

interdisciplinary centers are replacing disciplinary research, and the complexities of their management are many, including but not limited to knowing how to manage the quality of work.

Nonetheless, the conduct of personally developed research by a team is one of the most rewarding parts of a university or R&D life. It is the lifeblood of what scholars do, is essential to developing our students, and contributes strongly to our ability to understand phenomena that may lead ultimately to impact in the field. Despite the cautions and the conundrums, I highly recommend it.

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Diversifying Your Funding Portfolio

The Role of Private Funders

Susan M. Fitzpatrick and M. Brent Dolezalek

Securing external funding in support of their research program has become part of the job description for academic faculty. In this chapter, we hope to provide researchers in the psychological sciences with some insights into the grant-making mechanisms and priorities of a subset of private funders likely to come onto the radar of researchers looking to identify potential sources of support. The types of funders we concentrate on in this chapter are (1) independent and family foundations, for example, the James S. McDonnell Foundation and (2) disease-specific public charities, also called voluntary health organizations, such as Cure Autism Now. For simplicity's sake, we will refer to these organizations within this chapter collectively as "foundations." However, it is important to remember that these two categories of foundations have very different structures and that within these two categories each individual funder is more different than similar.

In general, independent and family foundations disperse in the form of grants an Internal Revenue Service-mandated percentage of the income generated from an endowment, much like the way colleges and universities use income generated from endowments to fund projects and programs. Public

charities support research with funds raised from a large number of donors through a variety of mechanisms including events, donor solicitations, and corporate sponsorship. This chapter does not address the research support provided directly to institutions or to individuals by high-net-worth individuals (known as Major Donors in development-office speak), by venture funds, or from corporate foundations. Using the James S. McDonnell Foundation as a model, we also concentrate on private funders that use advertised requests for applications/requests for proposals with specific application guidelines rather than private funders who tend not to engage in strategic programmatic giving but rather make grants to institutions with which they have special relationships. In general, foundations in the latter category communicate directly with senior university officials and rarely consider unsolicited applications.

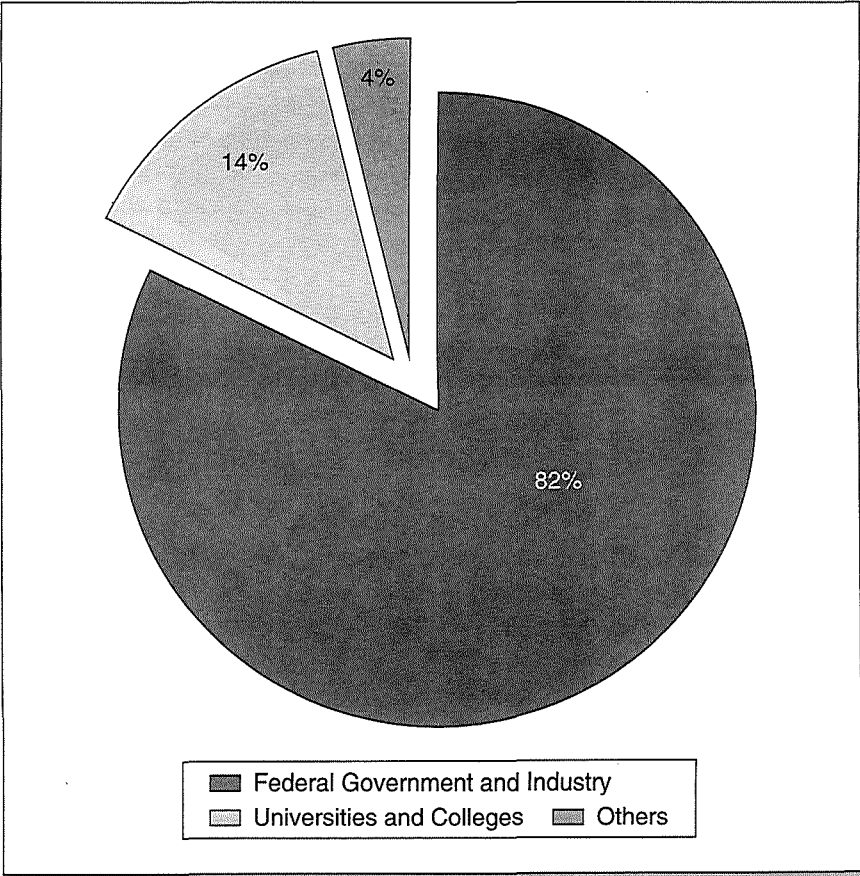
The chapter presents general principles for approaching foundations and offers guidance about how to discover the individual characteristics of a foundation that will be important to consider prior to application or proposal preparation. The information presented in this chapter comes with an important caveat: We are providing you with our perspective of how private funders operate based mostly on our own experiences as program officers at the James S. McDonnell Foundation. Needless to say, private funders are highly individualized and idiosyncratic. The most important take-home message of this chapter is the following: Success at receiving support from private funders means taking the time to investigate a foundation's history, philosophy, and personality and taking what you learn seriously when making a decision to move forward with an application.

