Basic Research Funding: An Exercise in NIH-ilism

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“You don’t need a Roadmap to know which way the wind blows.” – With apologies to B. Dylan

This month’s cover story examines funding for basic behavioral research from the perspectives of National Institute of Mental Health leadership and staff, recent NIMH advisory workgroup members, APS leadership, and both newer and established basic behavioral scientists. There are lots of currents and cross-currents, but the overall conclusion is clear – when it comes to funding for basic research, the times they are a-changin’.

There is now widespread awareness in the psychological science community that NIMH is vigorously refocusing its mission on “reducing the burden of mental and behavioral disorders.” NIMH’s fervent embrace of “translational research” was a significant step in this direction. Recent policy statements have a chilling clarity: 1) The proportion of NIMH funding for research that is directly relevant to mental health and illness will be increased; 2) NIMH will only support basic research that meets the criteria of being most relevant to mental illness, most likely to produce rapid progress, and most closely linked to neuroscience and genetics; and 3) Other NIH institutes should share the burden of supporting basic behavioral research that does not meet these criteria. To insure that these goals are met, NIMH has announced a set of new funding procedures and a new organizational structure (see www.nimh.nih.gov/strategic/strategicplanmenu.cfm).

A Three-Pronged Approach
In my view, there are three things that psychological science can do to meet the challenges created by these changes at NIMH:

- Improve our ability to explain the importance of investing in the most basic of basic behavioral and social science research. By “most basic,” I mean the basic research in cognition, development, perception, personality, social processes, etc., that is not yet ready to be linked to patients, diseases, treatment, services, and other mental health issues. It is important to have a term that identifies this research – for purposes of this column I’ll refer to this most basic of basic research as Basic² research.
- Increase the number of psychological scientists able to do high quality translational research (i.e., research that applies basic research to mental health issues).
- Find a stable and supportive home at NIH for Basic² research to compensate for decreasing support for Basic² research at NIMH (historically its largest supporter at NIH).

The Importance of Basic² Research
Let me start with a personal anecdote. When I first started doing emotion research, I reviewed the highly influential early studies of the autonomic physiology of emotion conducted between 1940 and 1970. I was struck that physiological measurement often took place long after the emotion was elicited – sometimes over 30 minutes later. There are many different ideas about how long emotions last, but most
Theories would suggest somewhere between 10 seconds and two minutes. (My own work indicates that facial signs last about 10 to 30 seconds and autonomic signs last about 60 to 120 seconds.) If true, then several decades of research on the autonomic physiology of emotion were based on physiological measurements obtained long after the emotion had subsided.

This is just one of the myriad examples of how absolutely critical Basic² research (in this case, research on the fundamental nature of emotion) is to understanding biological processes. As we move further into neuroscience and genetics research, Basic² research is going to become even more critical. Our understanding of neural circuits and genes will be primarily developed in relation to associated behaviors. These behaviors are likely to be much more micro than macro and to require much greater precision in conceptualization and measurement than is currently available. Ultimately, the royal road connecting the brain and genes with mental and physical illness and health will pass over a behavioral bridge. Without a greatly expanded body of knowledge, methods, and measures in Basic² science, the most sophisticated genetic and neuroscience research on health and illness risks a fate of being much ado about nothing.

To me this point is patently obvious; but, outside of the choir, it has proved to be extremely difficult to make well and convincingly. I have tried to do this in NIH workgroup reports and in these columns and have seen some of my most esteemed colleagues in psychological science try to articulate this point in public forums. This is not the time for arrogance or defensiveness: Looking at the results, we clearly have to get much better at making this case.

Increasing the Number of Psychological Scientists Doing Translational Research

I wrote a recent Observer column on this topic (Patients and Impatience, November, 2004) suggesting that we include exposure to patient populations and mental health problems in the training of all psychological scientists—not just those in clinical psychology. I know this is controversial, but I still think it is right. The rationale is simple: New insights, faster progress, and more breakthroughs could result if more first-rate psychological scientists conducted at least some of their research on aspects of mental illness relevant to their particular area of expertise.

Finding a Stable and Supportive Home for Basic² Research At NIH

Along with APS Past President Susan Fiske and APS Fellows Richard Davidson, William Greenough, James Jackson, and Laura Carstensen, I recently served on an NIH workgroup that studied this issue and presented its report at the December 2004 meeting of the NIH Advisory Committee to the Director. I found this process enormously informative. (NIH Advisory Panel Calls for Stable Home for Basic Behavioral Science).

NIH has 27 institutes and centers. The majority are linked to a specific disease (e.g. NIMH, National Cancer Institute), a few are linked to specific life stages (e.g. National Institute on Aging), and the remainder are “general,” neither linked to disease or life stage (e.g. National Institute of General Medical Sciences, or NIGMS). From portfolio reviews, we found that a significant amount of basic behavioral and social science that has been translated into disease-relevant and life stage-relevant research is supported by NIMH and a number of other institutes. The workgroup report endorsed this support for translational research and recommended that it continue.

In stark contrast, the preponderance of Basic² research is essentially only being supported at NIMH.
Thus, NIMH’s plan to reduce support for Basic\textsuperscript{2} research (however well justified from its own perspective) represents a real threat to its survival. Given its importance and critical relevance to the NIH mission, the workgroup felt it vital to find a stable and supportive home for Basic\textsuperscript{2} research at NIH. Because Basic\textsuperscript{2} research is by definition not yet linked to disease, the workgroup recommended that this new home be in a general institute such as NIGMS.

As I write this column, a month has passed without the NIH Advisory Committee officially voting on the workgroup report. However, this has not stopped its recommendations, especially the recommended new home for Basic\textsuperscript{2} research at a general institute, from being criticized in the scientific press by the director of NIH Elias Zerhouni\textsuperscript{1} and by the incoming director of the Office of Basic Behavioral and Social Science Research David Abrams.\textsuperscript{2} The latter is particularly ironic because the workgroup report recommends an expanded and critical role for OBSSR in providing staff training and support and in helping behavioral and social scientists find appropriate homes for their research at NIH. I can only hope that these criticisms will eventually be replaced by constructive discussion and that a viable solution to this critically important issue will be found.

Final Thoughts
This is a time of great challenge and great opportunity for psychological science. I have argued for a three-pronged approach that includes rethinking and improving the ways we explain the value of our work, increasing the number of psychological scientists involved in translational research, and working toward finding a new supportive home for Basic\textsuperscript{2} research at NIH. I believe we need to move vigorously on all three fronts in a coordinated way. To do this effectively, we will need to overcome our own resistance to change, the initial resistance by NIH leaders, and any lingering belief that the NIH peer review system will protect us from the impact of proposed policy changes. As scientists, we understandably would prefer doing research to engaging in advocacy and policy “wonkery.” But we may no longer have that luxury.

Your thoughts or comments on these matters are most welcome at rlevenson@psychologicalscience.org.


\textsuperscript{2} Science, December 24, 2004.