

## DRAFT

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# Grant Writing Tips

## Hunter College Gender Equity Project

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### Decide where to apply for funding

- Find out which funding agencies or foundations are most appropriate for your ideas.
  - Use internet search sites. Free sites include <http://www.grants.gov/> and <http://sciencecareers.sciencemag.org/funding>. If your institution subscribes to Community of Science, that provides a very good funding search at [fundingopps.cos.com](http://fundingopps.cos.com).
  - Look at the web sites of funding agencies to see what proposals they have sponsored recently. If the agency includes abstracts, read them to get an idea of whether your research has a potential home at that agency.
  - Talk to colleagues to find out what they know about possible funders.
  - Talk to your Office of Sponsored Research (OSR; it has different names, such as Office of Research Administration, at different institutions) to find out what they know about possible funders. Your OSR may not have an individual with these skills. And if it does have one, it might take a while to find that person.
  - Develop a succinct description of your work that you can provide when you speak to people. The need for a brief description might pose a bit of a chicken-and-egg problem: the description of your work has to match what an agency will fund but to find out whether an agency funds your area of research, you have to provide a starting point.
  - Have add-on descriptions that are suitable for different funders. For example, if you know that a potential funder is only interested in certain kinds of applications, and you could include such applications without doing violence to your main aims, have a sentence that includes that application.
  - At conferences, attend workshops and information booths that are staffed by grant agencies. If you think your work could be funded by that agency, speak to the person giving the workshop so that he or she will know who you are.
  - Once you have targeted a potential funder and the person at the agency who is most relevant to your research, email that person with your brief description, and ask for a

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- telephone appointment to discuss whether they might fund your research and what the best way of framing your proposal is.
- In your telephone conversation, demonstrate that you are knowledgeable about work that the agency has funded before. Find out what areas they are currently most interested in funding (foundations and agencies can change their areas of interest).
  - No one is going to tell you how to write your proposal! What they can give you is more detail about what does and does not fall within their purview, more detail about what they are and are not looking for.
  - Talking to foundation personnel is particularly important. They are unlikely to fund a proposal that comes in cold.
- The panel that you submit to matters; some groups will be more receptive to your work than others.
    - At NSF you can ask for more than one panel to read your proposal; talk to the program directors to see what they advise. By asking for more than one panel to read your proposal you are simultaneously suggesting that more than one division at NSF could fund or co-fund your proposal.
    - At NIH you can suggest a particular study section (also sometimes called a panel) in your cover letter; get advice about which study section will be most appropriate. NIH works differently from NSF. At NIH the study sections are completely separate from the funding mechanism. The section has an internal NIH scientific review administrator who is roughly equivalent to an NSF program director.
    - In your cover letter you can also request that a particular institute within NIH be the primary funder and specify another institute as the secondary funder. If both sub-institutes agree to consider your proposal, they might share the funding. Or, if one cannot fund it the other might. But it could also turn out that the institute you've requested as primary funder turns down your proposal as inappropriate for their aims.
    - For PSC-CUNY, talk to experienced peers about which panel is most likely to fund your proposal. Some areas are less competitive than others. If you work fits in more than one panel, find out which is less competitive.

## **Plan your application time-line**

- Line up the deadlines for each funder to whom you expect to submit a proposal.
  - Different agencies have different submission deadlines. Further, if there is a specific call for proposals, that deadline can differ from the normal deadline at that agency. Some foundations have rolling deadlines.
- Find out from your OSR what kind of lead time they need, what internal documents you will have to fill out, and who has to approve your submissions (e.g., your chair, your dean, the provost). At some schools the signature process is fast and easy; at others it takes longer.
- Find out from your OSR what aspects of the proposal process they will take care of filling out (e.g., sections of the cover page, complicated budgets), what parts of the proposal they

will submit independently from you (if any), and what other services they will provide (e.g., duplicating and mailing).

