Applying for Grant Funding as a Counseling Psychologist: From Thought to Action

Jason J. Burrow-Sánchez¹, Jessica L. Martin², and Zac E. Imel¹

Abstract
Counseling psychologists can benefit from grant funding because it can support their research and training of doctoral students. Now more than ever, universities across the nation are encouraging faculty to seek funding from external sources. This reality creates an opportunity for counseling psychologists to develop grant writing skills and take their research to new levels by obtaining funding to support larger scale studies or clinical interventions. We seek to provide a resource for counseling psychologists and doctoral students that provides guidance and tips for successfully seeking and applying for grants that fit areas of research common in our field. Topics covered in this article include how to get involved in the grant writing process, obtaining mentorship, crafting a successful application, and understanding the outcome of a grant review. Grant funding is an attainable goal for counseling psychologists at all stages of their training and career.

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academia, professional issues, training, grant writing

¹University of Utah, Salt Lake City, UT, USA
²University at Albany-State University of New York, Albany, NY, USA

Corresponding Author:
Jason J. Burrow-Sánchez, University of Utah, 1721 Campus Center Dr., Rm. 3220, SAEC, Salt Lake City, UT 84112, USA.
Email: jason.burrow-sanchez@utah.edu

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Counseling psychologists can benefit from grant funding because it can support their research and doctoral students’ training. There is also increasing pressure on faculty in counseling psychology training programs to obtain funding from external sources. This reality creates an opportunity for counseling psychology faculty to develop grant writing skills and take their research to new levels by obtaining funding to support larger scale studies or clinical interventions. It appears that a large proportion of counseling psychologists has not been involved in grant-funded research over the last two decades (Elliott & Shewchuk, 1999; Martens et al., 2016 [this issue]), but this should not belie the fact that grant writing is an important skill set for counseling psychologists to develop.

A lack of exposure to grant writing commonly promotes misperceptions such as “Grant writing is too difficult” or “My research is not fundable.” All three authors have heard variants of these statements being made by doctoral students and faculty and thus have written this article, in part, to correct these common misperceptions. More specifically, the purpose of this article is to familiarize counseling psychologists with key aspects of grant writing based on both factual information from a variety of sources and the authors’ personal experiences with the grant-writing process. This article is written for the novice or aspiring grant writer in the field of counseling psychology at all career stages—doctoral student to senior faculty—and is meant to encourage more participation in grant writing within our field. We recognize that grant funding is available from multiple sources that include private foundations to government institutes. However, because of the fact that the National Institutes of Health (NIH) is the largest source of research funding in the world and because of the practical reason of space constraints, we have chosen to largely focus this article on grant writing for the NIH. In addition, we limit our discussion in this article to the areas we believe are most relevant for novice and aspiring grant writers such as ways to become involved in funded projects, ideas for developing a programmatic line of research, where to look for mentors, understanding funding mechanisms, and the steps involved in writing an application. One of the best ways for counseling psychologists to begin building their self-efficacy and skill in grant writing is to become involved in funded research projects, to which we turn first.

Get Involved in Funded Research Projects

Counseling psychologists with aspirations of grant writing should consider exposing themselves to others with expertise and success in this area as an important first step to becoming a grant writer. It is important for those new to grant writing to view it as a specialized skill set that can be learned, especially...
from those who have written successful grants before. This type of mind-set allows the novice to see that competency in grant writing can be developed through exposure, training, mentoring, and practice, similar to the other specialized skill sets for which counseling psychologists develop competence (Gelso, 1997; Gelso, Baumann, Chui, & Savela, 2013). One of the best ways for novice grant writers to increase their experience in grant writing is to become involved in funded research projects.

Universities and colleges generally have some version of an Office of Sponsored Projects, although it may be called a different name. These offices are in place to support the grant-writing efforts of graduate students, postdoctoral researchers, and faculty. Commonly, these offices provide access to searchable databases that allow grant writers to find other investigators with funded projects in similar areas of research either at their home institution or nationally. For example, one of the authors, Burrow-Sánchez, has been contacted by researchers at his institution to collaborate on grant proposals or funded projects after being searched on the SciVal database (see http://www.elsevier.com/solutions/scival). This web-based networking tool, which is subscribed to by the University of Utah and available through the Office of Sponsored Projects, provides research and publication information on investigators within and across institutions. Some grant writers may find that opportunities to collaborate on funded research projects, especially within their area of interest, are limited at their home institution. If this happens to be the case, they should investigate nearby institutions or universities in other states where opportunities to collaborate with funded investigators may exist. Fortunately, advances in technology such as video conferencing and file sharing have substantially increased the feasibility of effectively collaborating on projects with researchers located in different parts of the country or the world. Novice grant writers should not be hesitant to introduce themselves to funded investigators who share similar research interests because the start of a potential collaboration could be just an e-mail away. In fact, it has been our experience that funded investigators frequently seek out collaborators who can provide expertise in areas that will enhance their projects. Although the ideas described previously can apply to grant writers in different fields, we provide more specific suggestions for counseling psychologists at each of the major training and career stages in the next section.

**Graduate School**

Counseling psychology doctoral students should consider the types of training they can obtain in grant writing prior to graduation. For example, one option is for doctoral students to enroll in a grant-writing course even if it is
not a requirement of their training program. If a grant-writing course is not offered in a student’s home department, then searching for such courses in other departments within the college or university can be a successful strategy. Although courses in grant writing are not typically required in counseling psychology training programs, students can look for ways that such a course could fulfill a special proficiency or elective in their program of study. If taking such a course is not feasible, then looking for less time-consuming but still beneficial training opportunities such as grant-writing workshops or seminars can be of value. Many grant-writing workshops are available nationally for a cost such as those offered before or during the annual American Psychological Association (APA) convention, but doctoral students should first consider any local or university-sponsored low-cost options that may be better suited for graduate student budgets.

**Postdoctoral Training**

Graduating counseling psychology doctoral students should not overlook the option of applying for a postdoctoral training position (postdoc) or fellowship in research (Walton, 2014). It has become more common to see postdoc positions that are funded by large federal research grants. A postdoc position can provide recent graduates with the time and experience needed to firmly establish a programmatic line of research by developing a track record of published articles in a particular topic area. Postdoc training often provides fellows with experience working on or managing senior investigators’ grant-funded projects, as well as the opportunity to write a grant of their own with mentorship from experienced grant writers. Postdocs based in Veterans Health Administration (VA) health care facilities, academic medical centers, or in positions funded by Center Grants are more likely than other postdocs to make grant writing a central part of the postdoc experience. Postdoc research training is less structured and organized than internship training is; therefore, many postdoc opportunities are informal (i.e., they are not APA accredited or available through the Association of Psychological Postdoctoral and Internship Centers [APPIC] website or even advertised publicly; Walton, 2014). To find research-oriented postdoc opportunities, students can search the APA’s division webpages or electronic e-mail lists’ postings, ask faculty within their area of research if they know of any research postdocs, inquire about postdocs with research colleagues at conferences, or search the Association for Psychological Science’s Postdoc Exchange website or The Psychology Job Wiki website, both of which are listed in Appendix A.
Counseling psychologists who start their careers as assistant professors will quickly learn that time management among research, teaching, and service is a crucial skill to master (Reysen & Krueger, 2013). Those who already have some experience in grant writing through taking a course in graduate school or as a postdoc will have an advantage in this area. Counseling psychology training programs and the departments they are housed in differ in regard to the priorities they set on grant writing for their faculty. Some programs may encourage their faculty to participate in grant writing, whereas others may not see it as a necessity. Junior faculty in some programs are discouraged from grant writing by their senior colleagues, who instead suggest that publishing articles is a more effective use of their time; thus, placing the aspiring grant writer in a dilemma. On one hand, unfunded grant proposals can be viewed negatively by senior faculty who believe that assistant professors should spend their pretenure time publishing articles. On the other hand, if a junior faculty is awarded a grant, then the prior unfunded proposals are more likely to be seen as just part of the grant-writing process. It is no secret that funded grants are generally viewed positively by programs, departments, and universities; in some cases, the level of admiration may be a function of the size of the award. Therefore, feeling unsupported in grant writing can be a demoralizing experience for junior faculty, but it also presents a good opportunity to consult with senior colleagues regarding the expectations in one’s program.

To counter the unfunded grant applications versus publishing articles dilemma that some junior faculty face, we argue that grant writing and conducting research go glove in hand because for junior faculty to establish a long and successful program of sponsored research, they must become involved in the grant-writing process early in their careers. Furthermore, even if junior faculty find that grant writing is not valued or supported in their home departments, it will more than likely be supported within their larger institution and at the national level. One only has to peruse current announcements for assistant professor positions to see the increasing emphasis placed on obtaining grant funding. Therefore, junior faculty who value grant writing may be faced with deciding if beginning their career in a program or department that does not support this activity will be detrimental to their long-term professional goals.

