Help funders help you: Five tips for writing effective funding applications

By Neil A. Lewis, Jr., Leah H. Somerville, Jay J. Van Bavel, William A. Cunningham | Sep. 23, 2019, 12:00 PM

In previous letters, we have given advice about launching research labs, giving talks about the research done in those labs, and writing about that research for peers and the broader world. An assumption lurking behind those pieces of advice is that you have the resources to do all that great work. In this letter, we’re addressing that elephant in the room head on: getting funding for your research.

Regardless of your funding history, you probably already have some experience with the basic relevant skills. As a prospective student, you had to persuade a committee that you belonged in a certain training program. For those now in faculty or other principal investigator positions, you had to persuade other committees to hire you into those roles. Funding is not all that different. You are making a pitch to persuade a committee that you are the right person with the right idea at the right place at the right moment in time to execute the project you are proposing, and if awarded the money you will advance knowledge in a manner consistent with its mission.

How do you do that, exactly? Here are five tips to guide the way.

**Have a clear, testable, idea and an explanation of why it is important**

The first rule of grants is to be clear about what the “big idea” is that you are trying to test and to articulate why it is worth spending money to test that idea. It is not sufficient to say no one has examined that process before; there are plenty of things that have never been studied, many for
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Three keys to launching your own lab

The goal is to clearly demonstrate that you can test your specific question and that you have thought through the challenges and alternative hypotheses to your idea—not to demonstrate everything that you know or could do with the project, as Wil was reminded when he submitted a grant to the U.S. National Science Foundation (NSF). He included a section listing a number of directions for possible exploratory analysis, thinking this would be interpreted as “value added.” But the grant was rejected because reviewers struggled to understand how these details fit into the larger research proposal. He resubmitted the next round deleting that extraneous paragraph and was funded.

If you are unsure about whether your research idea is a good fit for a particular grant or a funding opportunity is worth your time to apply for, some agencies welcome you to schedule a phone call with a program officer to discuss the idea and whether it fits with their priorities. If this isn’t an option, ask your mentors and colleagues for feedback about your ideas and their fit with different funding agencies. Their input will help you determine whether and where to send your proposal, as well as how to tailor it if you do.

Explain the idea in a clear and concise manner

Scientists are notorious for our jargon and dense, convoluted writing, which can make it difficult to understand even the most brilliant of ideas. When writing and revising grant proposals, ask yourself—and even better, a friend—whether there are clearer, more concise ways to convey the central points in the proposal. It is often tempting to use the complex jargon of our sub-sub-discipline, but that can undermine our success. If our reviewers do not understand what we are trying to communicate because it is written in an overly complex manner, then they are unlikely to fund us. Remember that grant panelists often have a large stack of dense grant applications to read. Assume they are tired when reading and make yours as easy to read as possible.
in their classic guide *The Elements of Style*, “Vigorous writing is concise. A sentence should contain no unnecessary words, a paragraph no unnecessary sentences. ... This requires not that the writer make all his sentences short, or that he avoid all detail and treat his subjects only in outline, but that every word tell.”

Writing concisely also helps you craft a proposal without holes in it. Most grants have hard page limits, and funders and reviewers expect you to cover a lot of ground on those pages. Leah once had an impossible time staying within the page limit for a National Institute of Mental Health R01 grant, so in the eleventh hour she decided to cut a substantial section unpacking an analysis technique. She didn't get the grant. What red flag did the reviewers raise? They weren't sure about that analysis technique and whether she was ready to use it. Every single question the reviewers raised was covered in the section that ended up on the cutting room floor. Instead of deleting sections that may be important, make your entire proposal more concise. To avoid eleventh-hour scrambles, build “streamlining time” into your writing schedule.

**Know your funders’ priorities and tailor the proposal accordingly**

Scientists often get frustrated with funders because we believe our ideas are brilliant—therefore, any funder should just see that brilliance and fund us accordingly. The reality is that every funder has a mission statement that declares the scope of research they are interested in, and many funders have statements about their current priorities. Read. Those. Statements. Carefully. And incorporate them into your proposals.

Your proposal needs to explicitly address how it fits with the funder’s general mission and current priority areas. Those areas often have pots of money earmarked for projects, so you need to persuade the funder that your project is eligible for one or more of those pots. Behind the scenes, program officers look at the proposals that come to them, look at their budgets, and make decisions about which projects are a good fit given the amount of money they have left in that budget cycle. Sometimes they will work together to co-fund proposals, but only if you have made the case that your idea fits with those programs.

**Take the perspective of your busy, overworked, and tired reviewers**

Grant reviewers are often reviewing grants on top of their already busy schedules of conducting research, teaching, conducting professional service, and managing their lives. Help your exhausted reviewers help you. Write a concise proposal that has clear headlines, is easy to read and visually appealing, has a logical flow from one paragraph to the next, contains visuals that complement the
expertise to carry out this project, and that when you finish, we will learn something that is worth knowing. In some ways, you are writing a story; it just doesn’t have an ending yet. If they give you the money to do that research, it will. That is the kind of proposal that gets funded—it is the kind of proposal that gets overworked reviewers excited about science.

Page limits make it tempting to cram as much information as possible into each square inch, using every trick to compress information and leave no white space. Grants like this are sometimes impossible to read and are frequently full of acronyms that require a table to translate. Avoid this trap. You don’t want reviewer frustrations to color their perceptions of the grant. The easier it is to read and find the critical information, the happier the reviewers will be. For example, Wil was once on an NSF panel where one of the most highly rated grants only used 13 of the 15 pages allowed. It was clear, compelling, and an idea that needed to be funded. Use what you need, not what you can squeeze in.

**Persistence prevails**

Grant proposals, like journal articles and other elements of scientific life, are often rejected on the first attempt. Those rejections should not be interpreted as indictments of your idea; they are opportunities to revise the proposal and resubmit either in the next cycle or to a different funder. With many funding agencies, it is extremely unlikely to get funded on the first round.

Read the reviews you get carefully, and if there are no reviews, ask whether you can speak with a program officer to learn what went wrong. Take the critiques seriously, address them, and move forward with the proposal. That persistence will often pay off.

**Acknowledgment**

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*Send your thoughts, questions, and suggestions for future column topics to letterstoyoungscientists@aaas.org and engage with us on Twitter.*

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Leah H. Somerville
Leah H. Somerville is a professor of psychology at Harvard University.

Jay J. Van Bavel
Jay J. Van Bavel is an associate professor of psychology and neural sciences at New York University in New York City.

William A. Cunningham
William A. Cunningham is a professor of psychology at the University of Toronto in Canada.

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1. Tailor your application to the audience:
   - Understand the priorities and interests of the funding agency.
   - Address specific funding opportunities and requirements.

2. Be clear and concise:
   - Use straightforward language and avoid jargon.
   - Limit the length and make your application easy to scan.

3. Demonstrate impact:
   - Clearly outline the goals and objectives of your project.
   - Provide evidence of past achievements and outcomes.

4. Address any potential concerns:
   - Anticipate questions and prepare thoughtful responses.
   - Include a plan for dealing with challenges or setbacks.

5. Follow the application guidelines:
   - Ensure you meet all the requirements and specifications.
   - Submit on time and in the correct format.

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