the curriculum vitae (CV) in the proper format for the granting agency and following the university's guidelines for submitting grants.

Another function that the research support office may offer is identifying grant opportunities. When meeting with the research support office, tell them about your research experience and interests as well as the types of projects you are interested in getting funded. They likely have a database of potential foundations, whether private or governmental, and know of listservs where you can specify your research interests and have a list of opportunities sent to your email inbox. GrantForward is one such

private, and quasi-public) may be discipline or field specific. Funding agencies often have idiosyncratic requirements, which means that there is not a singular, common, formulaic process for assembling a grant proposal. This point is critical because, as one reviewer of this article pointed out, "If you know one funder, you know *one funder*" (our emphasis). Because each funder functions differently, it is important that institutions and mentors pass on lists of funders and how to approach each one successfully. Even fairly experienced grant writers lament that there are insufficient resources that compile grantor information and grant opportunities. Although some universities teach grant writing via a course or workshop, there is an apparent lack of centralized information or even guidance on finding grantors and calls for applications.

A university may have internal funding and support for early work on projects. Establishing a track record of funding, beginning with university-supported projects, can improve credibility

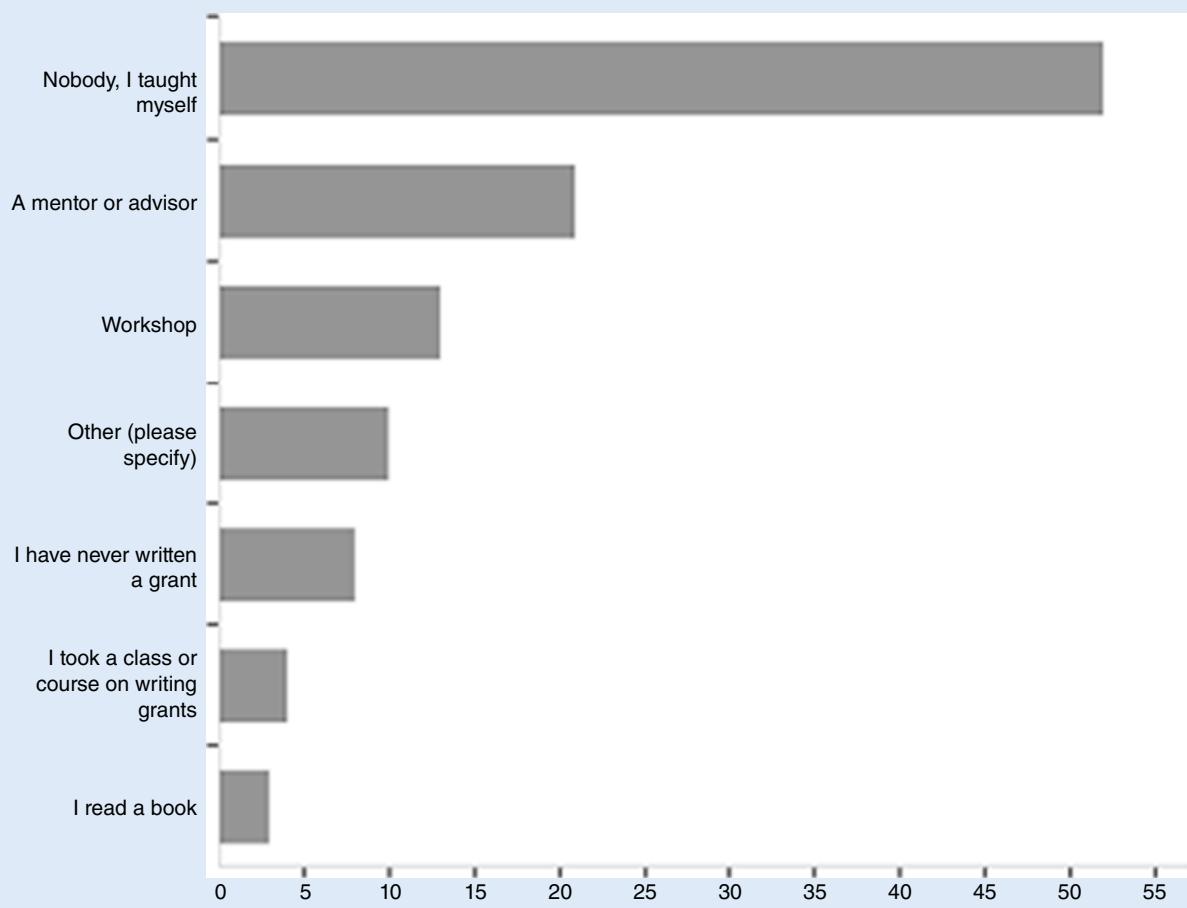
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service, and you also can sign up for emails from the National Science Foundation (NSF) and other federal agencies when a grant opportunity in your field is announced.