Assistant professors in counseling psychology should be proactive in prioritizing the development of their grant-writing skills and should take advantage of resources or training offered by their program, department, or university. To this end, we suggest that junior faculty develop goals for the types of training and experiences in grant writing they want to achieve by the time of tenure (i.e.,
in the next 5–7 years). First, if they have not already done so, junior faculty can set a goal to take a grant-writing course or some type of less time-intensive instruction (e.g., workshops or seminars associated with conferences, offered online, or provided by private consulting companies). Most universities offer educational opportunities in grant writing to their faculty, and a good place to begin searching is in the Office of Sponsored Projects. Second, looking for ways to collaborate on funded grant projects with colleagues at the same university or other institutions is a great way for junior faculty to increase their exposure and participation in all facets of the grant process from proposal development to managing funded projects; this topic is discussed further in “The Importance of Mentorship” section. Third, it is in the best interest of junior faculty to identify and apply for grant competitions within their college or university that can fund pilot or seed projects to obtain data needed for larger proposals; this topic is discussed further in the section devoted to identifying grant competitions. Fourth, junior faculty should look for opportunities to serve on grant review panels at the university, state, or federal levels. There is no better way to understand how grants are reviewed than to participate as a reviewer on a grant panel, which may subsequently inform one’s own grant writing. For example, the NIH has an Early Career Reviewer (ECR) program that allows those new to grant writing to serve on study sections in an ad hoc capacity (a web link to the ECR program is provided in Appendix A). Finally, the NIH offers regional training on the grant application process as well as specialized training in certain research methodologies. An example of the former is the Regional Seminars on Program Funding and Grants Administration offered by the Office of Extramural Research, whereas an example of the latter is the Summer Institute on Randomized Behavioral Clinical Trials offered by the Office of Behavioral and Social Sciences Research (web links for both training opportunities can be found in Appendix A). It is also common for NIH institutes such as the National Institute on Drug Abuse (NIDA) or the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to sponsor symposia, early investigator poster sessions, and training sessions at the annual convention of the APA. Most important for junior faculty is that they remain active participants in their quest for ways to increase their knowledge, skill, and experience in grant writing.

**Tenured Faculty**

For tenured faculty who have not had prior grant writing experience, many of the same suggestions for junior faculty will apply and consequently are not repeated here. However, a few unique points are worth mentioning. Theoretically, receiving tenure provides faculty members with the opportunity for greater
freedom of research pursuits. Realistically, however, tenure typically comes with more administrative and service obligations that will need to be balanced with grant writing, conducting research, and teaching. Given this, the time management demands felt as a junior faculty will still exist when tenured, albeit some of these demands will present themselves in a different form (e.g., program administration). Of course, some tenured faculty will be in the position to build on a prior track record of publications and possibly university grant funds and therefore will be better situated to apply for extramural grants to support larger scale research projects. Regardless of career level, however, the development of a programmatic line of research is a must for successful grant writers and is the focus of the next section.

Developing a Programmatic Line of Research

For many counseling psychologists, the development of a line of research typically begins in graduate school and is influenced by one’s academic advisor or research group (Arnaudova, 2014). Beyond graduate school, the completion of a postdoc focused on research can provide further refinement and experience in developing one’s programmatic research. In addition, some counseling psychologists may solidify their area of research while a junior faculty in their first academic position working alongside senior mentors, as was the case for the one of the authors, Martin. If primary data collection is not an immediate option, then junior faculty can take advantage of publically available data sets to develop a line of research and build a track record of publications. It is important for grant writers to develop a programmatic line of research for at least the two reasons discussed here. First, establishing a line of research allows grant writers to communicate how their work ties together within a larger coherent framework. For example, consider a counseling psychologist with a line of research described as “Improving health and academic achievement outcomes for Latino adolescents.” The program of research suggested by this statement may assist the counseling psychologists in focusing the direction of individual studies they conduct. We note that the research statement just described explicitly includes the word “health,” which is an important area of emphasis for grant writers in the social sciences, especially those seeking funding from the NIH. Specifically, NIH grant applications require investigators to include a public health relevance statement; that is, investigators need to explicitly state the importance their grant proposal has for improving public health. The public health relevance statement can be thought of as addressing the following types of questions: “Why is your research important for public health?” or “Is your research addressing an important health problem in society that assists people in leading better lives?”
Second, being able to articulate a programmatic line of research in one or two sentences allows grant writers to easily communicate with each other regarding research interests and expertise. Consider again, for example, the research statement presented in the last paragraph. In just this one sentence, a counseling psychologist can convey to another investigator the overall line of research as well as the specific variables (i.e., health, academic achievement) and population (i.e., Latino adolescents) of interest. Let us imagine that this counseling psychologist wants to collaborate with an investigator in medicine who studies the health effects of stress (e.g., cortisol levels) in adolescence. This research statement makes it easy to see areas of overlap for these two researchers that may result in a collaboration to investigate, for example, how stress level affects academic outcomes in Latino adolescents. It is important that grant writers be able to state their program of research in one to three sentences maximum and place it within a public health context to facilitate interdisciplinary collaborations and compete for NIH funding. Novice grant writers may need support in articulating their line of research and this, among many others areas, is where the assistance of a mentor can have big dividends; mentorship is the topic that we turn to next.

**The Importance of Mentorship**

Mentorship is a key aspect of professional development for counseling psychologists in all stages and facets of their careers. A significant body of research suggests that the research training environment and mentoring (see Mallinckrodt, 1997, for discussion of the mentor as a research microenvironment) are related to both satisfaction and academic productivity (Gelso, 1997; Gelso et al., 2013; Hollingsworth & Fassinger, 2002; Shollen, Bland, Center, Finstad, & Taylor, 2014). Although this scholarship provides critical insights into promoting the scientific development of junior scholars, it has not specifically discussed the role of mentoring in developing a funded research career. For example, in Gelso and Lent’s (2000) chapter on the “making of scientists” (p. 109) in counseling psychology, desired outcomes included research attitudes and interests, self-efficacy, skill and competence, and productivity—all of which are typically measured by publications. There was no specific discussion of grant writing or the need for a research training environment to value and model grant activity.

Similar to publishing, grant writing is a unique skill set that can be taught and learned; thus, it is likely that quality mentorship is essential for successfully navigating the grant process (National Institute of Mental Health [NIMH], 2008). A skeptical counseling psychologist reading this article may think, “I know how to publish—I am an expert in my area with a promising
track record—why do I need a mentor for writing grants?” Publishing is a necessary but not a sufficient experience for learning to be a successful grant writer. A good mentoring experience can make the difference between scholars with a few publications receiving a grant that takes their research to the next level and scholars with a solid publication record who struggle to secure funding to expand their work.

Although scientific expertise, perseverance, and creativity are of upmost importance in a successful research career, they are not sufficient for successful grant writing. In our experience, close collaboration with mentors has been essential to securing grant funding and successfully completing funded projects. Mentors can provide credibility for grant writers and assistance in negotiating the grant world. Specifically, they can help by identifying appropriate funding mechanisms, providing program officer contacts (i.e., scientists or scholars in charge of supervising a portfolio of grants at various funding agencies, who assist researchers in translating their research ideas into projects relevant to the funding priorities of the particular funding agency), developing grant applications, and responding to study section reviews. Without guidance from mentors who have successfully negotiated the grant process and attained funding, the grant writer is at a significant disadvantage that can lead to easily avoidable mistakes (Cronan & Deckard, 2012). Some of the common mistakes novice grant writers make include (a) not contacting a program officer prior to submitting a grant application or after receiving reviews, (b) submitting to a funding agency with priorities that are inconsistent with the focus of the application, and (c) writing an overly ambitious application for a project that is not commensurate with applicant’s track record. Establishing a relationship with a grant mentor is crucial to being successful in grant-related endeavors, and next we provide suggestions for engaging the assistance of a grant mentor at three particularly important stages of professional development.

**Mentoring During Predoctoral Training**

For doctoral students, the most direct way to obtain grant mentors is to identify faculty in home programs and departments who have a documented history of grant-funded research. In our experience, principal investigators are always on the lookout for energetic and capable graduate students who can contribute to their research projects. The benefit of working on grant-funded projects is that the student will observe firsthand the administration of a funded research project as well as the process of grant submissions, resubmissions, and reporting requirements required of a principal investigator. Another advantage is the increased likelihood that the student will be funded...
to work on the project. Participating in grant-funded research will also naturally lead to other important professional development opportunities for the student such as presenting research at conferences, networking with new colleagues, coauthoring publications, and possibly carving out a portion of the grant project to use as a thesis or dissertation. Of course, a grant-funded professor may not be readily available in home departments, in which case motivated doctoral students will need to cast a wider net to acquire a mentor. Fortunately, universities that house counseling psychology doctoral programs are typically large enough for graduate students to find grant mentorship in another department (e.g., clinical psychology, social work) when it is not accessible in their home department. Other places to look for a grant mentor include schools of medicine (e.g., public health, psychiatry) and research centers or institutes in the surrounding community that typically rely on grant funding as their major source of revenue.

**Strategies for Identifying a Grant Mentor**

Here we discuss specific strategies that doctoral students can use to identify a grant mentor. First, students can consult researchers’ websites to learn about their experience in grant writing and success in securing funding. In addition, they can conduct a literature search in relevant databases (e.g., PsychINFO, PubMed, Academic Search Elite) for articles in their area of interest that report results of funded research and consider the first author, or funded author if he or she is not the first, as potential mentors. Second, students can talk with fellow doctoral students who are working on grant-funded projects to inquire about their experiences and whether there are any open positions (volunteer or paid) on the project. Third, students can consult with their academic advisors regarding an interest in being exposed to funded research (assuming the advisor is not already a grant mentor for the student) and solicit their ideas about places and potential mentors with whom to obtain this type of experience. Finally, after students secure a grant mentor, it is important for them to become involved in the research in any capacity possible (e.g., data collection, data cleaning, behavioral coding).

Many junior doctoral students have the misperception that they need to walk into graduate school with fully articulated ideas in a specific area of research. Subsequently, they are not open to pursuing related lines of research that may be more feasible and fundable. Motivated doctoral students who quickly establish themselves on a research team will be able to contribute ideas and begin developing a unique identity as a researcher (Gelso, 2013). The take-home message here is “Work on your grant mentors’ research and learn from it.” From their experiences with mentors, students will learn how
to evaluate the feasibility of their own research ideas and enhance them in the process. The mentoring relationships doctoral students establish in graduate school will likely remain throughout their professional careers.