The fact that private funders are like snowflakes in that no two are alike in the way they identify and select projects to support can naturally lead to frustration on the part of applicants, who may feel that they are already spending too much time searching for funding. On the positive side, however, the diversity of interests and decision making creates the opportunity that ideas early in their inception or projects that depart from the reigning dogma or from the status quo could get a sympathetic reception. But, this tension does mean you have to be smart about the way you approach foundations.

To help you better understand the role private funders can play in the overall support of your research, it is important that we place foundation funding in the more general context of overall support for research in the United States. Suffice it to say, and this underscores the importance of the advice we provide later in this chapter, foundations account for a tiny sliver of the overall funding pie. For investigators searching for funds, foundation dollars can be an important sliver, but their scarcity requires that for your search to bear fruit, it must be targeted and specific.

In 2009, the most recent year for which complete figures are available, the United States invested \$400.5 billion in research and development. Federal government and industry funds accounted for 82 percent of the total expended while universities and colleges represent 14 percent (Figure 14.1). The remaining 4 percent (\$17.5 billion) is the research and development expended by nonprofit institutions. Although the absolute value of these numbers can change from year to year, the percentages have remained fairly constant for the past two decades. It is important to point out that the \$17.5 billion sliver also represents nonprofit support for *all* science. Psychology (or for social/behavioral research) has traditionally represented a small percentage of foundation support for science. Unfortunately, in this way, foundations are

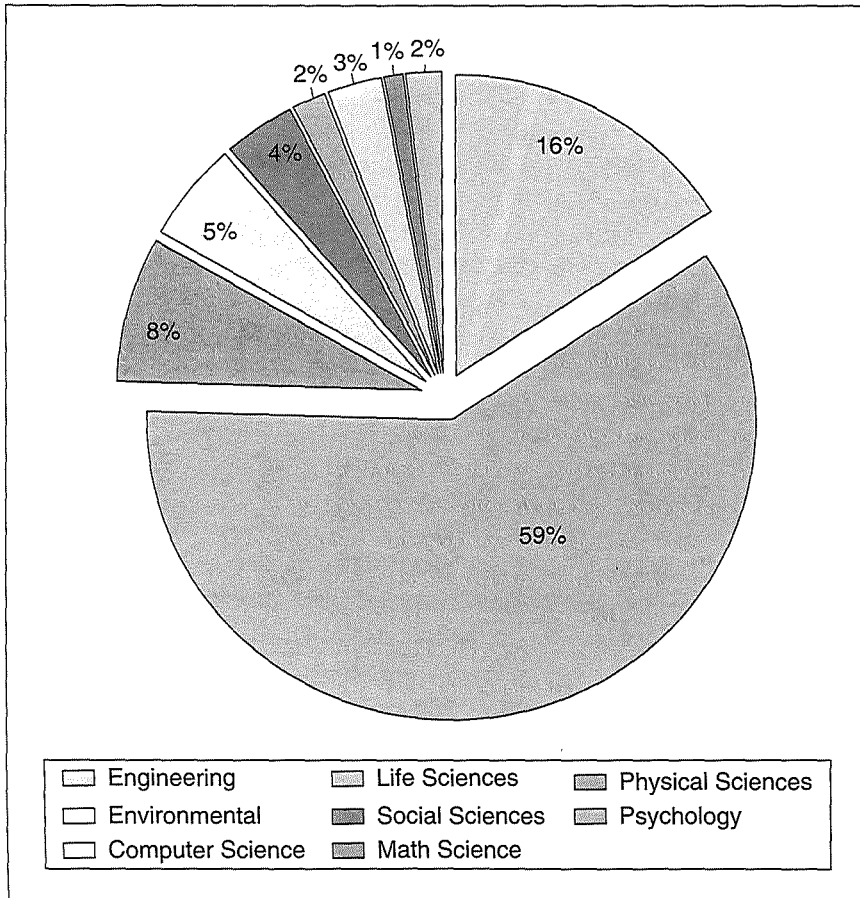
Figure 14.1 \$400 Billion U.S. Investment in Research and Development for 2009 (National Science Board, 2012)