Although more than half of survey respondents applied for publicly funded support, the sources of funding (i.e., public,

and the chance of obtaining external funding. This track record also can generate "proofs of concept" for your idea, including preliminary data analysis, theory building, and hypothesis testing for conference papers and peer-reviewed journal submissions. A proof of concept can be preliminary analyses from a data sample,

Figure 4
Where Did You Learn to Write Grant Proposals?



an excerpt of questions from a survey, or an experimental research design in a classroom setting that you want to scale up for a larger sample size.

Writing for the Funding Audience

Writing grants involves a unique skill set apart from the standard professional preparation that students receive, such as writing and publishing journal articles. As one survey respondent wrote: "The real objective of the research is not as important as the way you

agency's mandate. Grant writers must demonstrate that their idea is a good fit for the agency, with solid theoretical grounding, technical skill, and reasonable deliverables. Grant language should be free of jargon and easily understandable to a general, scientifically literate audience. As one respondent wrote, "I wish that I was familiar with the jargon and knew how to apply it to the work I do."

Another described similar concerns: "I have the overall impression that I have started to play a game of which I thought

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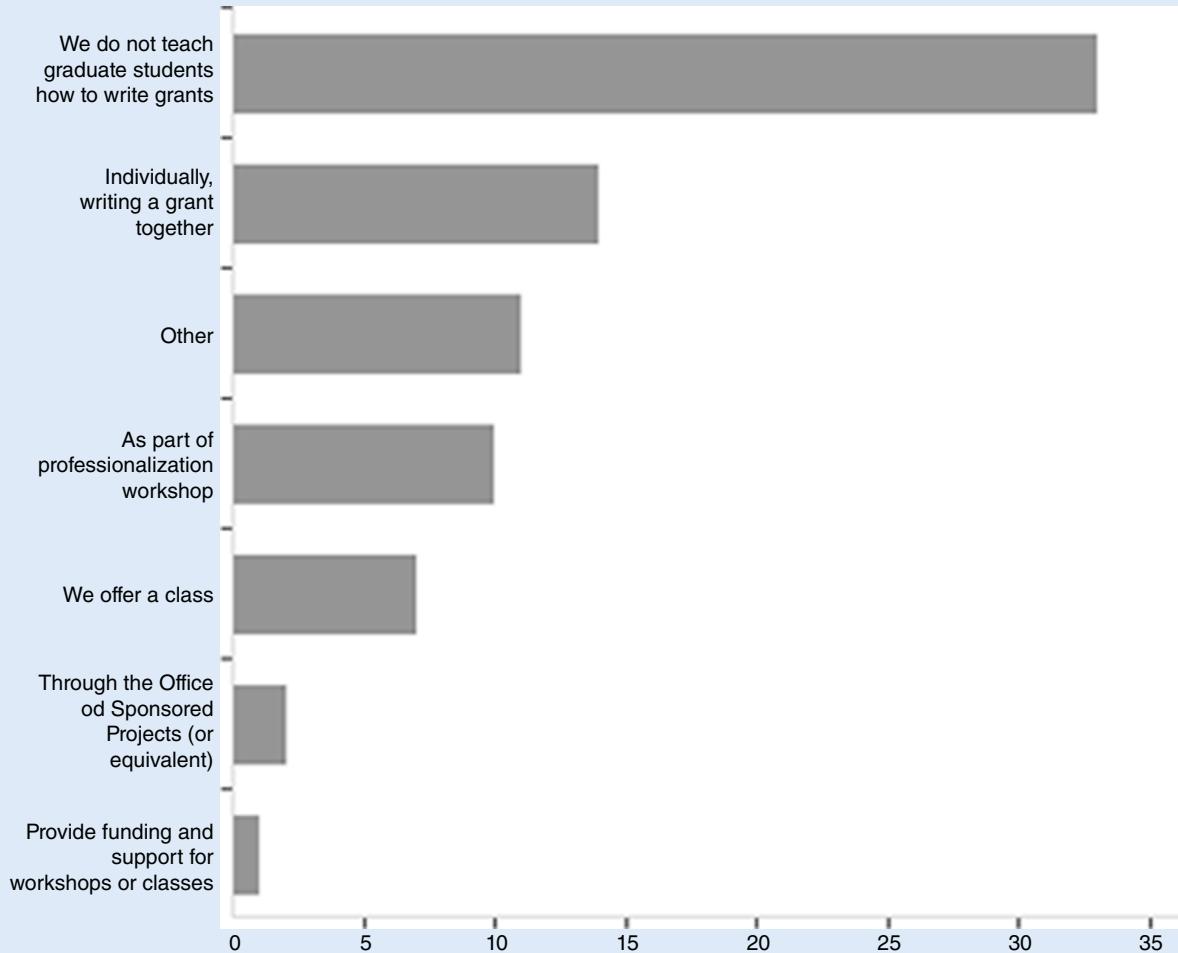
state it. It seems that if you want to get the grant, you must be a good research seller, not only a good researcher." Another stated, "Being successful does not depend only on the quality of your ideas. You also need to present them in the right ways. Presentation is maybe even more important than the intrinsic quality of the project itself."