**Mentoring During Postdoctoral Fellowships**

Gelso and Lent (2000) indicated that much of the work on the scientific development of counseling psychologists has focused on graduate students rather than postgraduation experiences. The professional development of postgraduate counseling psychologists should most certainly incorporate training in grant writing. Indeed, one opportunity to obtain mentorship and experience in grant writing after completing doctoral training is through a postdoctoral research fellowship with a senior researcher. A postdoc focused mainly on research is a good way for aspiring grant writers interested in academic or research careers to obtain experience and mentorship in this area. For example, evidence from academic medicine indicates that postdoctoral training programs with the aim to mentor junior scientists into independently funded investigators (e.g., the Mental Illness Research, Education, and Clinical Center [MIRECC] in the VA) do assist them in obtaining funding. For example, in the first four years after the MIRECC was established, approximately half of the 58 fellows who participated in the program secured independent grant support from the VA or the NIH (Bruce et al., 2011; O’Hara et al., 2010). Thus, recent graduates of counseling psychology programs should consider research-oriented (vs. clinically oriented) postdocs as a path to achieving experience and mentorship in grant writing. Additional information on postdoctoral NIH fellowships can be found in the Identifying Grant Competitions section of this article (see also Appendix A).

**Mentoring During Early Career**

The next stage at which identification of a grant mentor is critical is upon accepting an academic position for the first time. Similar to the suggestions provided for doctoral students and postdoctoral students, the first step for junior faculty is to explore potential collaborations with grant-funded researchers within the fields of counseling psychology and education. Junior faculty should also keep in mind that they are in a key position to begin exploring multidisciplinary collaborations and establishing relationships with mentors outside of counseling psychology. To their advantage, the mainstays of contemporary counseling psychology (i.e., vocational/career, positive development across the life span, prevention, cultural competence, and psychotherapy process and outcome) can be of central concern to investigators in other disciplines. For example, colleagues...
in pediatrics may need a collaborator to assist in implementing a school-based intervention whereas colleagues in psychiatry may need a collaborator to assist with engaging a local community for a treatment study; counseling psychologists are well suited to be collaborators in both examples. Thus, counseling psychologists are likely to have core interests and expertise in research that is highly relevant to other disciplines in addition to solid generalist training in research methods and statistics. This type of training and educational background positions counseling psychologists to be strong collaborators with researchers in allied disciplines such as medicine and public health.

Tenured Faculty

Faculty who have achieved tenure and a significant publication track record may be hesitant to seek mentorship in grant writing. The thought may be that no mentorship is needed at this point in their careers. On the contrary, a mentor for a more seasoned counseling psychologist with little prior experience in grant writing can be extremely important. Although the particular tasks that more seasoned counseling psychologists engage in to develop relationships with mentors may be different (e.g., meeting over coffee to discuss interests and potential projects rather than volunteering to work with the mentor’s existing data), the benefits are similar. It is never too late for counseling psychologists at any stage of their career to establish a relationship with a grant mentor to assist with shaping ideas, identifying appropriate funding mechanisms, or writing grant applications. The process of identifying relevant grant competitions is an area we discuss next.

Identifying Grant Competitions

There may be several sources of grant funding that fit well with a research area, and it can be tempting to pursue a funding opportunity just because it presents itself. Those new to grant funding may have also been told, “The more proposals you submit, the better your chances of securing funding.” Unfortunately, both of these approaches are misguided and, more important, may waste precious time and resources (Licklider & Hazelwood, 2012). Good training and preparation, along with a well-prepared and justified grant proposal written for the appropriate funding mechanism, are most likely to lead to success (Boyce & Aklin, 2011). How do novice grant writers know which type of grant mechanism is “right” for them? To answer this question, it is important to consider grant opportunities in the context of one’s research interests, current track record of publications and grants, and future goals. For example, it is imperative that a grant writer’s publications are in an area that aligns with
the topic of the grant program. Moreover, grant writers should apply for grants consistent with the scale of projects they propose and their prior experience managing projects of that scale. It is generally recommended that novice grant writers first apply for small-scale research projects or pilot studies to establish their credibility and demonstrate their ability to effectively execute and manage a funded research project, and then build on those successes by applying for progressively higher levels of funding to support larger scale research projects (Boyce & Aklin, 2011). For example, a novice grant writer who has published two or more peer-reviewed journal articles on the topic of alcohol use and academic success among student veterans could consider applying for an intramural grant to conduct a pilot study to assess whether increased drinking over time is causally related to poor academic outcomes among student veterans. Assuming the hypothesized relationship is supported, a next step may be for that individual to use the pilot data to support an application for an NIH Planning Grant (R34) to establish a research team, intervention protocol, and recruitment strategies for a preventive intervention to reduce alcohol use and increase academic success among student veterans. Assuming a positive outcome from the aforementioned study, the individual may now apply for an NIH Research Project Grant (R01) to support a randomized clinical trial of the preventive intervention for student veterans. Using the same scenario outlined in the previous example, if the grant writer applied for the R01 to support the design and implementation of a preventive intervention as a first possible grant, it is unlikely that the grant would be funded because the investigator has not yet demonstrated her or his credibility nor sufficient empirical data to support the efficacy of the proposed project. Despite the general rule of starting small and building on those successes, there is a funding mechanism that provides substantial funding and is designed to support exploratory research ideas with little or no pilot data. That mechanism is further discussed in the section on NIH grants. As suggested in previous sections, consulting with a funded mentor can greatly assist novice grant writers in making informed decisions about how to strategically plan and prioritize grant applications throughout their careers. It is highly recommended that all grant writers consult with a program officer about how well their idea fits with a particular funding mechanism or request for applications based on the grant writers’ track record and the current level of empirical and theoretical support for the idea. Consulting with program officers before beginning to write a grant proposal can prevent wasting valuable time and efforts writing a proposal that is underdeveloped or inappropriate for the selected mechanism (Boyce & Aklin, 2011). Described in the next few sections are intra- and extramural sources of grant funding that the novice grant writer can strategically integrate into short- and long-term career goals.
Intramural Funding

Intramural funding opportunities are grants sponsored by academic institutions or agencies for their faculty, staff, and students. Often, intramural funding opportunities are intended to support research projects for which extramural funding (i.e., funds from outside the university typically sponsored by private, state, or federal agencies) is not available or to support seed or pilot projects that will support or strengthen future extramural grant applications (Carr, 2015). It is our experience that the amount of funds available for intramural grant competitions is typically modest, ranging from several hundred to several thousand dollars, but some universities offer seed grant competitions that can be much higher. Even though the dollar amounts of intramural grants are generally modest, these sources of funding should not be discounted because developing a track record of funded intramural grants will assist in demonstrating the writer’s ability to manage larger funded projects in future applications. Therefore, obtaining an intramural grant is an appropriate short-term goal for a novice grant writer. To get specific information on intramural opportunities, grant writers should consult with colleagues, mentors, and department chairs or deans and review institutional websites (e.g., Office of Sponsored Projects or a similar office).

Extramural Funding

Extramural funding comes from entities outside of one’s academic institution or agency, often from private foundations, or state or federal agencies. One of the first things to understand about extramural funds, particularly federal government funding competitions, is the difference between contracts and grants. Contracts are the government’s way of obtaining qualified entities to complete work that is clearly defined through a set of well-articulated specifications (Pawlicki & James, 2014). For example, a local, state, or federal government entity may contract with an investigator at a university to conduct an evaluation of a specific government program because the investigator has the specialized skill set to effectively conduct the evaluation. On the other hand, grants are awards made to advance the purposes of specific state or federal agencies or programs (Pawlicki & James, 2014). Typically, program personnel at the funding agency specify general guidelines describing the purpose of the funding program and announce a competition inviting investigators to design projects to achieve the goals of the program (Brewer & Achilles, 2008). For example, the Institute of Education Sciences (IES; 2015) has 10 ongoing grant competitions under its Education Research Grants Program, each with specific goals. Each year, one of the 10 topics pertinent to counseling psychologists calls for
applications to support research projects on social skills, attitudes, and behaviors to improve student achievement and progress through the education system. Grant writers need to become familiar with the purpose and goals of the federal funding bodies most closely aligned with their research interests, keeping in mind that funding priorities of federal agencies can shift depending on the scientific and political landscape of the nation. For example, counseling psychologists have received grants from the Centers for Disease Control and Prevention, National Cancer Institute, and Substance Abuse and Mental Health Services Administration, among others.

Identifying extramural funding opportunities is no small task, especially if one is new to the process, and many novice grant writers require assistance in navigating the terrain. We recommend that grant writers meet with a grant specialist or similar personnel within their college or university’s Office of Sponsored Projects early in the process of identifying extramural grant competitions. Ideally, grant writers will connect with someone who can assist in identifying realistic funding opportunities based on their publication and funding track record. University grant specialists can often assist with interpreting and adhering to a sponsor’s funding guidelines, developing a timeline for proposal development, preparing a budget, and submitting the application (Carr, 2015). If novice grant writers know which types of extramural sponsors support work in their interest areas, they can search the sponsors’ websites to determine current funding agendas and priorities. Some individuals may work in areas that do not have an obvious sponsor. In these cases, it will be helpful to consult online funding opportunity databases such as grants.gov, which is a centralized location for grant writers to search and apply for federal funding opportunities, which is freely available to anyone with an internet connection. The grants.gov web platform contains information about more than 1,000 grant programs for 26 federal granting agencies (see www.grants.gov). For a fee, grant writers can access other online grant databases such as the platform offered by ProQuest called Pivot (see http://pivot.cos.com), which is an electronic database that contains more than 26,000 funding opportunities. Pivot is searchable via keywords and phrases and provides an option for users to receive e-mail alerts regarding new funding opportunities that match specific areas of interest. Pivot also identifies researcher expertise from within or outside the grant writers’ institution to assist in identifying potential collaborators. Fortunately, many of these databases are available through research- or grant-related offices at colleges and universities. Before paying to access any commercially available web-based search engines, grant writers should check within their institutions (e.g., Office of Sponsored Projects or Office of Faculty Research) for any low-cost or no-cost resources available to them.
How does one determine which extramural sponsor is most likely to fund one’s research? It is important to consider the mission of funding agencies to determine how one’s research idea fits with, and can make a contribution to, the mission and the specific types of grant proposals the funding agency is seeking. Grant writers need to keep in mind that proposals will not be considered for funding if they do not advance the purpose of the agency to which the submission was made (Brewer & Achilles, 2008). Prospective grant applicants must also consider their career stage (e.g., graduate student, early career, midcareer), how much experience they have in a specific area of research, how long the research project will take, and how much the project will cost. The proposed project must be within the scope of expertise of the research team, and fit within the funding mechanism’s budget and timeline (Boyce & Aklin, 2011). Common mistakes of new investigators include proposing projects that are too large in scope and submitting budgets that are too small for the project (Boyce & Aklin, 2011). In what follows, we discuss funding mechanisms for grant writers at various stages of their careers from private foundations and from state and federal agencies, with an emphasis on the National Science Foundation (NSF) and the NIH. We also provide resources that grant writers can use to locate funding opportunities offered by numerous foundations, state, and federal sources (see Appendix A).

