NIDA Takes on The ‘Great Disconnect’

Groups see stigma as barrier to science

An enormous gap exists between the public’s perceptions of drug abuse and addiction and the scientific facts. Reversing this lack of public understanding has become a shared goal for an array of science, practice, and advocacy groups that are the “constituents” of the National Institute on Drug Abuse (NIDA).

Leaders of more than 40 organizations, including APS, met recently to talk about “the Great Disconnect,” as it has been labeled by NIDA’s director, psychologist Alan I. Leshner. APS was represented by President Richard F. Thompson, Joseph Steinmetz, chair of the APS Convention Program Committee, and APS Executive Director Alan Kraut.

Who Are the Psychologists In the Academy of Sciences?

Meet some of the distinguished behavioral scientists elected to the ranks of the National Academy of Sciences

“It’s as close to the Nobel Prize as we’re ever likely to get. I walked on a cloud for three months, I was so astonished when I got elected to the National Academy of Sciences,” said APS Past-President James McGaugh of the University of California-Irvine, recalling his election to NAS in 1989.

“It’s a particular honor as a non-American,” said Brenda Milner of the Montreal Neurological Institute at McGill University. Milner, an APS Fellow whose research is mainly in areas of the brain and memory, said she has been a foreign associate of the NAS since 1976.

APS Fellow Frances Graham of the University of Delaware described her election to NAS in 1988 as one of the most exciting things that ever happened to her. Moreover, she said, it offers “exposure to first-rate scientists in all fields.”
Shut Down, Frozen Out

Federal agencies and research grantees weather the political storm and “Blizzard of ’96”

For the three weeks the federal government was shut down this December and January, the building housing the National Science Foundation (NSF) had little heat and light.

“We did have it in the offices where we were working, but you would walk into a building and would be dark with only natural light around,” said NSF Deputy Director Anne Petersen. “The heat was turned down quite a bit. Immediately you had this feeling of it being a different place.”

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Two feet of snow kept federal offices closed another week, so by the time federal workers returned to work, the government had been closed down for about a month. For researchers and scientists, this meant that grant proposals and awards were not being processed by two chief sponsors: the National Institutes of Health (NIH) and NSF. For officials at NIH and NSF, the shutdown illustrated the precarious position occupied by science research and education.

Backlog

At the NIH, staff sifted through a backlog of approximately 4,000 grant awards that were eligible to be paid. APS Member and NIH Deputy Director of Extramural Research Wendy Baldwin said that by the time the shutdown ended, “we were down almost a billion dollars worth of research support that should have been distributed.” Over at NSF, returning staff were welcomed by more than 40,000 pieces of mail and almost 3,000 proposals that had accumulated since December 15, the last working day before the three-week federal shutdown.

In addition to the mountains of paperwork, NIH and NSF staff, like many government employees, were upset that the shutdown occurred, unsure of their job security, and, for some, hurt by having been sent home as “non-essential” staff.

“It is clear that a lot of people don’t appreciate federal workers and...for people who work incredibly long hours, work very hard, work weekends, use their own money to bring in food for panels—to be told that they are ‘nonessential’ and that we can do without them is really worse than insulting,” said Petersen, an APS Charter Fellow.

Researchers also fear that the shutdown has left a more far-reaching, negative impression about the importance of science and research.

“I think the broader impacts are even more serious,” said Petersen. “I think that all of this budget debate, especially in terms of research and education, causes a loss of confidence in whether this is a federal priority. Certainly it affects government workers, but I think it also makes everyone feel a little uneasy about this enterprise.”

NSF Director Neal Lane has said that the shutdown endangered the nation’s science research and education base, and in a January 15 speech, he chastised the science and technology research communities on their perceived silence during the crisis.

“If you don’t take it as one of your professional responsibilities to inform your fellow citizens about the importance of the science and technology enterprise,” he said, “then the public support, critical to sustaining it, isn’t going to be there.”

NIH and NSF Web Sites . . .