Writing a successful grant involves using language with a difficulty level between expert and novice and demonstrating to the granting agency that your idea falls within the scope of the

I knew the rules but then found out I didn't and that nobody prepared me for what would be required of me if I were to undertake the academic career. I wish somebody would have taught me the real rules before I entered the game." One of these rules is that the grant narrative must be more utilitarian than idealistic. Although the academic profession may conjure images of contemplative scholars opining about erudite concepts, the reality of grant writing is more pragmatic. The core idea is important, but it must be conveyed in a straightforward and clear way.

Figure 5

How Does Your Department or Institution Teach Graduate Students to Write Grants?



PROFESSIONALIZATION: PUTTING THEORY INTO PRACTICE

Successful grant writing also includes leading people and navigating bureaucracies. This section provides concrete advice on the procedures, skills, and approaches needed for successful grant writing.

Learning the Tools of the Trade

With grant writing, begin with the end in mind. Start with a checklist of all of the required elements for a particular grant and use it to create an outline for the proposal. The granting agency will indicate what it wants included so ensure that all of the requirements are included. For example, NSF submissions require a broader impact statement, and the US Department of Defense (DoD) often requests a statement about the potential impact on DoD capabilities. For some granting agencies, the request for proposals is open ended but within the scope of the agency's domain. Learn as much as possible about an agency and the types of proposals it funds before you start writing. Read the agency's mission statement or the synopsis that provides details about the scope of its priorities.

Grants have many of the same elements, including the project narrative, timeline, deliverables, and budget. A Gantt chart is a useful visualization of the timeline and deliverables for the grant (Clark 1922; Maylor 2001). It shows which tasks will be done when and—depending on the level of specificity needed and the space available—may include who will be responsible for each element of the project. This type of chart is useful for describing not only the deliverables but also which metrics will be used to accomplish the workflow and how to know when it has been successful.

Much like establishing the timeline, it can be useful to start from the end and develop the budget backward, accounting for institutional overhead that the university recoups (i.e., facilities and administrative), if allowed (figure 8) (Kulage, Larson, and Begg 2011). Institutional incentives for writing grants (e.g., course reductions) vary widely. Budget decisions include academic year and summer salaries, student support, conference participation and travel, and publication costs.

If a grant includes human-subjects research, the process by which an IRB review will be obtained should be specified, and it should be verified that all relevant personnel have completed Collaborative IRB