mirroring a reality also true of the federal funders (Figure 14.2; Britt, 2010). Taken at face value, these numbers might be very discouraging for researchers looking to foundations to make up the shortfall in their budgets. The numbers could suggest that foundations are of minor importance in the past and future development of U.S. science and technology and of only minor interest to academic researchers tasked with raising external sources of support for their research programs. The numbers, however, do not tell the entire story.

Before we become too discouraging, we think it worthwhile to introduce a historic digression so we can put private funding for scientific research into a context that tells a more interesting story and one not captured solely by

Figure 14.2 \$55 Billion of R&D Funds for Science and Engineering at Universities and Colleges, 2009 (Britt, 2010)



the numbers. In the first few decades of the 20th century, prior to the establishment of large government-sponsored funding agencies, private philanthropy was a major contributor to scientific research. Since World War II, however, the dollar amounts contributed by private foundations to scientific research, as indicated earlier, account for a small fraction of the total national investment. Yet, an examination of what American philanthropy has done, currently does, and might do in the future to sustain academic research suggests that looking only at relative dollar amounts *does* not tell the whole story. Foundations, by strategically and creatively looking for opportunities, have been and can be essential to the development of American science (Kevles, 1992; Kohler, 1991; National Research Council, 2006). Foundations have been and are the source of valuable “venture funds” used to launch new careers, new ideas, and even new academic disciplines.

Identifying a Niche

One of the ways foundations make an impact with limited funds is by carefully targeting funds in such a way that even modest investments could yield significant returns. A side benefit of establishing a well-defined niche is that doing so can create a natural limit to the number of applications submitted. Foundations typically award a small number of grants. As anyone whose research deals with signal-to-noise problems knows, it is very difficult to make principled decisions when selecting a few grantees from a large number of applications. It is important for potential grant seekers to understand that foundations that craft initiatives and specify their funding niche are very likely getting more fundable proposals than the available dollars can support. It is highly unlikely for a foundation to fund a proposal that falls outside the publicly stated areas of interest or outside of the published guidelines. Each foundation used different criteria to help carve its niche, but a few of the common strategies employed by foundations include the following:

- Narrowing topically—identifying areas within a broad topic that tend to be underfunded and underresearched. A foundation interested in memory disorders, a rather large space, might target their giving to research focusing what is known about memory functions and what keeps elderly seniors able to live independently.
- Selecting a rung on the career ladder—many foundations define their funding space by limiting support to applicants at particular career stages. Foundations tend toward supporting early career scientists (trainees or junior faculty), considering an investment at the start of a research career as likely to yield returns throughout a researcher’s professional life span.

- Bridging the gaps—foundations have a history of success formalizing “informal colleges” by providing support for new research questions emerging from the edges of traditional academic disciplines and by supporting research questions requiring concepts and methods from multiple disciplines.

It is easy to see how foundations develop funding schemes using such strategies. A grant seeker doing investigative homework should not be surprised to read of a foundation program targeting junior investigators working on a defined set of questions requiring research integrating concepts and tools from multiple academic disciplines. In your search for potential funders, it may very well be true that no foundation occupies the niche you have carved for yourself. Our advice: Do not try to force a match when there isn't one.