Funding Agencies and Specific Grant Mechanisms

**Foundation Grants**

Foundations typically offer a great deal of grant funds for a variety of projects relevant to research conducted by counseling psychologists. Foundations are nonprofit organizations that support charitable activities, typically through endowments provided by individuals, families, or corporations (Pawlicki & James, 2014). Foundations typically provide fewer grant opportunities and lower amounts of funding than do state and federal agencies, but they can be a good fit for particular types of research. For example, the William T. Grant Foundation funds interdisciplinary research grants and fellowships focused on advancing policy, theory, and practice related to children and youth in the United States (William T. Grant Foundation, 2015). Currently, the foundation is interested in funding projects designed to increase understanding of programs, policies, and practices that reduce inequality in youth outcomes (William T. Grant Foundation, 2015). Alternatively, the Ford Foundation seeks grant and fellowship applications for project proposals broadly focused on reducing poverty and injustice, promoting democratic values and social justice, and advancing human knowledge, creativity, and achievement (Ford...
The process of applying for foundation grants is different than that for applying for federal grants; the application process can vary across foundations (Carr, 2015; Pawlicki & James, 2014). Although a discussion of the application processes for foundation grants is beyond the scope of this article, resources for finding and applying for foundation grants, and foundations with grant competitions, are listed in Appendix A.

**Federal Agency Grants**

The U.S. Department of Education, the Centers for Disease Control and Prevention, and state departments of health and education can also be relevant sources of research support for counseling psychologists because of the focus on health promotion and disparities, educational access and success, career transitions and training, and prevention. Federal agencies such as the NSF and the NIH provide the greatest number of grant opportunities and the highest levels of funding, yet are also among the most competitive. Information regarding federal funding opportunities is available through federal agency websites, as well as agency-specific electronic mailing lists and e-mail alert systems, and through grants.gov in the form of Funding Opportunity Announcements (FOAs). FOAs may also be known as program announcements (PAs), requests for applications, notices of funding availability, or other names depending on the federal agency (Noronha, 2011). The NSF and the NIH also accept unsolicited or investigator-initiated grant applications at any time (NIH, n.d.-a; NSF, n.d.-e). Before submitting an unsolicited grant application, it is advisable to check with a program officer first to ensure that the research topic is consistent with NSF or the specific NIH institute’s mission and funding priorities (Noronha, 2011). Terminology related to grant announcements and applications for both NSF and NIH is presented in Table 1.

To gain a sense of what types of research is currently being funded by federal agencies or to see the kinds of ideas that may fit well with a particular funding mechanism, grant seekers can consult lists of previously funded research for both the NSF and the NIH. To review research funded by the NSF, search awards by investigator, award type, or topic, there is an award search function available in the NSF home page. By registering an e-mail address with NSF Update, grant seekers will receive e-mail alerts about new funding opportunities, upcoming grant deadlines, and other NSF grant–related documents and information. To obtain information about NIH grant opportunities, grant seekers are encouraged to sign up for weekly e-mails that provide trans-NIH FOAs. Prospective NIH grant applicants can discover the types of research that have been funded in the past by specific NIH institutes.
<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td><strong>NSF</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Program description</td>
<td>PD</td>
<td>A broad, general description of programs and activities in NSF directorates and divisions designed to encourage the submission of proposals in specific program areas of interest to the NSF (e.g., Science of Organizations)</td>
</tr>
<tr>
<td>Program announcement</td>
<td>PA</td>
<td>A formal announcement of NSF programs of funding</td>
</tr>
<tr>
<td>Program solicitation</td>
<td>PS</td>
<td>A formal announcement encouraging the submission of proposals in specific program areas of interest to the NSF; generally are more focused than program announcements. Proposals received compete directly with each other for NSF funding</td>
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<tr>
<td><strong>NIH</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
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<tr>
<td>Parent announcement</td>
<td>PA</td>
<td>An invitation for investigator-initiated or unsolicited applications for generic grant mechanisms (e.g., R01 or R03). Permits investigators to submit grant applications that may not necessarily fit with a specific program announcement or request for proposals</td>
</tr>
<tr>
<td>Program announcement</td>
<td>PA</td>
<td>A request for grant applications in areas of increased priority or emphasis. Program announcements have a 3-year life span with three annual receipt dates</td>
</tr>
<tr>
<td>Request for proposals</td>
<td>RFP</td>
<td>An invitation to submit applications for a contract by a specified deadline to meet a specific need, such as the development of an intervention to reduce health disparities among Latino(a) youth</td>
</tr>
<tr>
<td>Request for applications</td>
<td>RFA</td>
<td>An invitation to submit grant applications in a well-defined area of research by a specified deadline where there are funds set aside specifically for that area of research</td>
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*Note. NSF = National Science Foundation; NIH = National Institutes of Health.

<sup>b</sup>Noronha (2011).
and gain a sense for current interests of particular NIH institutes by reviewing the Research Portfolio Online Reporting Tools (RePORT) or contacting a program officer of a particular institute. Links to the NSF Update, RePORT, and websites to search for NSF and NIH award announcements are shown in Appendix A.

Grant writers need to keep in mind that the time between the announcement of a federal grant competition and its application due date is generally brief, typically only a few weeks or months apart. Thus, prospective grant writers are encouraged to contact program officers as early as possible when considering applying for a grant because they may provide some advanced notice of when grant competitions will be announced. Grant mentors are another good resource for assisting researchers in deciding which institutes and funding mechanisms best fit their research interests. Mentors may be able to provide contacts for program officers at specific institutes who can further help in the process.

**NSF Grants**

The NSF funds research and education in most fields of science and engineering, and with an annual budget of about $7 billion, accounts for about one fourth of federal support to academic institutions for basic research (NSF, n.d.-a). Funding opportunities are available across the career spectrum for graduate, postdoctoral, early/midcareer faculty, and senior researchers. The NSF is divided into seven directorates or areas of research funding: biological sciences; computer and information science and engineering; education and human resources; engineering, geosciences, mathematical and physical sciences; and social, behavioral, and economic sciences (NSF, n.d.-c). The directorates are further subdivided into divisions of more specialized funding. Two directorates—Education and Human Resources and Social, Behavioral, and Economic Sciences—are more relevant to counseling psychologists than the others. Several counseling psychologists have recently received funding from the division of Human Resource Development within the Education and Human Resources directorate. Counseling psychology colleagues from the University of Maryland and partners from other universities received funding through the Research on Gender in Science and Engineering (GSE) funding program for two projects related to Social Cognitive Career Theory (SCCT). The goal of one project was to conduct a meta-analysis of research utilizing SCCT as a framework for investigating women’s and underrepresented racial and ethnic minorities’ participation in Science, Technology, Engineering, and Math (STEM) fields. The goal of a second project was to use SCCT as a framework for understanding how women and men adjust to the STEM environment.
Counseling psychology colleagues from the University of Missouri–Columbia also received funding from the GSE program to investigate psychological variables that contribute to women and Latinos/as persistence and satisfaction in engineering programs and entry-level engineering careers. These same colleagues received funding from the Undergraduate Education division of the Education and Human Resources directorate to research psychological factors leading to White women and Latinos/as engineering students’ academic and career satisfaction, engagement, and persistence. Counseling psychologists from the University of Wisconsin–Milwaukee received funding from the division of Human Resource Development to use the SCCT framework to study attrition and persistence in engineering careers among men and women.

An NSF-wide program of funding that may be applicable to the research of counseling psychologists is called ADVANCE, which stands for Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers; the general goal of this funding is to increase the representation and advancement of women faculty in academic STEM careers (NSF, n.d.-b). The descriptions of various NSF funding programs and specific projects for which counseling psychologists have received funding make it evident that NSF funding opportunities will be of most interest to counseling psychologists conducting research or training in the career and vocational domain, and especially the STEM fields.

**NIH Grants**

The NIH is the largest funder of health-related research in the world and has an annual budget of approximately $30 billion, more than 80% of which is devoted to funding extramural research (NIH, n.d.-b). The NIH is composed of 27 institutes and centers that each have specific missions and research agendas. The institutes that are generally most relevant to the work of counseling psychologists include (in alphabetical order) the National Institute on Aging (NIA), NIAAA, National Institute of Child Health and Human Development (NICHD), NIDA, NIMH, and National Institute on Minority Health and Health Disparities (NIMHD). Funding mechanisms from each of the aforementioned institutes are available at career levels ranging from graduate students to senior scientists; selected mechanisms are discussed next.