Figure 6

Describe Your Relationship with the Staff in the OSP

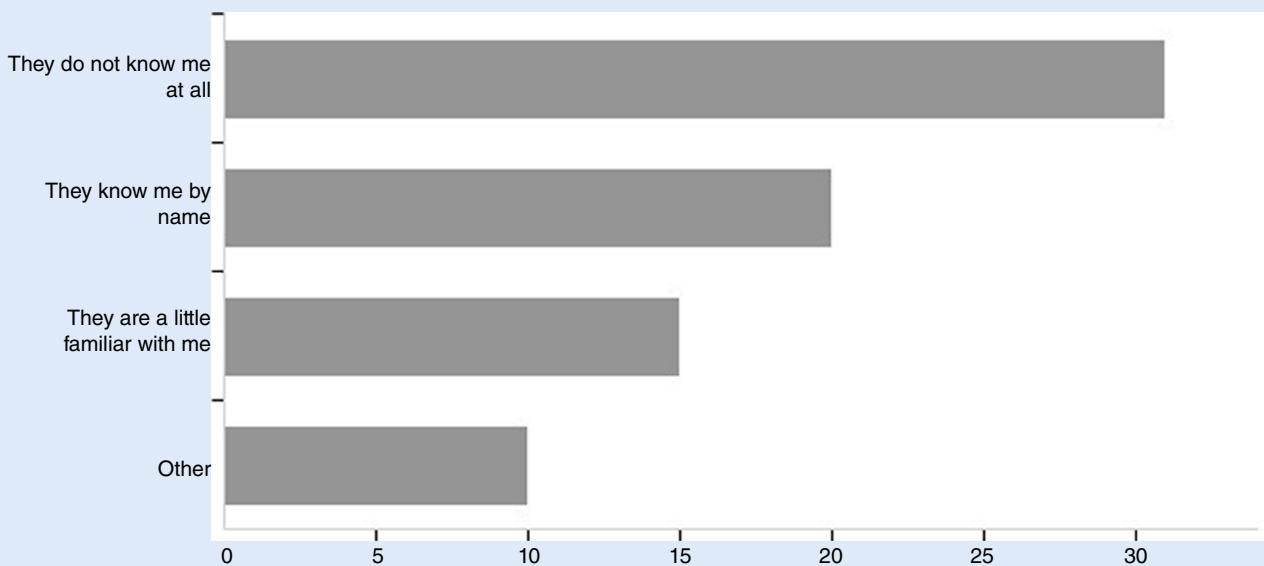
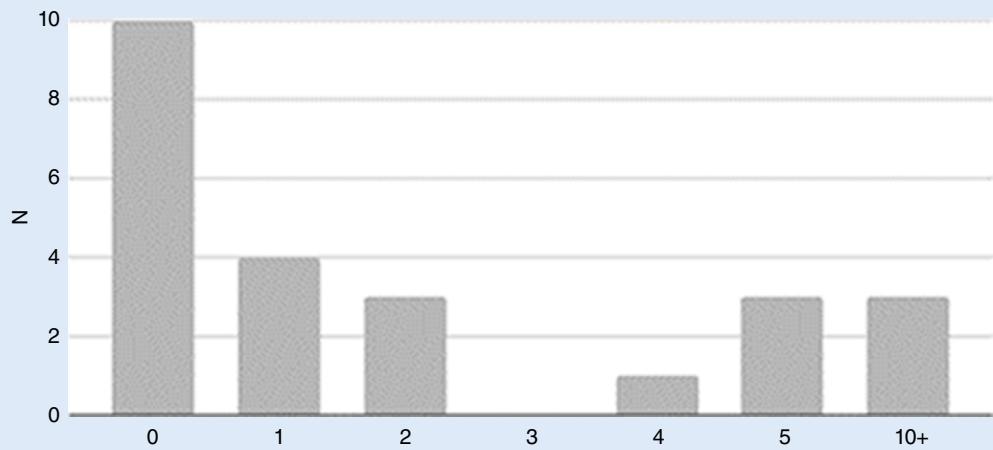


Figure 7

How Many Workshops or Seminars Does Your OSP Provide Per Year for Grant Writing?



Training Initiative (CITI) training (Braunschweiger and Goodman 2007). For some proposals, additional human-subjects research review is required by the granting agency, such as the DoD's Human Research Protection Official review. Some but not all grants require specific descriptions of the IRB protocol that will be followed.

Stop, Collaborate, and Listen

Part of the hidden curriculum in grant writing is the relationship building behind the scenes that help the process proceed smoothly. The number of PIs varies widely. Collaboration, especially across disciplines, is increasingly common. Collaborators

may come from your own department, another department in the same college, another college within the institution, or another institution. You likely will need CVs from these collaborators and perhaps other supporting documents, such as summaries of their previously funded work and current and pending support documents that list the other projects in which they are involved, including other grants under review.

Relationship building is a process that takes time, and collaborators may have different preferences for writing grants. Team science trainings are available through programs such as the Northwestern University Clinical and Translational Sciences

Institute to help collaborators maximize their efforts and to address issues by facilitating collaborative agreements that specify and clarify expectations and roles (Börner et al. 2010; Hall et al. 2008). Interdisciplinary teams especially may benefit from this training because there are disciplinary-specific norms (e.g., authorship order and data sharing) that collaborators may not

realize they need to specify early in the process. Interdisciplinary work can be profoundly scientifically rewarding—and also challenging to accomplish (Windsor 2020).