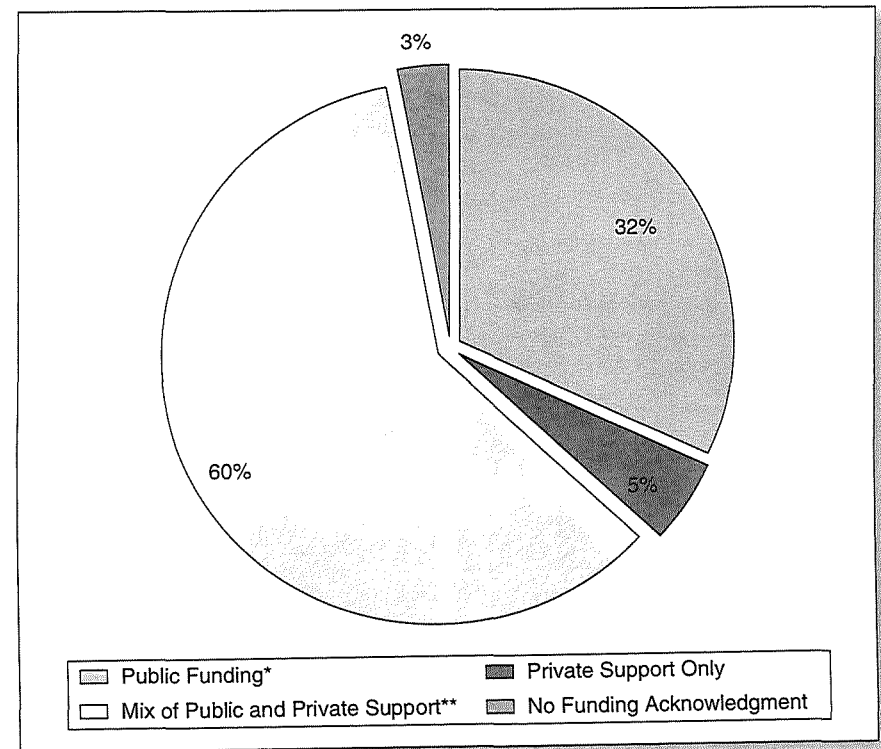
The Psychology Funding Landscape

There was a time in the not so distant past when psychology faculty could typically support their research programs with a base of institutional support supplemented with one or two grants from a federal funding agency, typically the National Institutes of Health (NIH) and/or the National Science Foundation (NSF). Although there may be a few isolated Ivory Towers left, in today's tight funding climate and era of diminishing institutional support, it is increasingly likely that psychology researchers will need to become more entrepreneurial and *extramural* when it comes to garnering research support. As is already true for the biomedical sciences, building and maintaining a robust and successful research program is likely to require assembling a diverse array of funds composed of grants from federal, institutional, and private sources together with some investment or sponsorship from the corporate or for-profit world.

A decade ago, while analyzing private support for scientific research, the James S. McDonnell Foundation examined the acknowledged sources of support for articles published in 34 issues of the weekly journal *Science* selected from all issues published between August 1998 and June 1999. Typically, foundations are interested in funding research early in its inception, and we were curious to see if there would be much overlap in the papers acknowledging private support versus public. We were somewhat surprised to find that 42 percent of the more than 530 research articles identifying their sources of research support reported several funding sources with some funding from private donors in their acknowledgments. Limiting the analysis to articles characterized as biomedical and life sciences pushed the percentage of papers acknowledging some private support to greater than 50 percent. The message we took away from this data is that, at least

in some fields, diverse sources of funding were increasingly becoming the norm. More recently, we decided to take another look at this rather simple metric in the limited context of neuroscience. We performed the same analysis on a smaller set composed of the 124 research articles published in *Nature Neuroscience* between 2003 and 2008. From the acknowledgments section of each article, we counted the number of papers acknowledging financial support from public funders only, a mix of public and private funding sources, private funders only, and no sources. We also noted how many papers acknowledged support from funders representing more than one country. The findings are summarized in the pie graph in Figure 14.3.