**Training Grants**

NIH training grants and fellowships for pre- and postdoctoral trainees are highly prestigious financial support packages that typically include a stipend, tuition remission, and an appropriation for medical insurance (Weil, Nemes, & Munly, 2007). To increase the number of research scientists in health, fellowship awards
are designed to support specific learning experiences in health-related areas and research methods. For example, T32 training grants are awarded to an institution under the direction of a training director or principal investigator who then selects doctoral student trainees. These grants are intended for students interested in research careers relevant to the NIH mission and typically combine training in the form of course work, practicums, research project development, and manuscript writing (Cottler, 2007). Doctoral students who receive T32 traineeships are well prepared to be competitive for an F31 award to support dissertation work or an F32 postdoctoral award.

There are three different F31 grant mechanisms for individual predoctoral student applicants: The Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship, the NRSA Predoctoral Fellowship for Minority Students, and the NRSA Predoctoral Fellowship for Students With Disabilities. All three of these F31 grants are awarded directly to individual predoctoral student applicants who wish to obtain individualized, mentored research training from faculty sponsors while conducting dissertation research in health-related fields relevant to the mission of NIH (NIH, n.d.-g). F31 awards provide up to 5 years of research training and support and are meant to enhance the student’s potential to develop into an independent researcher. For example, a doctoral candidate in counseling psychology at the University of Missouri–Columbia received an F31 to develop and implement a text-message-based personalized feedback intervention to reduce alcohol use and alcohol-related problems among college students during a high-risk drinking event (i.e., tailgating). The training aims of the project included advanced training in the methodology of randomized clinical trial interventions, the science of technology-based interventions, and the analysis of longitudinal data. The goals of the training components of this project were to prepare the student for a career focused on developing and implementing brief motivational interventions to reduce alcohol use.

There are also Kirschstein (NRSA) Fellowship awards for individual postdoctoral applicants (F32 awards) that are similar to F31 awards in their purpose and function but are intended to support mentored postdoctoral research training in biomedical, behavioral, or clinical research. F32s provide up to 3 years of support for postdoctoral research training that help make trainees competitive for career development and research awards. More specific information on NIH training and fellowship mechanisms is included in Appendix A.

**Career Development Grants**

Career development awards, also known as the K-series awards, are typically designed for early career investigators to gain mentored research training to help them launch their independent research career (Boyce & Aklin, 2011).
For example, the purpose of the Mentored Research Scientist Development Award (K01) is to provide salary and research support for a sustained period of “protected time” for early career faculty to gain intensive research career development and training (Boyce & Aklin, 2011). This training would occur under the guidance of an experienced mentor to assist the awardee in launching an independent research career and in writing competitive grants (e.g., R01). The awardee is expected to devote a minimum of 75% professional effort to research for the length of the award, which is typically 3 to 5 years. In addition to the K01, NIH offers 12 other mentored career development programs designed to enhance the research careers of junior, midlevel, and senior investigators. For example, the K24 provides up to 10 years of support to midcareer clinical researchers (i.e., within 15 years of their terminal degree) in the form of protected time to devote to patient-oriented research (i.e., research in which the investigator directly interacts with human participants in the evaluation of therapeutic interventions) and mentorship of students, fellows, or junior faculty conducting similar research. Different from the aforementioned awards, the K05 Senior Scientist Award is intended to provide stability of support for recognized leaders in a field of study (Boyce & Aklin, 2011). Further information on these and other career development or K awards can be found via the websites listed in Appendix A.

Research Grants

Research grants are often investigator-initiated and designed to support specific proposed projects ranging from secondary data analysis to pilot studies to multiyear, multisite clinical trials. The proposed research can range from experimental to survey-based to patient-oriented. The NIH offers about 12 different research project awards through the R-series. The R grants are categorized as Research Project (R01), Small (R03), Exploratory or Developmental (R21, R34), Research Infrastructure and Educational Projects (R13, R15, R24, R25), Program Projects and Centers (P01, P20, P30, P50, P60), and Small Business (R41, R42, R43, R44). Because this article is written for the novice grant writer, we will focus on Small, Academic Research Enhancement Award (AREA), Exploratory/Developmental, and Research Project grants. Information on these and other types of research grants can be found via the websites listed in Appendix A.

Small Grants

Early career investigators or those with little prior grant experience often apply for Small Grants (R03) or Exploratory/Developmental grants (R21)
before applying for Investigator Initiated (R01) grants. Compared to R01
grants, the scope of these projects is more narrow, and their funding levels
are lower, making them good stepping stones to establish expertise in an
area, develop competence in managing funded projects, and determine the
feasibility of future research projects. The R03 is meant to support small
projects such as pilot or feasibility studies to test the viability of an idea for
a larger project or for secondary data analysis. These awards provide up to
$50,000 per year for up to 2 years and are nonrenewable. R03s are ideal for
new investigators who do not have extensive research experience or more
experienced investigators who are exploring a new area (Boyce & Aklin,
2011). For example, an early career counseling psychologist from the
University of Florida was successful in receiving R03 funding to support
investigations into the influence of minority stress on the mental health of
minority populations.

Exploratory and Developmental Grants

Another mechanism that is sometimes used for pilot or feasibility studies is
the R21 grant, which provides 2 years of funding and a maximum of $275,000
in direct costs. R21 awards are also commonly used as a way to fund the
development or preliminary testing of innovative research concepts or inter-
ventions before applying for funding to support a larger scale project or clini-
cal trial. For example, a counseling psychologist at the University of
Missouri–Columbia received R21 funding to assess the efficacy of a com-
puter-delivered personalized drinking feedback intervention among Operation
Enduring Freedom/Operation Iraqi Freedom veterans. Some senior investi-
gators apply for R21 grants to support their transition to a new area of
research. To the benefit of early career investigators, R21 applications do not
typically require preliminary data; however, it is important to keep in mind
that the inclusion of some preliminary study data usually enhances a grant
application from the perspective of a reviewer.

The R34 Planning Grant Program is intended to support the initial develop-
ment of a clinical trial or research project including establishing the research
team as well as developing the experimental design, protocol, recruitment
strategies, and data management tools. R34 grants are limited to 3-year proj-
ects with direct costs limited to $225,000 per year, and a total of $450,000
over the 3 years (Boyce & Aklin, 2011). For example, a counseling psychol-
ogy colleague from the University of Utah received R34 funding to develop a
computerized method for evaluating and providing feedback on therapists’ use
of empathy during Motivational Interviewing (MI) therapy sessions.
Academic or Research Enhancement Grants

Awarded to individual researchers, the R15, or AREA, is a special type of research grant designed not only to support the investigator’s research project but also to stimulate research and strengthen the research environment of academic institutions that have not been major recipients of NIH support (NIH, n.d.-d). Investigators must be sure that their institution, academic department, or college is eligible for an AREA grant by reviewing eligibility requirements as well as the list of ineligible institutions, via the website for AREA grants listed in Appendix A. AREA grants support smaller scale research projects for which preliminary data are not required. These grants provide individuals with up to 3 years of funding with a maximum of $300,000, and must include plans to expose and involve undergraduate or graduate students in the research. Although the grant must include plans to engage students in the research project, it is not a training grant or fellowship (NIH, n.d.-d).

Research Project Grants

The most competitive and prestigious NIH grant mechanism is the R01; this mechanism is used to support a distinct research project within the principal investigator’s established area of expertise that has a high likelihood to advance the science and knowledge in a field of research (Dewey & Hoot, 2008). There is no specified dollar limit to these awards, which are generally funded for 3- to 5-year periods; typical awards are for up to $250,000 per year. Applicants may submit investigator-initiated R01 applications or may submit applications in response to a specific PA or request for application (RFA). PAs are generally ongoing funding opportunities that are used by institutes to increase research in a specific area whereas RFAs are typically onetime application requests that focus on a specific research topic. In comparison with other R-series grants, R01s undergo a more rigorous review process and demand a higher standard of implementation than other grant mechanisms (Dewey & Hoot, 2008). These grants are often used to fund randomized clinical trials or other patient-oriented research but can be used to support a wide variety of proposed projects. For example, a counseling psychology colleague at Penn State University received R01 funding to investigate relationships among mothers’ behavioral and emotional regulation, dyadic interactions between mothers and their child, child maltreatment, and child emotional and behavioral outcomes using behavioral and neurophysiological assessments. The same investigator received subsequent R01 funding to support a randomized controlled trial of a parenting intervention for maltreating parents and their children.
The NIH encourages new investigators with the necessary skills and experience to apply for R01 awards and provides incentives to do so (Boyce & Aklin, 2011). For example, when scoring grant applications, peer reviewers are instructed to focus more on early and new investigators’ proposed approach rather than on the investigators’ track record and to expect less preliminary data than might be provided by senior investigators (NIH, n.d.-c). Each federal granting agency typically has its own definition of what constitutes a “new” or “early stage” investigator; therefore, applicants should read criteria carefully and speak with program officers to clarify. According to the most recent NIH (n.d.-c) guidelines, new investigators are those who have not competed successfully for a large grant (e.g., R01) whereas early stage investigators are new investigators who are within 10 years of their terminal degree.

**Loan Repayment Grants**

NIH offers loan repayment programs in five areas of research: clinical, pediatric, health disparities, contraception and infertility, and clinical research for individuals from disadvantaged backgrounds. These funds are not designed to support training or research. Instead, they can help researchers conducting NIH-relevant research in any of the aforementioned areas to improve their financial well-being by assisting with repayment of qualifying educational debt. To be eligible for a loan repayment award, investigators must be a U.S. citizens, conduct research in one of the five areas for 50% of their time (i.e., average of 20 hr per week) for at least 2 years, and have educational loan debt equal to or exceeding 20% of their base salary. Applicants selected for the program can receive funding for loan repayments of up to $35,000 per year (NIH, n.d.-b). It has been demonstrated that participants in NIH loan repayment programs stay in research careers longer, apply for and receive more research grants, and become independent investigators more frequently than do their colleagues who do not receive loan repayment funding (NIH, n.d.-a).