For example, which publications “count” vary widely across disciplines. Refereed conferences are more competitive and prestigious than peer-reviewed journal articles in some fields;

Figure 8

How Much Overhead Does Your Institution Charge for Externally Sponsored Grants?

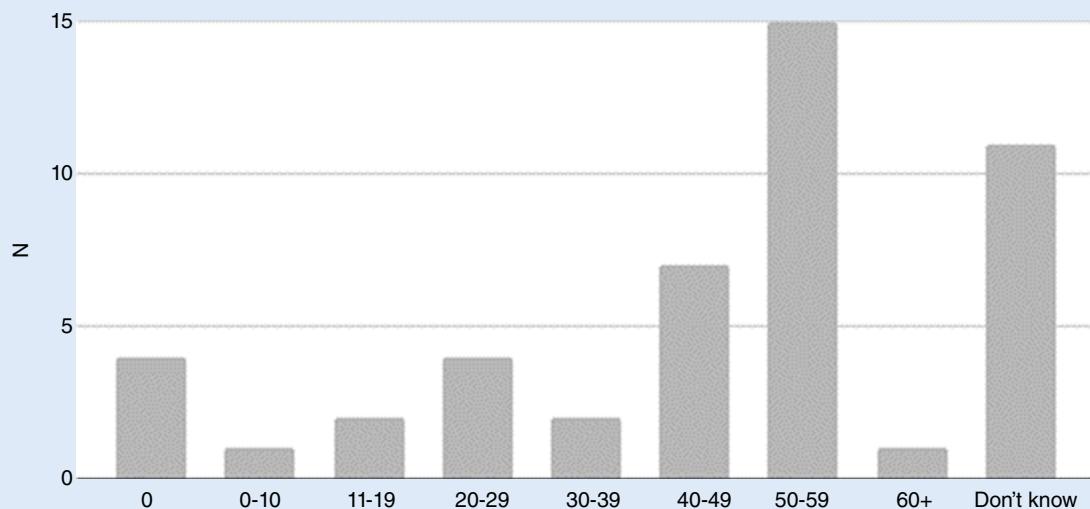


Figure 9

What Percentage of Grant Rejections Do You Resubmit for Funding?