Figure 14.3 Funding Source Acknowledgments for *Nature Neuroscience*, 2003–2008



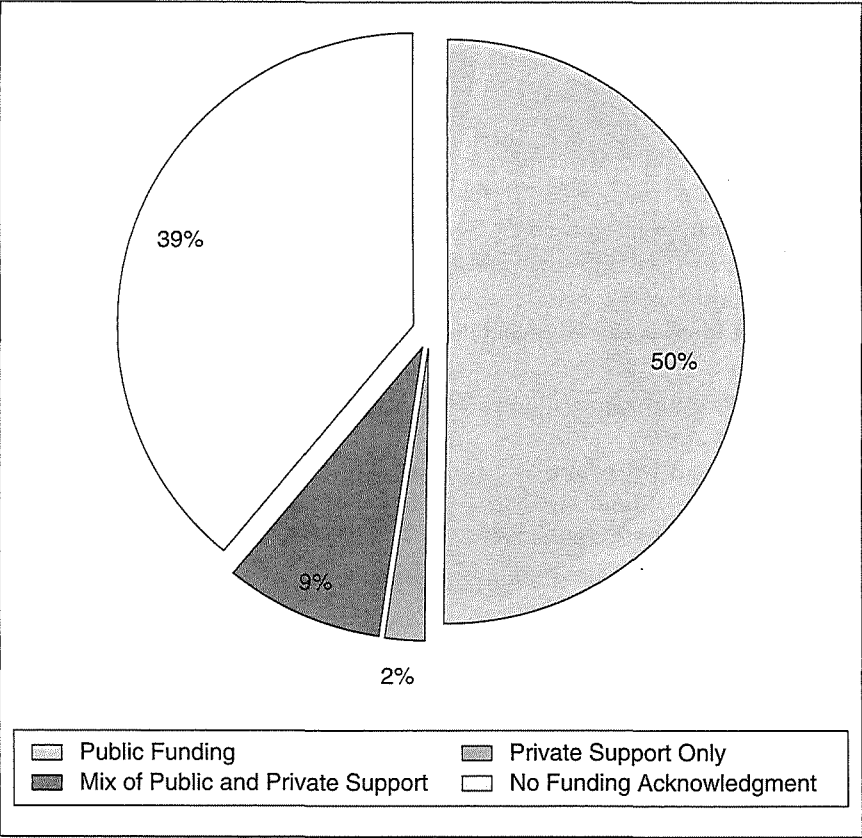
Source: *Nature Neuroscience* (11 journals, 124 articles from 2003–2008).

*Six included a mix of international public sources;

**Thirty-one acknowledged a mix of international funding sources.

Considering it might be interesting for the purposes of this chapter to see how the pies would look in the context of psychology, we performed the analysis with a one-year snapshot from two journals, a classic psychology journal, *Psychological Science*, and the *Journal of Cognitive Neuroscience*, representing a fast-growing research discipline closely allied with departments of psychology (Figures 14.4 and 14.5). Granted, the analysis selects a minuscule sample of all the psychology research papers published annually, and we would probably be wise not to make too much of it. Still, the results are intriguing. A quick glance demonstrates that psychology research might be lagging biomedical and neuroscience research in diversifying its funding base. Perhaps the most surprising finding comes with comparing the data from *Psychological Science* with the other journals we coded. We would not

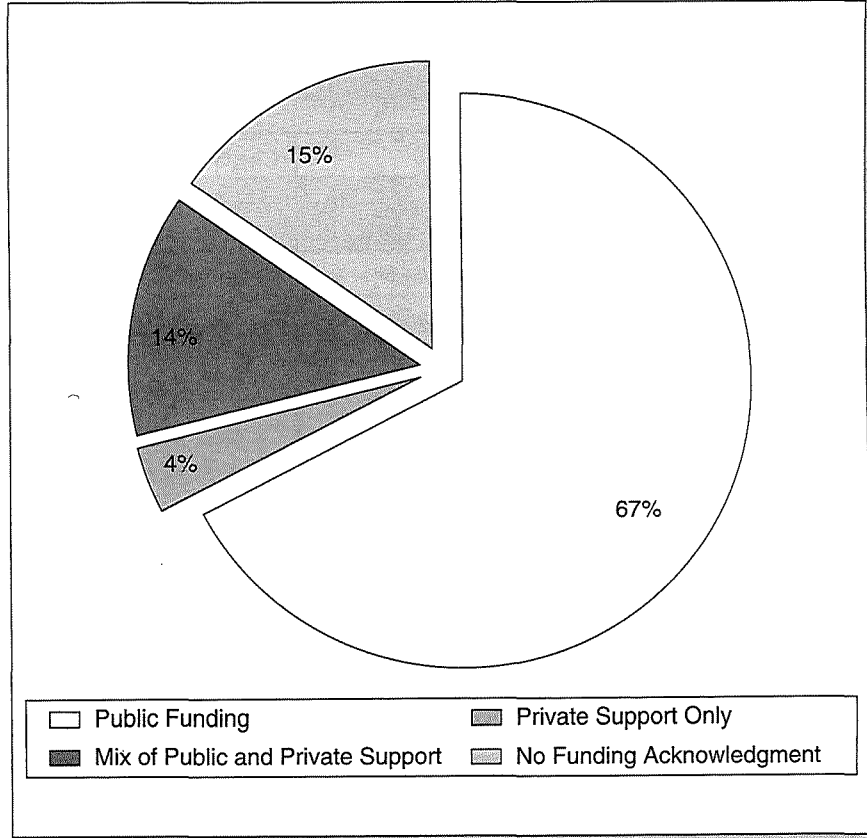
Figure 14.4 Funding Source Acknowledgments for *Psychological Science*, 2011