- Find out for each funder whether you will submit a hard or electronic copy.
  - See whether you can get a mini-tutorial in e-submissions.
- You can submit the same proposal to more than one funder. Depending on the funder, you may be asked to indicate what grants you currently have and what grants are pending. When you submit to more than one panel at NSF or more than one sub-institute at NIH, you are effectively suggesting that they share the funding.
- If your project requires Institutional Review Board (IRB) approval for human subjects or Institutional Animal Care and Use Committee (IACUC) approval for animal subjects, plan ahead. You typically do not need approval before you request funding but you will need it before you can receive the award (e.g., NSF, NIH) or begin spending the money (e.g., PSC-CUNY). In addition, some NIH panels want to see sample consent forms, so find out ahead of time if that is true for the panel that will read your proposal.
  - If your project has multiple experiments or studies that cannot be covered under a single approval, do not try to get approval for all of it at one time. Get approval for the first study you are planning so that you can send approval to the funder.
  - The IRB or IACUC procedure may require several iterations, so start early.
- Start figuring out your budget as early as possible. If there is little institutional support for constructing a budget, you will need the time to sort out the details yourself. If there is institutional support, personnel will be harried by an increasing number of grant-seekers as deadlines approach and they will appreciate your forethought in allowing time to create the budget. You can re-use budgets from earlier applications, but someone needs to review figures that might have changed, such as fringe, indirect costs, tuition, stipends, etc.
  - The first budget takes time and it will change as you develop the proposal.
  - NIH does not require detailed budgets if you are requesting no more than \$250,000 per year. But your OSR will typically require the detailed budget to generate the modular numbers that you will submit. And you will need to justify any costs that contribute to a high budget.
- Leave time to get feedback on your proposal from colleagues. Sometimes a small thing that you can relatively easily take care of makes the difference between being funded and being turned down.
  - How much time is enough time? It depends on how skilled you are at writing proposals, how many drafts you envision, and what kind of feedback you are requesting.
  - If this is your first proposal, start getting feedback two months before the deadline. There's a lot of learning to do. It does get easier over time.
  - If the proposal is a revision, or if you've had experience writing proposals, or if you have colleagues who can drop everything, start getting feedback two to three weeks before the deadline.

## Elements of a strong proposal

- **Significance**
  - The proposal must ask and provide potential answers to an important question. That question (and its subparts) must be stated as early in the proposal as possible and as clearly and crisply as possible. In empirical work, state your hypotheses on the first page.
  - In some cases the funder puts a priority on the theoretical importance of the work, in other cases the applications are more important. Find out the emphasis of funders to whom you'll be applying. Sometimes the evaluation criteria that reviewers are asked to use is available on the funding agency's web site.
  
- **Coherence**
  - The different parts of your proposal have to fit together. If you have two ideas in two different domains, do not put them in the same proposal unless you can tie them together conceptually.
  - Everything should interlock intellectually.
  - Each part of the proposal should demonstrate how it helps to answer the questions you posed at the outset.
  
- **Originality**
  - Proposals lacking an original idea can still be funded if they will provide useful information to the scholarly community or useful applications.
  - A proposal with an absolutely original idea must have some pilot work that suggests that the idea has some chance of panning out.
  - When funding is scarce, reviewers and funders want assurance that work of value to the intellectual community will result. That need tilts agencies to be intellectually conservative.
  
- **Scholarship**
  - Each part of the proposal should demonstrate knowledge of relevant prior work and demonstrate how the proposed work will make an additional contribution to the existing literature. Make sure that any gaps you say exist really do exist. Query people who work on related fields to make sure you are not missing a vital reference.
  - The proposal is **not** a literature review. The proposal should not be all wind-up and no pitch. The description of your research plan should take up the bulk of the proposal. Thus, do not present an exhaustive review of past work. In particular, do not sacrifice methodological detail for background. Determine what references are most important references (keeping likely reviewers in mind). Use primary sources, not reviews.
  
- **Detail**
  - Your research plan is the most important part of your proposal. You need to convince the reviewers that your methods will answer the questions that you are asking.

- Details and justifications help do that. Bear in mind that reviewers and other important readers may have little or no familiarity with your methods.
- The reviewer wants to be convinced that you know what you are doing and that you can do what you propose to do. By providing necessary details about proposed studies (e.g., by estimating the number of subjects you will need in a study with live populations) and indicating how your past research has prepared you for the proposed work, you provide that evidence.
  - You are not expected to foresee how every component of your proposal will work out. But you should demonstrate that you know what variables are important to think about and that you have considered alternative accounts.
  - Have enough detail about what you'll do so that you convince reviewers you can do it. To repeat: never sacrifice your research or study plan for the literature review.
  - Think strategically about how to handle the limitations of your study. All proposals have their limitations. You do not want to be grandiose in your claims. At the same time, you do not want to undermine your proposal by pointing out limitations in such a way that a reviewer will think the study is not worth conducting. Thus, you want to acknowledge the limitations while making clear the benefits.
  - If consultants are necessary, include a letter from them indicating their willingness to cooperate. Saying that someone has agreed to consult is better than nothing, but it is not as good as an actual written commitment.
- **Feasibility**
    - Figure out what you can realistically accomplish in the period of time that you are proposing. Talking to other people will help you establish whether your project is too ambitious or not ambitious enough for the amount of time and the amount of money that you are proposing.
    - Creating a timeline – what you expect to accomplish each year – will help convince reviewers that your plan is feasible. It will also help you determine whether you're proposing too much or too little.
    - Pilot work demonstrates that the project is feasible and that you in particular can do the work.