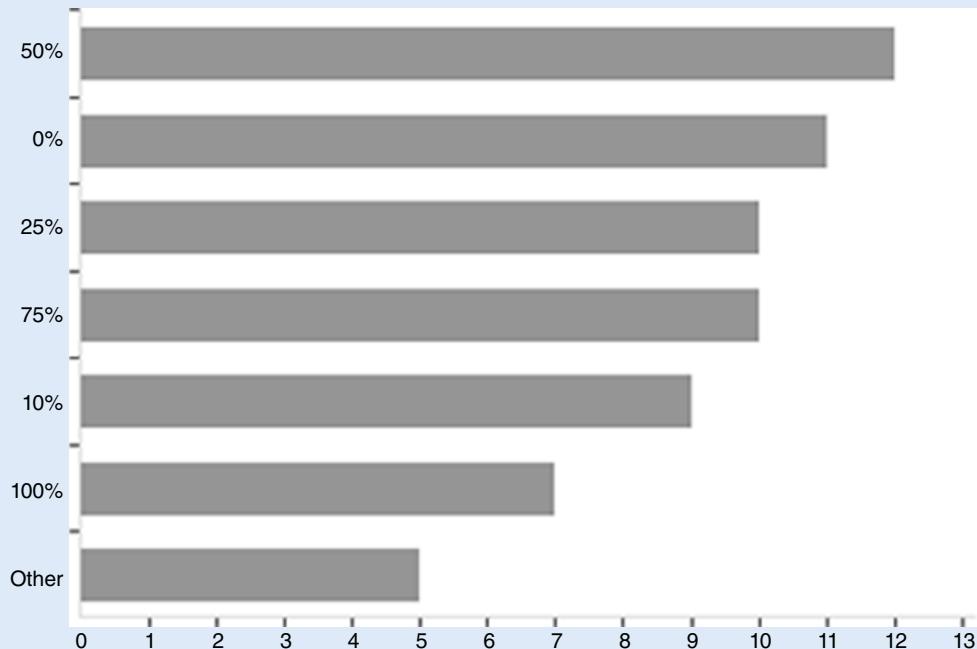
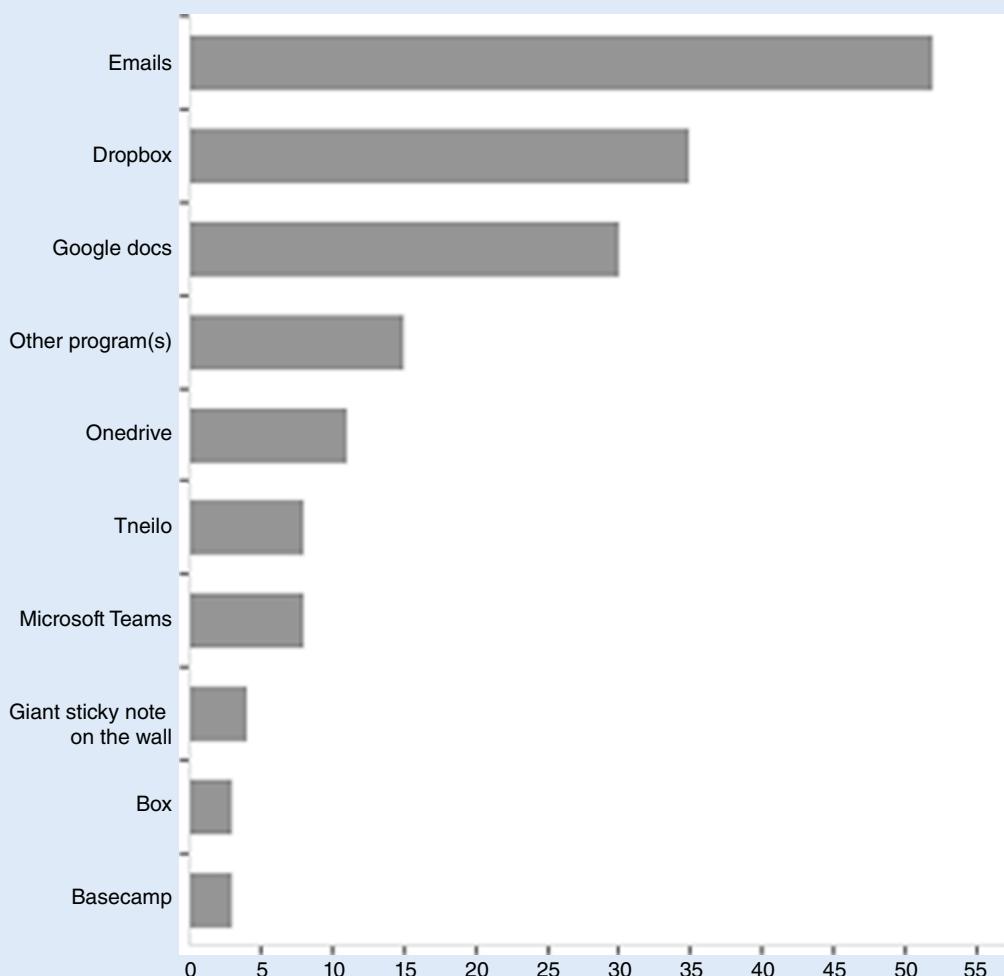


Figure 10

What Tools or Programs Do You Use to Manage the Grant and Deliverables?



therefore, the incentives for deliverables may vary and should be clarified at the outset. Next, whose names will appear on publications and in what order? There are many approaches to determining authorship order, including rock-paper-scissors, random-name generators, alphabetical or reverse alphabetical, rotating, and merit based (i.e., whomever assumes the majority of the work and/or is the idea innovator).

If at First You Don't Succeed

Our survey also inquired about the percentage of grant rejections that respondents resubmitted for funding (figure 9). About 10% resubmitted half of their unfunded grants and 10% did not resubmit any grants. Grant writing represents an opportunity cost: time spent writing the grant is time not spent on writing articles for peer review—and the odds of getting a grant funded are substantially lower than having an article published. For early-career scholars, writing grants may be especially risky given the short tenure-and-promotion timeline. It is important to realize that grant writing should not be a one-off endeavor: the ideas and the language used in the grant can become part of journal articles,

and there should be a backup plan for what to do with the proposal and the project if it is not funded. If the first time is not successful, incorporate the reviewers' feedback and try again.