Source: *Psychological Science* (12 journals, 231 articles from 2011).

have guessed that almost 40 percent of the *Psychological Science* papers would not acknowledge a source of funding. It is not clear what to make of this, but we suspect that the picture will change in the coming decade. We foresee a time when the acknowledgment section of psychology papers may increasingly read like this exemplar from the October 2011 volume of *Psychological Science* by Kendler et al. Their paper titled “The Impact of Environmental Experiences on Symptoms of Anxiety and Depression Across the Lifespan” acknowledges U.S. public funding from NIH, international public funding from the Netherlands Organization for Scientific Research, the Swedish Research Council, and Swedish Council for Working Life and Social Research, and private support from the Carman Trust and the W. M. Keck, John Templeton, and Robert Wood Johnson Foundations.

Figure 14.5 Funding Source Acknowledgments for the *Journal of Cognitive Neuroscience*, 2011



Source: *Journal of Cognitive Neuroscience* (12 journals, 322 articles from 2011).

Foundations Supporting Psychology

A list of foundations with programs relevant to psychological science is provided in Table 14.1. It is difficult to get an accurate picture of total foundation support for psychology primarily because there is no comprehensive database gathering such information. Aggregated information such as that tallied by the Foundation Center (www.foundationcenter.org) is often provided at too coarse of a grain to make meaningful determinations or to guide a researcher seeking support. We recommend that researchers work closely with the professionals in institutional advancement offices (also known as “development”) to identify potential funders. Development officers have the skills and tools needed to carry out more sophisticated searches for relevant opportunities to apply for funding. The University of Minnesota–Morris serves as a good example of a development office identifying funding sources relevant to psychology (University of Minnesota–Morris, Grants Development Office, n.d.).

Table 14.1 Programs With Connection to Psychology

Foundation	Website	City, State/Country
Alfred P. Sloan Foundation	www.sloan.org	New York, NY
American Psychological Foundation	www.apa.org/apf	Washington, DC
Andrew W. Mellon Foundation	www.mellon.org	New York, NY
Annie E. Casey Foundation	www.aecf.org	Baltimore, MD
Carnegie Corporation of New York	www.carnegie.org	New York, NY
Charles A. Dana Foundation	www.dana.org	New York, NY
David and Lucile Packard Foundation	www.packard.org	Los Altos, CA
Fetzer Institute	www.fetzer.org	Kalamazoo, MI
Ford Foundation	www.fordfound.org	New York, NY
Foundation for Psychocultural Research	www.thefpr.org	Pacific Palisades, CA

Geraldine R. Dodge Foundation	www.grdodge.org	Morristown, NJ
Glaser Progress Foundation	www.glaserprogress.org	Seattle, WA
Harry Frank Guggenheim Foundation	www.hfg.org	New York, NY
The Haynes Foundation	www.haynesfoundation.org	Los Angeles, CA
Jacobs Foundation	award.jacobsfoundation.org	Zurich, Switzerland
James S. McDonnell Foundation	www.jsmf.org	St. Louis, MO
John D. and Catherine T. MacArthur Foundation	www.macfound.org	Chicago, IL
John and Mary R. Markle Foundation	www.markle.org	New York, NY
John Frederick Steinman Foundation	http://goo.gl/N1BRT	Lancaster, PA
John Simon Guggenheim Memorial Foundation	www.gf.org	New York, NY
John Templeton Foundation	www.templeton.org	West Conshohocken, PA
Pew Charitable Trusts	www.pewtrusts.org	Washington, DC
Robert Wood Johnson Foundation	www.rwjf.org	Princeton, NJ
Rockefeller Brothers Fund	www.rbf.org	New York, NY
Russell Sage Foundation	www.russellsage.org	New York, NY
Spencer Foundation	www.spencer.org	Chicago, IL
Staunton Farm Foundation	www.stauntonfarm.org	Pittsburgh, PA
Wellcome Trust	www.wellcome.ac.uk	London, United Kingdom
William T. Grant Foundation	www.wtgrantfdn.org	New York, NY
W. K. Kellogg Foundation	www.wkkf.org	Battle Creek, MI

Source: University of Minnesota, n.d.