Check out the Internet home pages of the National Institutes of Health (http://www.nih.gov) and the National Science Foundation (http://www.nsf.gov) for current information on grant funding and related news. Or, get there through the APS web site (http://www.hanover.edu/psych/APS).

Correction

In the January 1996 Observer, the column labeled “MYD” in the table on page 7 should have been defined as “Median # of Years Till Receipt of PhD.”
thought to prevent miscarriage. She and her colleagues compared the sexual profiles of women exposed to DES prenatally and those who were not exposed. The researchers hypothesized that the prenatally DES-exposed women would show more masculine cognitive profiles in visual/spatial ability, and the stronger right-ear dominance in verbal tests that men generally tend to exhibit.

Hines and her colleagues found no evidence to support their hypothesis regarding visual/spatial ability differences but some evidence that DES women differed from non-exposed women with respect to right-ear dominance.

Hines said studies by other investigators have reported that DES-exposed women are likely to be bolder in personality and more likely to be bisexual than unexposed women.

She suggested that different behaviors may be influenced by different hormonally influenced mechanisms and "that hormones contribute to our sexual differentiation but that each characteristic is influenced in its own idiosyncratic way. One type of influence that could differ is in the timing...of exposure. DES exposure is always prenatal. It may be that differentiation of language [right ear/left ear] lateralization is prenatal. Development of sexual orientation may also be prenatal. But visual/spatial performance depends more on cortical development that occurs during the postnatal period."

Brain and Sex

Other speakers, both from the University of California-Los Angeles, were Arthur P. Arnold, who chaired the symposium, and Roger A. Gorski, professor of neurobiology in the School of Medicine.

Arnold reported that studies of sexual differentiation in songbirds point to direct genetic influences rather than mediation by hormonal secretions. Arnold said that "attempts to apply the traditional model of hormone control of brain sexual differentiation to birds and marsupials have not been very successful. "In zebra finches, it is possible to cause masculine patterns of development in young females by giving them estrogen, but, so far, attempts to prevent masculine patterns of development in genetic males [e.g., by reducing estrogen action or synthesis] have not been successful," he said. Reporting on recent research at the Brain Research Institute, Arnold said that testicular secretions are not sufficient to induce masculine patterns of neural development in this species. The results raise doubts about the universality of the traditional model of hormonal regulation and modulation of such differentiation, he concluded.

But stepping up the evolutionary ladder, structural sex differences in the human brain as well as implications for sexual orientation were the subject of Gorski's discussion. "The possibility that sex differences in cognitive function and/or sexuality have an underlying basis in ... brain structure is exciting yet controversial, but amenable to further study," he said. As to whether such structural differences are related to the process of the sexual differentiation of the human brain, Gorski said this prospect "is even more controversial and much less amenable to experimental study."

Gorski first laid out a context of scientific findings to help make more understandable his discussion of structural sex differences: In humans and other mammals, nature's "default program, or blueprint," according to Gorski, is female in terms of both the internal reproductive organs [excluding the gonads, which are determined genetically] and external genitalia. This is also true of brain function and structure in rats and other mammals, he claims. A number of "structural sex differences in the rat brain undergo the process of testicular hormone-dependent sexual differentiation or masculinization," said Gorski. Some of these are related to reproduction, but others are not. In addition, a number of structural sex differences exist and are determined during the process of sexual differentiation and presumably underlie functional sex differences.

The list of structural sex differences in human brains is much shorter than that of the rat, and the differences are less pronounced as well as more controversial. Gorski waded through a number of human studies that both did and did not indicate structural differences in different regions (e.g., corpus callosum and its subregions including the anterior commissure, splenium, massa intermedia, and isthmus). Many such studies did not match subjects for age (the corpus callosum's size changes with age) or failed to account for subject's handedness! Within the hypothalamus, the preoptic area has been found to exhibit a sexually dimorphic nucleus (larger in the male), though not in Gorski's studies. His research has, however, revealed two other sexually differentiated areas in other hypothalamic regions.