**Preparing and Submitting a Grant Application**

Once the grant writer has decided on which type of funding agency (foundation, state, or federal) and funding mechanism best fits the proposed research project, it is time to turn attention to the grant application itself. Good ideas do not sell themselves—counseling psychologists must convince reviewers to “buy” their idea. Although the format of grant applications varies across agencies, institutes, or foundations, for the purpose of this article we focus on the current NIH grant application format.
In preparing the NIH application, we recommend that grant writers keep the following in mind. First, they need to know that communicating with a Project Official (PO) at the identified institute(s) is an important part of the application process. In fact, grant writers are encouraged to contact POs early in the process because POs can be a great source of information on research ideas as well as the funding priorities of specific institutes (Kienholz & Berg, 2014). Novice grant writers can ask their mentors for assistance in identifying relevant POs at specific institutes and, if needed, make introductions. In contacting POs, it is helpful if the grant writer has drafted specific aims for the project that can be used as a springboard for a conversation (see the “Specific Aims” section). Second, grant writers can recommend a specific study section to review their application. POs can be a good resource for assisting the grant writer in identifying the most appropriate study section to review the application. Specific study sections and the names of its members can be found on the NIH’s Center for Scientific Review website (see Appendix A for the web link). This second point is important because grant writers can tailor their applications for specific study sections that may include citing publications of panel members who have a high likelihood of reviewing the application. Keeping these two things in mind will assist the grant writer in better preparing the application, to which we turn next.

NIH research grants use the Public Health Service 398 (PHS 398) grant application format; instructions and application pages can be found on the NIH website (see http://grants.nih.gov/grants/forms.htm). It is important to check the NIH website often because revisions to PHS 398 are made periodically, and the most current versions of the grant forms are always required for submission. In addition, grant application instructions will vary slightly depending on the specific funding mechanism (e.g., career development-K vs. investigator initiated-R award). Thus, it is very important to be aware of the grant application requirements for the specific funding mechanism from which funding is sought. We specifically focus on the R01 grant application format because it is one of the most commonly used and widely known and because most other NIH grant mechanisms (e.g., R03, R21, R34, K awards) use variations of this format. In addition, much of the NIH grant tutorial information on the Internet is based on the R01 format.

Reviewers provide criterion scores for five major research sections of the application and then an overall impact score. The five sections are as follows: significance, investigator(s), innovation, approach, and environment. Although most grant writers agree that the specific aims are the most critical component of the application (Russell & Morrison, 2010), it does not technically receive a separate score but is presented on one page immediately preceding the significance section. Data compiled in 2010 for more than 32,000
applications across all NIH institutes indicate that the approach \((r = .82)\) and significance \((r = .69)\) sections are the two most highly correlated with the overall impact score, followed by the innovation \((r = .62)\), investigator \((r = .56)\), and environment \((r = .49)\) sections (Berg, 2010). We provide descriptions for each of the aforementioned sections in the following paragraphs; however, due to space constraints, we expand on the areas that are most critical for grant writers to receive a good overall impact score. We strongly encourage readers to consult the resources listed in the NIH section of Appendix A for more detail and suggestions for preparing these sections.

**Specific Aims**

Most grant writers agree that the specific aims are the single most important part of the grant application (Lyman, Stanton, & Pequegnat, 2011; Russell & Morrison, 2010). This section is critical because it is one of the first things most reviewers will read, influencing how they see the remainder of the application. After reading the single page of specific aims, the reviewers should have an understanding and enthusiasm for the proposed project. In particular, the grant writer needs to clearly communicate to reviewers the public health problem the proposal is addressing as well as its significance, how the study being proposed will address it, and what the anticipated impact of the study findings will have on the scientific field. Some argue that the specific aims should be the first section written by grant writers because it will provide the road map for the remainder of the application (Russell & Morrison, 2010); however, another option is to write the research portion of the grant first and the specific aims last because the larger application will undergo many revisions prior to submission. Advice from experienced grant writers about how to write the specific aims abounds on the Internet and other print resources; however, a consistent formula for writing the specific aims is difficult to find. We present a general strategy for writing the specific aims suggested by Kienholz and Berg (2014). However, it is our intent that after reviewing different resources and working through their own drafts, readers of this article will develop their own strategy for developing a specific aims page.

Kienholz and Berg (2014) recommended that the first paragraph (“What”) of the specific aims page should clearly indicate the significance of the problem to be addressed by the proposed study. For example, counseling psychologists should determine the significant public health problem their study will address, such as adolescent substance abuse, posttraumatic stress disorder in veterans, or low academic achievement in students. The second paragraph (“How” and “Why”) should draw the reviewer in by explaining how the
The research team views the problem based on the scientific literature, and why the research team is uniquely qualified to successfully conduct the proposed study based on prior work in the area (Kienholz & Berg, 2014). Let us use the problem of adolescent substance abuse to further illustrate what should be included in the second paragraph. For example, a counseling psychologist with interest in this area may state that adolescent substance abuse is caused, in part, by deficits in consequential thinking such as problem-solving and decision-making skills; these causes have a clear basis in the literature. Furthermore, the research team has conducted prior work in this area and, therefore, is well qualified to conduct the proposed study. The findings are expected to move the field forward in unique ways. Evidence of prior work, such as citations, should be included in this paragraph to support the points being made.

The third paragraph (“How”) is concerned with how the significant problem presented in the preceding two paragraphs will be addressed in the proposed study; in general, an aim can be defined as the overall purpose, intention, or reason for the study (Kienholz & Berg, 2014). For example, one possible aim of the aforementioned study could be to test an intervention designed to improve consequential thinking in adolescents with substance use disorders. Some grant writers will also include corresponding objectives that outline how the study will be conducted. In other words, the specific aims will be achieved through the objectives, which are specific steps that will guide the study. Importantly, testable hypotheses should always be included and must be congruent with the specific aims (Dawes, 2011; Kienholz & Berg, 2014). Hypotheses are defined as the investigators’ proposed explanation for what will happen based on the aims of the project. Finally, the grant writer should clearly indicate how the anticipated outcomes of the study will have a significant impact on moving the field forward.

Examples of specific aims (and entire grant applications) can be found on various websites. The National Institute of Allergy and Infectious Diseases (NIAID) provides examples of highly scored applications on their website so that applicants can see what a funded proposal looks like (see Appendix A). Although the grant application samples on the NIAID website will not be in the content areas studied by most counseling psychologists, they are still helpful to review because the language used in specific aims sections should be written with minimal jargon and clearly communicate the message to a larger scientific audience. Thus, we recommend that novice grant writers ask their senior colleagues to review and provide feedback on their specific aims page, as this section will serve as the road map for the remaining application. If reviewers are not excited by the project within the first few paragraphs of the specific aims, it is unlikely that your grant will score well (Kienholz & Berg, 2014; Pequegnat, 2011).
Significance

The significance section should convey to reviewers how the proposed research will address a critical gap in knowledge and how the anticipated findings will advance the field beyond its current state. Kienholz and Berg (2014) cautioned against writing this section as a background or review of the literature and alternatively recommended focusing on the importance of the proposed research and how the anticipated findings will assist progress of the field. For example, the significance section for a clinical trial could focus on the gap that exists in a treatment for a specific disorder that has not been tested with a particular group. Then, the grant writer could indicate how the anticipated results of the study would move the field forward by providing clinicians a new treatment option that has been tested for a specific disorder among a particular client group. This type of presentation allows reviewers to see the significance of the study and the significant products that will be provided to the field from conducting the study. Grant writers should present the significance section as if the aims of the proposed project will be achieved because after reading this section reviewers should clearly understand why this project should be funded (Kienholz & Berg, 2014).

Investigators

The investigator section needs to convey to reviewers why the proposed team of investigators is the right one to conduct the research and achieve the desired aims (Kienholz & Berg, 2014; Sostek, 2011). In other words, it should be clear that the study team has the prerequisite training, skills, and experience to successfully bring the project to fruition. The team should be composed of investigators who have complementary expertise and, if possible, a prior track record of successful collaboration on related projects as evidenced by coauthored publications. Early stage investigators will need to demonstrate that they have the required experience and skill to lead a project or, if not, have included a senior investigator to mentor them in those areas in which they currently lack expertise. The number and areas of expertise of team members will vary depending on the scope of the project, but it is recommended that they include a statistician or expert in the proposed analytic method (Panter, 2011). It is not expected that individual investigators will have all of the knowledge, training, and skills necessary to conduct a grant project on their own, but as a whole, the project collaborators need to have the necessary expertise. Grant writers may include team members who are not at their home institution or individuals they have not worked with before. In these cases, it is important to include a letter of support that documents the
commitment and anticipated contribution of the individuals to the team. After reading this section, reviewers should feel confident that the appropriate research team is in place to successfully achieve the aims of the project.

**Innovation**

This section needs to convey how the proposed project will perform or produce something novel (e.g., different from the status quo; Kienholz & Berg, 2014; Sostek, 2011). A helpful question for grant writers to consider when developing this section is, “How is this project novel in its approach, concepts, or the anticipated impact it will have in the field?” For example, some projects may utilize a new methodological approach to investigate a significant health problem whereas others may produce new clinical intervention strategies for a treatment-resistant disorder. Grant writers can make the reviewers’ job easier by using headings to indicate the type of innovation that will be achieved (e.g., technical, methodological, conceptual, applied, clinical) in the proposed project (Kienholz & Berg, 2014). Typically, this section will be shorter than the others (a few paragraphs), but its length will depend on the nature of the project being proposed.

**Approach**

The approach is generally the longest section of the research portion of the grant application because it needs to include a clear description of the methods that will be used to conduct the proposed project (Berg, 2010; Kienholz & Berg, 2014). Reviewers will want to see that each of the aims is addressed through a sound and rigorous methodological approach that allows for testing of the stated hypotheses. Although there are many important components to address in the approach section, space permits us to highlight only four of them here.