In addition to support from private foundations with an interest in behavioral research, psychology can garner funding from disease-specific charities and voluntary health organizations supporting research related to the cognitive and psychosocial aspects of diseases affecting brain function and impacting behavior negatively. Foundations with interests in depression, Alzheimer's disease, Parkinson's disease, schizophrenia, autism, stroke and brain injury, and many other insults and injuries affecting the nervous system could offer funding programs relevant to research in psychology. It is now well accepted that individuals with brain disorders have life-changing alterations in mood, cognition, and behaviors. A better understanding of the social and psychological impacts of neurological disorders could inform the design diagnostics and outcome measures. Importantly, psychology working with more traditional biomedical disciplines could contribute to the development of appropriate treatment options directed at multiple levels of analysis. It might be worthwhile for psychologists, perhaps working through their professional societies, to partner with neurological disease advocates in advancing a more comprehensive approach to research informing diagnosis and treatment.

In this context, an important point worth highlighting is the disparity in funding sources for research related to the consequences of abnormal development or neurological disease (or described as such) and research focused on an understanding of normal cognitive and psychological processes. NIH funding for neurological disease and mental disorders is more than 34 times that of NSF's support for psychology (approximately \$3 billion compared to \$100 million) (NIH Almanac, 2012; National Science Board, 2012). We think the future of psychology and the health of the nation might benefit from some rebalancing of this ratio.

Best Practices for Applying to Foundations

1. Read Everything

Most foundations, particularly if they support academic research, have very comprehensive and informative websites providing details concerning:

- Goals and missions
- Program guidelines
- Eligibility
- Application guidelines
- Selection criteria
- Frequently asked questions
- Lists of prior grantees
- Names of reviewers

Our advice is to read everything provided. Pay special attention to the list of prior grantees as they provide a peer comparison group you should carefully weigh your credentials against. Also, pay special attention to the reviewers. At the James S. McDonnell Foundation (JSMF), we select reviewers to strategically advance the foundation's programmatic goals.

2. Follow Not Just the Letter but the Spirit of the Guidelines

In our experience, potential grantees jump directly to the application guidelines, missing important information about the limits (for both the letter and the spirit) of eligibility. For example, a foundation might state that applicants must have obtained a Ph.D. within the past 12 years. An applicant exactly 12 years post-Ph.D. is technically eligible. However, a careful reading of the posted information indicates that the goal of the program is to help faculty transition from pre-tenure to posttenure positions with the expectation that for most candidates this will occur somewhere between 6 and 10 years post-Ph.D. The generous 12-year guideline is to provide some space for individuals with atypical career paths or who have had to take time to meet personal or family obligations. An application from a senior associate professor 12 years post-Ph.D. will more than likely be eliminated from consideration early in the review process. To decrease the number of ineligible proposals, it is becoming more common for foundations to ask potential applicants to complete an "eligibility quiz" prior to receiving application guidelines.

3. Use Good Judgment

Foundations typically have small staffs. For example, JSMF has four full-time staff. We consider the JSMF website our hardest working *fifth* staff member since it is available for communicating with potential grantees about the foundation's programs and funding opportunities 24/7.

Although we often hear or read that federal funding agency program officers encourage potential applicants to contact them with any questions, this kind of contact is usually not encouraged by foundations. Most foundation program officers wear multiple hats with responsibility for several or in some cases all the funding programs. We also spend a large percentage of our time out of the office. A system relying on one-to-one, person-to-person communication through the telephone or even e-mail is not an effective way to transfer information. In general, at JSMF we advise grant seekers to carefully read and review the material posted on the website prior to contacting the foundation. If you do need to contact the foundation for clarification, it is

best to use whatever preferred method the foundation advises. JSMF requests e-mails to an address specifically designed for this purpose. In our experience, approximately 90 percent of the e-mailed inquiries we received could be answered with even a cursory review of the JSMF Web pages. Calling JSMF is the most unlikely route to a quick response. It is not that we do not want to be accessible. We want a leveled playing field where all applicants have access to the same information. We know that part of the motivation for calling is not to get an answer to an obvious question like font size or page numbers but to form a personal relationship and to get feedback on the general scope of the proposed project. At JSMF, we prefer that you are the best judge of whether or not your research program fits the guidelines. It is important to keep the purposes of guidelines in perspective. Guidelines are called guidelines for a reason—they keep proposals consistent, important for making principled comparisons, but they also allow for judgment calls to be made on the part of applicants. Submitting the application is only the first hurdle in a very competitive process. It will not surprise you that there is an inverse correlation between the number of times an applicant contacts the foundation for assistance and the funding success of the submitted application.