It is clear, Gorski emphasized, "all putative sex differences in brain structure must be replicated consistently before being ... accepted." And, of course, once the differences are demonstrated conclusively, there is the issue of uncovering functional significance. Gorski said the functional differences remain obscure but could underlie reported sex differences in cognitive abilities.

In addition, reported differences in brains of apparently heterosexual and homosexual men still require replication. "Since in homosexual individuals there is usually no discordance between perceived brain sex and phenotypic sex, just an atypical selection of a sexual partner, it is more difficult to interpret structural differences in the brain," explained Gorski. In the rat, the known structural differences that correlate with sexual orientation are the volumes of the suprachiasmatic nuclei and an area in the hypothalamus, and the midline area of the anterior commissure. The process of sexual differentiation in the rat has multiple, independent components, and it may be possible that changes in just one could lead (or predispose) to homosexuality, according to Gorski. L.H. and D.K.
they obtain knowledge, examining the innate and experiential factors that may contribute to its acquisition.

Bruce Overmier of the University of Minnesota will present a state-of-the-art lecture re-examining the learned helplessness model for studying the effects of stress and will take part in two symposia.

Overmier told the Observer that he takes part in international meetings because “one of the things that happens to each of us when we focus on our research is that we tend to narrow our vision of what is going on in our laboratory—of necessity, because we spend vast amounts of time with our phenomena in our lab. But we need to come in contact with people who are working on the same or similar problems throughout the world, so that we can re-examine our vision and perspectives and see new ways of approaching problems.”

“None of us has a lock on all the

FROM PREVIOUS PAGE

sity will discuss research on anxiety disorders and depression that looks into both conditioning models and cognitive biases that have important implications for understanding the maintenance of the disorders.

Milton Hakel of Bowling Green State University will share the floor with speakers from India, China, Germany and Venezuela in a symposium on poverty and social change. And, with APS Executive Director Alan Kraut, he will discuss how to bring psychological science to the attention of government as a source of solutions to social problems.

Albert Bandura of Stanford University will outline eight mechanisms of moral disengagement used by individuals, organizations and countries seeking moral justification for their inhuman behavior. Bandura and Gian Vittorio Caprara of Rome have collaborated on a study of how children in Italy and America begin to acquire skill in this domain.

In a state-of-the-art lecture, Renée Baillargeon of the University of Illinois-Champaign will discuss how new methodologies have permitted investigators to discover that even young infants are capable of sophisticated reasoning about physical events. She will examine the types of knowledge young infants possess about various physical events and explore how

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March 1996
ment or social atmosphere, said Steinmetz, while others think drug abuse should be regarded as a disease like Parkinson’s, Alzheimer’s, or schizophrenia.

But what the data tell us, according to Leshner, is that it’s all these and more. “Drug addiction is a brain disease manifested in behavioral ways and in a social context,” he intoned at the meeting, using a sentence that has become a mantra for NIDA officials.

Psychology’s Role

Thompson, who is a professor of psychology and biological sciences at the University of Southern California and director of a neuroscience research program, elaborated on this point: “In order for the public to support research and effective treatments, it is first necessary to make clear that drug abuse is a brain disease. Specifically, repeated use of addictive substances leads to significant and often long-lasting changes in brain tissue, that is, in neurotransmitter release, in up- or down-regulation of transmitter receptors, in alterations in gene expression, etc.”

However, Thompson adds, “it is important to stress the other side of the coin, namely that, as of now, virtually the only treatments available are behavioral.

“We face a national crisis in drug abuse and at present, the only discipline that can provide effective treatment is psychology, broadly construed,” said Thompson. “We have an enormous opportunity and an enormous challenge to develop better and more effective behavioral treatments for drug abuse.”

Some internal changes at NIDA indicate that a new, multifaceted approach is being taken to drug abuse and addiction research. In the past, the Institute was seen primarily as the domain of pharmacology. That’s no longer the case.

Under Leshner’s leadership, NIDA is bringing a broader range of scientific perspectives to bear on the problems within its jurisdiction, including a substantial expansion of its basic and applied behavioral and social science activities. A new behavioral science branch was created last year, and the Institute is in the process of establishing a new training program for young behavioral science researchers (see page 1 and the “Presidential Column” on page 2 for more details).