First, a feasible study timeline should be included that details the timing and duration of key research activities (e.g., recruitment, assessments, intervention, analysis) over the course of the entire project period (Russell & Morrison, 2010). Including a timeline informs the reviewers that the investigator has thoughtfully considered key components of the project and how they fit into the overall goal of the project. One option is to present the project timeline in visual form such as a Gantt chart (see www.gantt.com) or Excel table (examples/templates can be found on the Internet) that outlines key activities to be completed by month and year covering the entire grant project period. This type of visual timeline provides reviewers with a quick way to estimate the feasibility of the project given the length of grant funding.
Second, a clear description of the relevant preliminary studies conducted by the research team should be included (Kienholz & Berg, 2014). Findings and publications from preliminary studies provide a strong foundation for a proposed project and, more importantly, provide evidence that similar prior work has been conducted by the team. This information allows reviewers to see how the proposed study will move the researcher’s agenda forward based on their prior work and how it fits into a larger body of research. In addition, the use of specific methods that were successful in prior studies (e.g., participant recruitment plan) can be mentioned to provide further evidence that the goals of the proposed project can be achieved.

Third, a solid recruitment plan that clearly conveys who the participants are, where they will come from, how they will be invited to take part in the research, and what they will receive (e.g., exposure to an intervention, monetary compensation for completing assessments) for participating in the project (Kienholz & Berg, 2014; McKay, Bell, & Blake, 2011; Szapocznik, Pequegnat, & Prado, 2011) needs to be included in the approach. For the adolescent substance abuse study example mentioned previously, the recruitment plan would include that participants will (a) be adolescents who identify as Latino/a between the ages of 13 and 18, (b) be recruited from school and juvenile justice settings (specific locations described), (c) be invited to take part through a referral process (specific procedure described), and (d) receive an opportunity to participate in a 10-week intervention (detail of intervention included) and be compensated for completing the assessments (detail of payment and assessments included). It is also important to clearly indicate the inclusion and exclusion criteria for participants (Kienholz & Berg, 2014).

Grant writers should be upfront about any challenges anticipated for the recruitment plan (or any portion of the project for that matter). Applications typically include a brief section titled something such as “Possible Challenges to the Approach” that describes potential key challenges and strategies for overcoming them. Grant writers who have conducted prior studies similar to the one proposed in the application will have an advantage because they can anticipate where problems may lie and how to realistically address them. For example, one of the authors, Burrow-Sánchez, conducts work with adolescents and their families. One of the challenges in working with this population is scheduling (e.g., assessments, treatment sessions), and he knows from experience that scheduling adolescents will be more successful during afternoons, evenings, and weekends because of school and work schedules. Thus, one of the challenges to recruitment would include scheduling adolescent and parent participants for the intervention and assessment portions of the project. Strategies to overcome these potential obstacles, such as scheduling during times that are convenient for participants (i.e., evenings, weekends), would be
described. Types of evidence that will help mitigate reviewer concerns for participant recruitment and retention plans include letters of support from recruitment sources (e.g., community agencies, schools, medical clinics), a prior history of collaboration with recruitment sources for which similar participants were recruited, and documentation of recruitment and retention rates from prior studies. As space permits on the application, a consort-type flow chart (see http://www.consort-statement.org/) can be included to provide a visual of participant flow through the proposed study. After reading the recruitment portion, reviewers must be convinced that the study team has the experience, skills, and prior track record that will allow them to successfully recruit and retain participants for the proposed project.

Finally, specific and testable hypotheses that are driven by the aims of the study need to be included (Dawes, 2011; Panter, 2011). Each hypothesis should have a corresponding analytical plan that includes the variables and statistical procedures that will be used to test it. The statistical member of the research team should be involved in writing this section of the approach, in part, because grant review panels contain experts in statistics who will look for any weaknesses in the analytical plan (Panter, 2011). A description of the power analysis that was conducted for the proposed study should also be included in this section. A well-conducted power analysis will provide justification for the size of the sample to be recruited; this is especially important in clinical trials because reviewers will see recruiting too few participants as a waste of resources and recruiting too many as placing undue burden on more participants than necessary to achieve the aims of the study. For these reasons, we strongly recommend that grant writers spend the time necessary to develop strong hypotheses and corresponding statistical plans for testing them. We acknowledge that this section is biased toward quantitative analysis; however, a qualitative approach is another option for the grant writer to consider for the approach section (Bentley, Tolley, & Pequegnat, 2011). The four components of the approach discussed previously are by no means an exhaustive list of what needs to be covered in this section. Therefore, we encourage the reader to consult additional resources (see Appendix A) and obtain copies of successful grant applications for more information.

**Environment**

The environment section needs to demonstrate that the principal investigator’s home institution has the required resources for successful completion of the project (Kienholz & Berg, 2014; Sostek, 2011). Grant writers should think broadly about resources and not assume that reviewers will know what each institution has at its disposal. Resources may include physical facilities
(e.g., office and research space), personnel (e.g., administrative staff), the computing environment (e.g., hardware, software, IT support), and institutional resources (e.g., libraries, relevant research institutes, university medical centers). If the project will need to utilize off-campus or community resources for participant recruitment, then the grant writer should include a description of these facilities and the relationship the study team has with them. The inclusion of letters of support from university administrators (e.g., chairs, deans), community collaborators, or other key people will bolster this section and provide further evidence that the investigator’s research environment is supportive of the study aims being achieved.

We provided a description of the major research sections of a grant application. These are only part of the total number of components that are required for a complete grant application. For example, an R01 application is restricted to one page for specific aims and a total of 12 pages for the remaining research sections (i.e., approach, significance, innovation, investigators, and environment), but the complete grant application can be well over 100 pages after all of the other required elements are added (e.g., required forms, detailed budget, bio sketches, appendices). For this reason, it is a good idea for the applicant to review successful grant applications to understand what the final product will require. In addition, grant writers should seek assistance in developing, compiling, reviewing, and submitting all the required elements of an application from grant specialists such as those available through an Office of Sponsored Projects. After the application is submitted, grant writers will then need to consider the potential outcomes. This area is discussed next.

Managing Potential Application Outcomes

On the surface, it would seem that there are two potential outcomes after submitting a grant application—it is funded or not. Although this is largely true, the reality is slightly more complex. In the next sections, we briefly describe the most likely potential outcomes after a grant is submitted and highlight specific strategies that an investigator might use when navigating this process.

After Submission

After the grant has been submitted it is time to wait—sort of. Although there are several months between submission and review at institutions like the NIH, there are still several things that can be done to increase the chances of a grant application being funded. Therefore, new applicants, in conjunction with their university, will create an eRA Commons account during the
submission process. First, applicants can check their eRA Commons account to make sure the grant made it to the NIH and is scheduled to be reviewed, noting when the actual review committee will meet. Second, applicants should make sure their grant was assigned to the scientific review group (SRG) that was requested in the cover letter; applicants can request specific SRGs that are most relevant for the proposed research and are encouraged to do so (Russell & Morrison, 2010). On occasion, a grant can be assigned to an SRG that may not be appropriate, which is another reason for the applicant to track the progress of the grant application through the NIH system. Reviews (also called a summary statement) are generally available shortly after the SRG meets, and are usually released in order of their competitiveness; that is, reviews for the higher scoring grants within that competition will be available more quickly.

Funded

Of course, receiving funding is the best-case scenario. Some funding agencies may simply send notification that a proposal is funded. However, funding decisions with larger agencies, such as the NIH, are not straightforward. At one end of the spectrum, a proposal is in a good position to be funded if it receives a very high score (e.g., for the NIH, a “10” is the best possible impact score), has a good percentile rank (e.g., 4th percentile), and receives positive reviews, noting only minor weaknesses. A publication corollary might be an “accept pending minor revisions,” in that there are still a few things to do to make sure the project moves forward. Given the aforementioned scenario, and assuming no bureaucratic issues arise that may negatively influence the outcome (e.g., government shutdown), it is time for the applicant to start thinking about moving forward with the research project so that it is ready to commence when funds are disbursed. Specific tasks might involve an applicant informing a department chair of the positive outcome and beginning discussions regarding course buyouts and reductions in administrative responsibilities so that adequate time can be devoted to the project. For example, in the department of two of the authors, Burrow-Sánchez and Imel, course buyouts cost 15% of the investigator’s salary; thus, this expense should be considered in the overall budget of the grant. Furthermore, the applicant should balance the number of course buyouts realistically needed to conduct the project with the instructional needs of the program and department. Some departments will have guidelines in place that specify the maximum number of course buyouts for grants. It is also good for the applicant to keep in mind that grant budgets are frequently reduced prior to being awarded; thus, adjustments to the scope of work may be required. There will be other
tasks required by the funding agency such as securing institutional review board (IRB) approval, collecting human subjects training documentation for the study team, and updating other support documents. At the NIH, this is called “Just in Time” Information—the applicant is typically given very little time to submit these documents. Ideally, IRB applications should be submitted prior to receiving reviews.

“Good Score” and Revisions

More likely than the aforementioned scenario is that a grant application is scored or “discussed” (i.e., your grant surpassed some minimum threshold, usually above the 50th percentile), but it is not entirely clear that the project will be funded. In this case, the grant writer can look up the meaning of the score and percentile for the specific agency and try to ascertain if the application will be fundable in the current fiscal year. For example, if an NIH institute typically funds grants at or above the 12th percentile and the application was scored at the 12th percentile, the investigator will likely be on the cusp of being funded. If a grant application is scored, but the actual score and percentile are well below typical cutoffs, then the grant writer will have the opportunity to resubmit, which is strongly encouraged. This will involve contacting the program officer to discuss revision priorities, and making changes to the application based on reviews. This is the time for the grant writer to consider what aspects of the application can be stronger and attend to them prior to a resubmission, for example, “Are there preliminary papers that could be submitted, published, or presented prior to the next submission deadline that will strengthen the application?” “Were the aims clear, sufficiently innovative, and reasonable or do they require revision?” and “Do I have the necessary letters of support from all key collaborators in the application?” The grant writer should consider this to be a revision rather than an overhaul of the application.