ADMINISTRATION: MAKING THE MOST OF SPONSORED PROJECTS

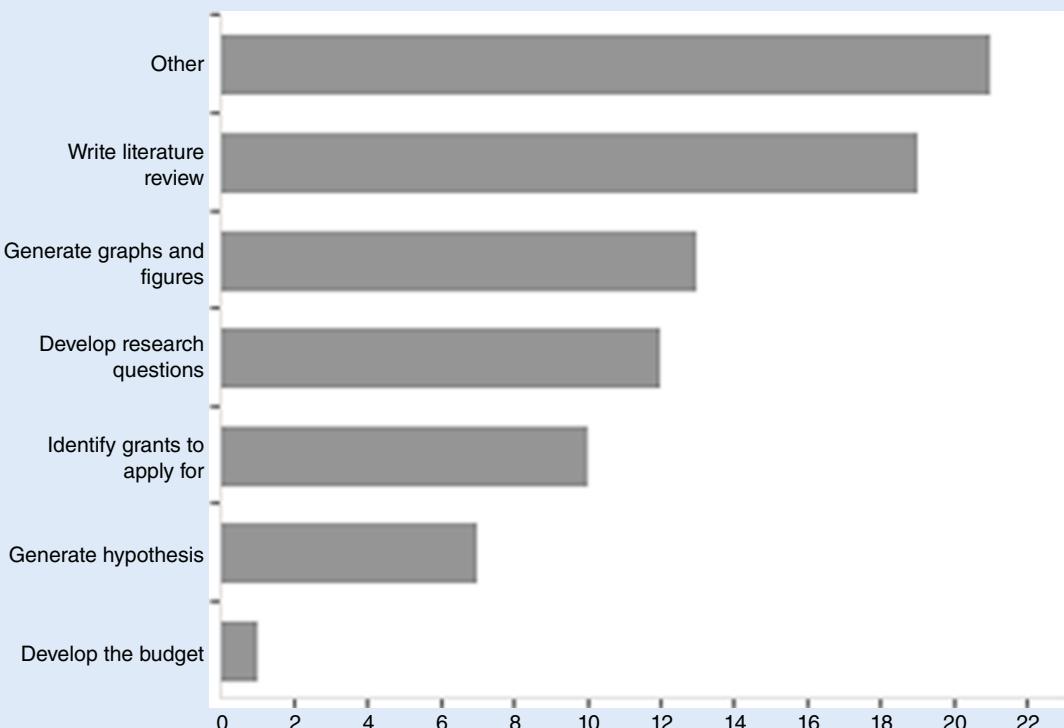
Doing the research is only half the battle. This section outlines some of the personnel and bureaucratic pitfalls of which all grant writers should be aware.

Time Management

Academics are not taught to be project managers; however, this is a part of the hidden curriculum and an essential component for a PI. The “administrivia” of managing a grant can include ensuring that everyone has completed their effort certification and that, as the PI, you have validated that they worked the hours and met the expectations required by the grant and by you as their supervisor. Faculty likely will have to train students and developing a training manual can save time in the long run. You will need to track expenditures and ensure that you are not overspending the

Figure 11

What Tasks Do You Assign Your Graduate Students with Whom You Write Grants?



budget. Respondents also noted many programs and tools that they use to manage the administrative aspects of grants (figure 10).

Personnel Management

Obtaining a grant often means that your work schedule becomes more regularized and regimented and less idiosyncratic mostly because you now have more administrative responsibilities dictated by the university and the funding agency. If you have collaborators or funded students, it is helpful to hold regular meetings. When following the increasingly popular laboratory model (Becker 2019), lab protocols will need to be established.

Special Considerations for Students

If postdoctoral, graduate, or undergraduate students will be hired (Becker 2020), consider how they will be mentored and included in the grant. Treating mentorship in a meaningful way in your project narrative is increasingly important; this includes describing how equity and parity will be ensured in the selection and training of students. Respondents identified several substantive ways that they involve graduate students in the grant-writing process, including writing the literature review, generating graphs, analyzing data, and developing research questions. Some faculty assign more procedural tasks, such as formatting and filling out mandatory forms (figure 11).

Expenses such as graduate-student tuition and fringe benefits generally are fixed at the institutional level, but expenses such as graduate-student stipends are more flexible. Because graduate

students often are paid comparatively smaller stipends in the social sciences than in other fields, consider the moral and ethical reasons for allocating more in the budget for them. It is not necessary to pay graduate students the going departmental rate; they can be paid more.