## Writing the proposal

- Use successful proposals as models. Ask colleagues at your school or other schools.
  - Try to use proposals that are close in general area to your own that were recently funded.
  - Sit at the computer with the proposals in front of you. See how the successful proposals handled the different sections. Ape the language, structure, and formatting.
- Do not try to do everything at once. Initially, aim for a draft that will show you the scope of the proposal as a whole. It will be messy, incomplete, and inchoate in many spots. Over the course of several drafts, begin to develop crisp, well-defined, easily operationalized questions. Link each question to the larger theory or question or position. Over the course of

several drafts, make your hypotheses as explicit as possible. Do not worry about felicity of expression until near the end.

- When you review a draft, go through it with the various hallmarks of a good proposal in mind, one at a time, in order to arrive at a proposal that is complete and internally consistent.
  - For example, go through the draft to see if each detailed study or experiment is linked to the major questions. If you don't know how to make the link, indicate in the text where the linking should go and highlight that text (so that you don't accidentally leave it in the final proposal).
  - Then go through the draft to see whether each section poses a specific, easy-to-understand question.
  - Then go through it to see whether each component has the relevant pilot work, either from your own work or other people's. And so on.
  - The ordering here is haphazard. Choose whatever order you want. The key point is not to try to do everything at once.
- Construct your timeline early enough so that you can modify the proposal, either adding or subtracting work to fit a realistic schedule. For example, you might originally have had a 3-year project in mind but the timeline may show you that you either need 5 years or you need to scale down the project. In the timeline, specify how much time will be spent performing the experiments or gathering the data; analyzing the results; writing up and presenting the findings.
- Design your proposal so that no matter how your research turns out, it will provide a contribution to knowledge and understanding. Make sure that no study is dependent on the specific outcome of a preceding study unless you specifically present it as a follow-up.
- For each study, present the possible results or outcomes and what each will mean. You should both set up the motivation before describing the study and then say how the results will bear on the initial motivation or predictions.
- Include pilot or preliminary work.
  - If you have used a procedure in published work, mention that explicitly and highlight that point when you introduce the procedure. If others have published research that uses the same procedure, mention that to demonstrate its feasibility.
  - If you are using methods that do not have a publication history, you need pilot work to demonstrate that the methods are likely to work and that you are likely to be able to do the work. Reviewers want evidence that a technique or procedure will work and that interpretable, useful data will come out. Pilot data are also important in order to show that your hypothesis might be reasonable and correct.
- Make it clear – if it's true! – that you have the relevant experience and knowledge to carry the work through to completion. Gaps that consultants will fill are okay, but it must be evident that you can lead the project.
- If, without doing violence to your work, you can tie it to current topics, do so.

- Use your discussion of the relevant literature to motivate your research. State what the gaps are, why it is important to fill them, and how your proposed work will fill them. Summarize what the world will know should your work be funded and completed.
- To repeat: make clear, strong connections to a theory or theoretical question. Be explicit in your hypotheses. If your project is one of discovery, make clear why the discovery matters.
- Have colleagues read a draft of your proposal. Tell colleagues what kinds of suggestions you want: organization, follow-up experiments, methodological flaws, background, and so on. Proofread carefully: a draft is hard to read under the best of circumstances; if it has spelling and punctuation errors it is even harder.
  - Show extremely close and sympathetic colleagues a rough and partial draft, asking for comments on your overall approach.
  - Show more distant colleagues a more polished draft.
  - You may be concerned about your colleagues' reactions to your grant proposal. Carefully choose people who you think will be helpful. You want useful, constructive criticism, even if it hurts. Criticism you receive before you hand in the proposal can prevent much more damaging criticism from reviewers.
- In later drafts, think about terms that present your ideas in compelling ways. By making the proposal's terms memorable you increase reviewers' interest in it. To do the best for your ideas, you need to show what is special about them.
- In later drafts, streamline and simplify the writing. Your reviewers may or may not be experts in your field, but they will definitely be overburdened and tired. Make their job as easy as possible.
  - Lavish attention on the first page of the proposal. You want to capture the reviewers' attention and motivate them to keep reading. Present your ideas in an engaging way.
  - Use the active voice whenever possible. Avoid circumlocutions.
- In later drafts, pay attention to formatting. Use font size and type judiciously as signposts so that the reader can easily refer back to a section if need be.
- Graphics are nice! But never sacrifice content for a graphic.
- Write your summary or abstract section last. Write it in such a way that it can be quoted by reviewers and used verbatim for the panel summary. That makes the reviewers' job easier. Experienced colleagues can show you examples of summaries. Secondary reviewers may only read the summary, so it has to briefly include the significance of the work and an outline of the proposed research and methods.
- Address diversity elements in the relevant section of your proposal (e.g., in NSF's broader impact section, indicate if your personnel or students are non-traditional; indicate who will benefit from the research results).