4. Conscientiousness Pays Off

Although it should go without saying that following the posted instructions for submitting a proposal is essential, you'd be surprised at how often this step is overlooked. Applications that are missing required information, have pages out of order, are difficult to read because of small font size or a poor-quality scanned file, or that are submitted after the deadline are not competitive. There may be some foundations kind enough to contact an applicant and give him or her an opportunity to correct errors, but we would not suggest you count on second chances. Remember, most funders are receiving many more applications than can be funded.

Prior to submitting an application, double-check that it includes all required components. We know this tidbit of advice may appear to be too fundamental to mention, but our experience indicates otherwise. Applications should be scrutinized to make certain they conform to the guidelines concerning format, style, page or word limits, and attachments. Applications should be complete, containing all requested information, assembled as listed in the application guidelines. We craft JSMF's guidelines so that they can also serve as an application checklist.

We cannot emphasize enough how important it is to submit an application on time. At JSMF, we try to have as tight a turnaround time as is possible and the review process begins within hours of the application deadline.

We do not believe it is fair to allow some researchers to submit late or incomplete applications. At JSMF, as is true for many other funders, application deadlines are firm. Now that most foundations use electronic submission processes, we also recommend that you do not wait until the closing minutes of eligibility to upload your application. Any technical snafu could jeopardize all the hard work that went into the preparation of the application.

5. The Budget: Driven by the Science

One component of an application that we at JSMF pay special attention to, and we know this is true of other private funders as well, is the budget and budget justification. Budgets are reviewed both in-house and by our external advisory panels. Each foundation, and even different programs within a foundation, can have very different allowable items. In general, foundations do not allow for the recovery of indirect costs that have been negotiated between universities and federal funding agencies. It is important to make sure your institution will accept the budget restrictions of a foundation prior to submitting your application. A foundation should not be the first reader of your proposal.

Have Other Eyes on Your Proposal

Junior investigators should avoid the temptation of rushing the preparation of a proposal so that it has to be submitted before it has had a thorough in-house review by an experienced senior investigator. Asking a senior colleague to review the completed proposal, with a copy of the application guidelines attached, will not only help catch the errors and omissions that could cause an otherwise promising proposal to miss the first cut, but also it will most likely save the application from failing because of some other common traps. Every program officer will tell you that nothing is worse than getting that sinking feeling in the pit of your stomach when you read what appears to be a promising proposal on an interesting topic that just never manages to make its case. There are times that we read a proposal, hoping the next few paragraphs will finally tell us what it is the researcher *actually* plans to do! Another common pitfall for young investigators is overstuffing a proposal. We sometimes get the feeling, while reading a proposal, that the applicant convinced himself somewhere along the line that if some is good, more is better. We have read proposals requesting three or four years of support that would take decades to complete. Most foundation application requirements are not

onerous; project narratives rarely are longer than two or three thousand words. An experienced colleague can quickly detect weaknesses that are likely to contribute to a proposal being triaged out of consideration early in the review process.

Final Thoughts

In summary, our experience suggests that a successful proposal meets the following criteria:

- Arrives on time, submitted as required
- Is complete and prepared according to guidelines
- Conforms to eligibility
- Is well matched to program goals
- Is budget appropriate
- Narrative prepared to meeting guidelines and is readable, articulate, informative, and engaging; problem is defined and proposed work makes sense in context of the problem

Our final words of advice are to keep in mind that researchers and foundations are partners. Researchers want to pursue interesting and important scholarly work and foundations want to fund interesting and important research that is well matched with their program goals. Before committing time and energy applying to a foundation, take the time to determine if you are a good fit to the foundation's mission and program goals by carefully reading the program description. If the program description sounds promising and is consistent with your research area, you shouldn't stop there. Browse through the list of grants funded in that program area, and read the grant descriptions, if available. Some foundations post grant titles only, but others, like JSMF, provide a public essay of each grant as written by the principal investigator. Keep in mind that programs evolve over time and aspects are often tweaked from year to year, so it's important to note that there may be a difference between more recent grants and grants awarded several years ago. Foundations are boutique, not retail funders. Unlike NIH or NSF, foundations are not charged with fueling the entire academic research enterprise. Their limited resources must be deployed more strategically. To successfully meet this goal, foundations need researchers with interesting ideas.

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