Not Funded

In NIH parlance, this is likely indicated by the application not receiving a score or “not being discussed” (i.e., it was in the lower half of submitted grants). This outcome is disappointing, but it is important for novice grant writers to keep in mind that the current funding environment is very competitive, with about 15% of new R01s and 16% of all NIH grants being funded in 2014 (NIH, n.d.-f), resulting in many worthy projects not receiving funding. Consequently, the commitment and persistence of the grant writer are crucial for eventual success.
Potential reasons for an application not receiving a score include a mismatch between the goals of the proposal and those of the institute, administrative errors (e.g., requesting a budget that is over the maximum allowed cost), or problems identified by the reviewers in the research sections. In the latter case, it is important to understand the primary concerns identified by the reviewers. For example, the reviewers may have identified fatal flaws in the design or may not have considered the overall idea innovative. Reviewers may have also found the research team lacking in some way (e.g., another member needed with statistical expertise) or that the application did not include sufficient description of the pilot studies conducted. In our experience, flaws in the design are the easiest to address, whereas questions about the goals and aims of the proposal are more difficult, as they can necessitate an extensive reworking of the idea—or potentially dropping the idea entirely and moving in a different direction. Talking with POs at this point can be especially important for grant writers, as POs may be able to provide suggestions for how the project can be revised and aligned with the current funding priorities of the institute. Early stage investigators can also increase their competitiveness prior to the next submission by submitting relevant papers to top-tier journals (e.g., publishing pilot studies described in the application), pursuing pilot funds from other sources (e.g., universities) and including pilot data in the revision, as well as by collaborating with senior researchers who can add the needed expertise for the application. Fortunately, the NIH recently changed its policy so that a proposal based on the same idea can be submitted more than one time (see http://grants.nih.gov/grants/policy/amendedapps.htm for additional details on multiple resubmissions), which is important for early stage investigators, as multiple resubmissions of an application may be needed prior to the study being funded.

Conclusion

Counseling psychologists have unique skills and expertise in areas of research that readily lend themselves to a variety of funding opportunities. A lack of exposure, training, and mentorship in grant writing along with the limited number of grant-funded research appearing in counseling psychology journals can misguide doctoral students and counseling psychologists into believing that their research is not fundable or leave them feeling bewildered about how to get started applying for grants. By discussing various types of funding, how to develop projects that fit within one’s area of interest and the priorities of various funding agencies, how to locate funding sources and choose the appropriate funding mechanism, and how to craft a grant application, we intended to provide counseling psychologists with some of the knowledge and resources necessary to translate thoughts of funding into actions toward obtaining their
first grant (see Appendix B for a summary of tips for success). It is our hope that this guide will encourage more counseling psychologists to seek grant funding that will enable them to pursue new or bigger ideas that will expand their program of research and advance the broader fields of vocational psychology and career development, diversity and social justice, prevention, and health and health disparities, to which we have so much to contribute.

Appendix A

Grant and Fellowship Resources

Extramural (Federal) Grants

Grants.gov: http://www.grants.gov/

National Institute of Allergy and Infectious Diseases website for sample applications: http://www.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx

National Institutes of Health Center for Scientific Review

- Applicant Resources: http://public.csr.nih.gov/ApplicantResources/Pages/default.aspx
- Early Career Reviewer (ECR) Program: public.csr.nih.gov/ReviewerResources/BecomeARevieuer/ECR/Pages/default.aspx
- Find a Study Section: http://public.csr.nih.gov/StudySections/Pages/default.aspx

National Institutes of Health Office of Behavioral and Social Science Research: https://obssr.od.nih.gov/funding/

- Summer Institute on Randomized Behavioral Clinical Trials: http://obssr.od.nih.gov/training_and_education/annual_Randomized_Clinical_Trials_course/RCT_info.aspx

National Institutes of Health Office of Extramural Research: http://grants.nih.gov/grants/oer.htm

- Regional Seminars on Program Funding and Grants Administration: http://grants.nih.gov/grants/seminars.htm
Current Funding Opportunities and Notices: http://grants.nih.gov/grants/guide/
Funding Announcement e-mail alerts: http://grants.nih.gov/grants/guide/listserv.htm
Research Portfolio Online Reporting Tools (RePORT): http://report.nih.gov/
Career Development Awards (K awards): http://grants.nih.gov/training/careerdevelopmentawards.htm
Research Project Grants (R awards): http://grants.nih.gov/grants/funding/funding_program.htm#RSeries
  ○ R15 AREA grant requirements: http://grants.nih.gov/grants/funding/area_ineligible.htm

National Science Foundation: http://www.nsf.gov/funding/
  ○ Funding Opportunities by career level, topic and due date: http://www.nsf.gov/funding/
  ○ Award Search: http://www.nsf.gov/awardsearch/
  ○ E-mail alert service: https://service.govdelivery.com/accounts/USNSF/subscriber/new

The Centers for Disease Control and Prevention: http://www.cdc.gov/grants/

Extramural (Private Foundation) Grants


The Ford Foundation: http://www.fordfoundation.org/Grants

The Foundation Center: http://foundationcenter.org/

W. K. Kellogg Foundation: https://www.wkkf.org/

William T. Grant Foundation: http://wtgrantfoundation.org/

Extramural (State) Grants

The Grantsmanship Center: https://www.tgci.com/funding-sources
Fellowships

ACLS/Mellon Dissertation Completion Fellowships: http://www.acls.org/programs/def/


Ford Foundation Dissertation Fellowships: http://sites.nationalacademies.org/PGA/FordFellowships/PGA_047959

Ford Foundation Predoctoral Fellowships: http://sites.nationalacademies.org/PGA/FordFellowships/PGA_047958


National Science Foundation Graduate Research Fellowship Program: http://www.nsfgrfp.org/

Paul and Daisy Soros Fellowships for New Americans: http://www.pdsoros.org/


The Social Science Research Council International Dissertation Research Fellowship: http://www.ssrc.org/fellowships/idrf-fellowship/

Funding Opportunities for New and Young Faculty

- http://www.spo.berkeley.edu/fund/newfaculty.html

Grant Writing Resources

Foundations

• Proposal Writing: http://foundationcenter.org/getstarted/learnabout/proposalwriting.html
• Proposal Writing Short Course: http://foundationcenter.org/getstarted/tutorials/shortcourse/

General


National Institutes of Health

• Grant Writing Tips Sheets: http://grants.nih.gov/grants/grant_tips.htm

National Science Foundation


Postdoctoral Training

Appendix B

Tips for Success in the Grant Process

- Write down grant ideas and then bounce it off colleagues—any idea could be the basis of a future grant application.
- Know that a different take on an already established idea often gets funded, whereas high-risk ideas rarely get funded.
- Believe that you are not too young or inexperienced to write your first grant application, with the right team of collaborators.
- Attend grant writing workshops at conferences or universities as early as possible to learn how to write successful grant applications and to network with funders.
- Develop a relationship with a program officer when thinking about writing a grant and consult that person regularly throughout the writing, submission, and review process.
- If possible, negotiate a reduced teaching or service load to allow you more time to devote to writing a strong grant application.
- Write for an educated lay reader.
- Presentation of the proposal can make all the difference—be sure the proposal is well organized with section headings, written clearly with logical transitions between sections, and uses tables, figures, and diagrams where possible.
- Write the Project Summary/Abstract/Overview section of the proposal as if it is the only thing a reviewer will read, because it may be!
- Know the literature relevant to the proposed idea—it can pay to cite the work of review committee members. You can find the membership of the Scientific Review Group that will evaluate your application on the National Institute of Health website.
- Accentuate the positives and strengths of your idea and research team in the application, being careful not to let any insecurities or negative thoughts seep in.
- Do not overdo the budget; aim for an amount that is just enough to complete the project well.
- Become familiar with the review process and scoring criteria of the funding agency and keep them in mind while writing the proposal.
- Do not be afraid to acknowledge potential problem areas in the proposal and be sure to provide potential solutions.
- Be sure that your proposal gets to the right review committee; review the roster, talk to colleagues, and consult with the program officer.
• Complete the grant proposal at least six weeks in advance and give it to a trusted colleague to review and critique.
• Ask experienced colleagues to read reviews of your proposal. Program officers are helpful in clarifying or interpreting critiques of the proposal.
• Do not take criticism of your proposal personally.
• Do not be afraid to fail—funding on a first submission is rare, and resubmissions to the same or another funding agency are common.
• Know that grant writing, regardless of whether the proposal is funded, enhances your career.
• Try, try, and try again. Persistence pays off in the grant process.

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**Author Biographies**

**Jason J. Burrow-Sánchez**, PhD, is a professor of counseling psychology in the Department of Educational Psychology at the University of Utah. His research interests include the prevention and treatment of substance abuse problems for adolescents in school and community settings, with a particular interest in Latino adolescents.
Jessica L. Martin, PhD, is an assistant professor in the Department of Educational and Counseling Psychology, Division of Counseling Psychology, at the University at Albany–SUNY. Her research interests are in psychosocial risk and protective factors, as well as cultural variables associated with health-related and addictive behaviors among diverse populations. She is particularly interested in substance use among college students, including prevention and intervention efforts to reduce heavy and problematic college student drinking.

Zac E. Imel, PhD, is an assistant professor of counseling psychology in the Department of Educational Psychology and an adjunct assistant professor in the Department of Psychiatry at the University of Utah. His research involves the study of psychotherapy process and outcome with a particular focus on the use of advanced technology to evaluate therapist and client interactions.