- Use up all the pages! If the page limit is 15 pages, use 15 pages. If there is something missing from your proposal, and there is empty space in which you could have placed what is missing, reviewers will notice. Also make sure, however, that you do not violate rules about margins and font sizes or readability. Some funders will return proposals unread if the proposals do not fit the guidelines.
- See how other proposals deal with the various subsections of a proposal, such as the budget justification, biographical sketch, current and pending support, space and facilities. It takes a surprisingly long amount of time to fill out these forms, so having a guide is a big help. Some funders provide models on their web sites.
  - If your research involves special equipment, indicate in the body of the proposal as well as in the space and facilities section that you have it.
  - If appendices are allowed, make use of them to provide additional background information, such as your publications, and methodological detail, such as example stimuli. Some funders have restrictions on appendices, and you cannot be sure your reviewers will read them. Put everything important into the proposal itself.
- The Office of Sponsored Research can help you plan your budget, indicating usual hourly rates of pay, fringe benefit costs, and so on.
  - Ask about what types of budget items are viewed unfavorably. (For example, NSF hates to give funding for release time; they see research as a normal academic activity; they prefer to fund summer salary).
  - If your work is labor-intensive, estimate how much time it takes to do some unit of work (e.g., 5 hours to transcribe 1 hour of speech) and then work out the math. By showing you have thought about the amount of work involved you can justify what might otherwise seem to be an inflated cost.
  - Show that the institution is willing and able to provide what is necessary for your research (e.g., space, release time). You may want to include letters of support; in some cases, this will be obligatory.
- For some agencies (e.g., NSF, PSC-CUNY), you can suggest reviewers either on a special form or in a cover letter. You cannot choose anyone for whom there would be a conflict of interest (e.g., current collaborators). You can also indicate that there are people you do not want to review the proposal. Use that option sparingly. You have to justify rejecting reviewers and you might not want the funder to have that information.
- Think about who the likely reviewers of your proposal will be (for NIH, the reviewers are listed). Refer to their work, and the work of people you suggest as reviewers, if it is relevant to your proposal.

### **If your proposal is not funded**

- Your proposal probably *won't* be funded on the first round! At some federal agencies, the funding rate is as low as 9 %. What you are aiming for with your first submission is reviews that will help you write a successful subsequent proposal. Strategic persistence is the key to

funding. “Strategic” because you don’t want to repeat your mistakes; you may need to take a fresh approach. “Persistence” because faint heart ne’er won fair funding. There is, however, a limit to persistence. NIH, for example, will accept no more than two revisions of a proposal. If you are not funded on your third attempt you will have to try either a different set of questions or a different way of approaching the questions you continue to think are important.

- It is discouraging when a proposal is not funded. It is, however, a fact of research life. Remember that while it is difficult to receive funding, there is one sure way of not getting funded – by not submitting a proposal in the first place or not resubmitting.
- Show colleagues the reviews and ask for their advice.
  - You may be embarrassed about some of the reviews. Trusted colleagues can make suggestions about how to respond to the reviews and indicate which comments are really important.
- After you have recovered emotionally, email the program director or scientific review administrator and ask for a telephone appointment to discuss the reviews. Do this within a month of receiving the reviews so that your proposal is still fresh in the program director’s mind. In the telephone call, present your reading of the reviews and your thoughts about how to proceed. Have your comments well-organized. Ask for advice: are you overlooking anything; are you putting the emphasis in the right place; was there a particular issue that concerned the reviewers?
- No program director will tell you what to do, especially since there may be a different group of people reading your proposal on the second round, at which different concerns could be raised. But the program director can help you focus and can tell you whether a different study section would be more appropriate for your proposal.
- At some agencies (e.g., NIH), you can also contact the staff person of the sub-institute which would fund your proposal. Staff people sometimes attend study sections (e.g., if they know that the study section is reviewing grants that their sub-agency might fund). Even though the staff people don’t participate in the review process, they can provide valuable information about the tone of the study section’s discussion about your proposal. Often this is more revealing than the reviews, which are edited for your eyes.
- When talking to the funding representative, do not be defensive. Listen carefully. Do not defend your grant. The goal is to find out, in as much detail as possible, what went wrong and how to correct it. Ask questions to make sure you have understood. Take notes.
- At some agencies, program directors have a fair amount of discretion. They can decide to fund a proposal that reviewers put in a “fund if possible” category and can decide not to fund a proposal that reviewers put in a “must fund” category. If you and your program director have had collegial discussions, that can work in your favor if you are on a borderline.