Everything You Always Wanted to Know About Grant Writing but Didn't Know to Ask

Respondents identified several themes, reflecting retrospectively on what they wish they knew (figure 12). One wrote about “how time consuming [grants] are and how many I would be expected to apply for—the application process is a huge time-suck.” Another respondent offered this perspective: “View each funding opportunity (scholarship, grant, big or small award, etc.) as a chance to practice grant-writing skills. You’re likely to get more rejections than actual awards, but keep trying and learning from each submission. Be a sponge and absorb all the advice and lessons from those around you—attend grant-writing workshops, classes, seminars, informal meetings, mentoring sessions, etc.” (figure 13)

CONCLUSION

Grant writing is part of the “hidden curriculum” that keeps scholars from applying for and successfully obtaining external funding. Understanding the grant-writing landscape is important not only for faculty applying for grants but also for those on hiring and tenure-and-promotion committees. The nuances of obtaining

Figure 12

What Do You Wish You Had Known Before You Began Writing Grants?

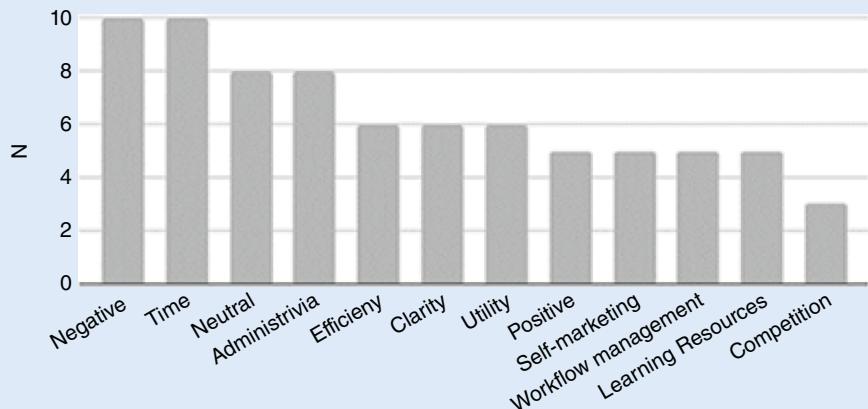
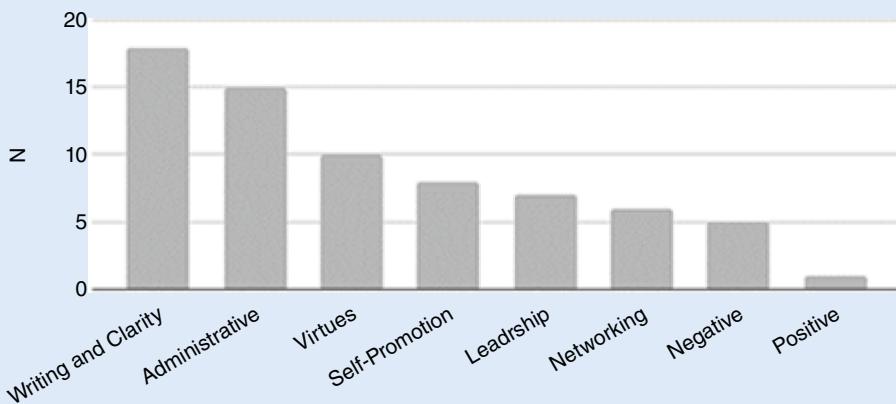


Figure 13

What Are Some of the Lessons You Have Learned from Writing Grants?



and managing external funding can affect scholars' research productivity, especially in the early research-intensive and data-gathering phases of the grant process. Neither are the administrative and managerial details trivial—especially for projects with multiple collaborators, universities, and students requiring supervision. Faculty charged with reviewing their peers' progress should be well informed and qualified to make career-defining (or -ending) judgments.

The essence of the hidden curriculum is this: Grant writing is a game that academics are expected to play, but few are taught the rules of the game. Mentorship and professional-development resources are essential for making grant-writing skills accessible to everyone—especially graduate students, junior scholars, and those more broadly vulnerable in academia (e.g., women and minorities). It is important to consider where a grant will take your career in the next three to five years and to make good use of the funds to springboard your grant-funded work from concept to publications.

DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the *PS: Political Science & Politics* Dataverse at <https://doi.org/10.7910/DVN/JRL8IW>. ■

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