- When you resubmit, find out whether you should explicitly present reviewers' concerns and how the resubmission responds to them.
  - At NIH, explicit responses are required.
    - If reviewers have made specific suggestions (e.g., present power analyses), make sure you follow them or make clear – in a neutral and friendly tone – why you are not following them. But you are best off simply following the advice.
    - Make sure that you do not exaggerate the reviewers' concerns. Colleagues' advice can help you here.
    - In the beginning of the response section, indicate the reviewers' overall positive and negative comments. Don't be defensive, hostile, or sarcastic. You may be right and the reviewers may be wrong, but you have to figure out how to accommodate them or convince them. Indicate how you have responded and how the proposal has improved as a result.
    - Have a colleague read the reviews and your response to make sure you have not overlooked something that is important.
  - At other agencies an explicit response may not only not be required but be counter-productive. At NSF, ad hoc reviewers change from submission to submission, and even the panel may not recall having previously seen the proposal. In that case, you would make use of the comments in rewriting the proposal but you would not respond directly to them.
- Categorize the comments you received from the reviewer. Sorting through all the comments can help give you a better understanding. However you decide to break down the reviews, this method can prevent you from feeling overwhelmed by the reviewer's response.
  - For example:
    - *Minor, easy-to-fix*: comments that ask you to provide more detail about methods or highlight key points.
    - *Major*: comments dealing with the substance of the paper (e.g., theory).
- Think about strategies for dealing with problems that seem unmanageable.
  - They could be solved by acknowledging the limitations of your research or by restricting the scope of your work.
  - Remember, there are no problems that can not be resolved. Reviewers aren't looking for perfect solutions but intelligent resolutions.
- How soon you should resubmit will depend on the funder's timetable and how much work is required to revise the proposal. Your aim is the first deadline after you receive the reviews. But if the funder indicates that pilot work is crucial, that next deadline may not be a feasible goal. You want to respond as fully as possible and as quickly as possible. The worst approach is to appear not to have taken the reviews seriously.

### Helpful Sources (*and notes*)

Borkowski, J. G. & Howard, K. S. (2005). Applying for research grants. In F. Leong and J. Austin (Eds.), *The psychology research handbook: A guide for graduate students and research assistants* (pp. 433-442). Thousand Oaks, CA: Sage Publications. Retrieved 21 September 2006 from [http://www.nd.edu/%7Eresearch/ProposalPrep/borkowski\\_howardapplying.pdf](http://www.nd.edu/%7Eresearch/ProposalPrep/borkowski_howardapplying.pdf)

Cognitive Science Program, University of Arizona. (undated). Extramural funding opportunities in cognitive science. Retrieved 24 September 2006 from <http://cogsci.web.arizona.edu/events/GrantInfo.html>

*This site has information about the differences in structure and operation between NSF and NIH and useful links, especially for cognitive scientists.*

National Institute of Allergy and Infections Diseases, National Institutes of Health. (undated). *All About Grants Tutorials*. Retrieved 21 September 2006 from <http://www.niaid.nih.gov/ncn/grants/>

*Even if this source is far afield from your area, it is extremely helpful for anyone applying to NIH.*

Office of Research, University of Notre Dame. (6 June 2006). Retrieved 21 September 2006 from University of Notre Dame Office of Research website: <http://www.nd.edu/~research/ProposalPrep/index.html>

*This is a nicely-detailed guide from the perspective of an office of sponsored research. The site also includes references to helpful articles.*

Rice, P. M. (18 August 2005). *Tips on writing proposals*. Retrieved 21 September 2006 from University of Southern Illinois Carbondale, Office of Research Development and Administration web site: [www.siu.edu/orda/general/proposal\\_tips.pdf](http://www.siu.edu/orda/general/proposal_tips.pdf).

*This is an extremely well-written and helpful source.*

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