In confronting the disparity between public perceptions and scientific fact about drug abuse, NIDA is taking on a problem that exists for many behavior-based conditions, noted Kraut. “Their approach should serve as a model for other institutes” in addressing problems that involve behavior, he added, noting that this includes heart disease, cancer, mental health and AIDS as well as violence, teen pregnancy, and other problems with behavioral and social components. Sarah Brookhart

Professors, Teachers

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second federal shutdown of the year. The first shutdown took place in November and lasted for six days. This latest one would cross over into the new year and continue for 21 days, only to be stretched almost a week longer by the "Blizzard of '96" that swept over the East Coast.

When the government reopened, NIH was twice blessed: first, when it was among a handful of federal agencies to get a year-long budget and second, when the budget reflected a 5.7 percent increase over the previous year. Meanwhile, NSF continues to operate under the authority of a continuing resolution that will keep funding alive until at least March 15. NSF released a statement January 30 in which it said that a prorated portion of the funding under the continuing resolution is being made available for obligation for new and continuing grants, contracts, cooperative agreements, and all activities NSF usually undertakes.

"It would be very nice to have a budget," said Petersen. "The worst part about that—not having a budget for a year—is that we have been trying to encourage people to get money out the door as if we are going to have the budget we expect, but people feel uneasy about that and keep worrying about the worst-case scenarios. Especially for big projects with some of our big facilities, we’ve had to hold money. We’ve been sending their money out in installments and that is very hard on those big facilities."

Petersen said she didn’t expect another shutdown after March 15, "but we’ve been surprised before."

Better Late Than Never?
The most obvious effect of the federal shutdown on researchers has been the delay in proposal review and grant funding. This has affected everyone from researchers to graduate assistants to university support staff and budget offices. Not only is research, which is often time-sensitive, delayed and possibly made obsolete, but gaps in funding mean there is no money available to pay student and non-student research assistants and secretarial and clerical staff support. In addition, university budget offices are thrown by the instability in funding and must determine if they should bear the costs of sustaining timely research.

With voice mailboxes full and no one there to answer questions, both NIH and NSF set up pages on the World Wide Web to specifically address the shutdown and its consequences. "The response we’ve gotten from researchers is that the home page has really helped them," said Belinda Seto, Baldwin’s senior advisor. "Of course they can’t call anyone or fax to anyone and get a response, so the home page was sort of a light in a dark tunnel. The home page has been a way of keeping everyone as informed as possible so researchers didn’t feel like they were completely cut off."

Despite the best efforts of both agencies, though, many researchers are still unsure of what will happen.

APL Past President Marilynn Brewer, of Ohio State University, whose competitive renewal grant proposal has been delayed by the shutdown, said her project will be postponed by several months. Despite having gone through the peer review process and being recommended for funding by NSF’s Social Psychology Program, the award is being held up in light of current budget uncertainties.

"The grant that I had submitted was proposed to start on January 1 of this year and, even if I do get funded—and that still has several steps to go through—it will obviously be four or five months later than I had hoped," she said. "This means that a graduate student who would have gotten funding on the grant has to find other funding for the rest of the year. The whole academic year is basically lost as far as graduate assistance is concerned."

According to Baldwin, NIH advisory councils were adversely affected by the shutdown. "Two councils had to reschedule, and many councils had to adapt to the fact that they got material late," she said. "The shutdown and budget uncertainty leading up to the shutdown put NIH significantly behind in processing research support for the year."

A total of 17 NSF review panels had to be canceled due to the shutdown, said Petersen, meaning it is going to be several months before it is business as usual for research funding. "There are two kinds of delays," she said. "One is that for any grants that were in panels that had to be postponed, it may take longer in the review process. We did develop a streamline process for continuing grants so that they can get out expeditiously, but for things that have to be reviewed...there may be some consequences." The biggest delays, she added, were in new initiatives. "Also, as we look ahead to programs the Foundation was planning to initiate, we’ve had to postpone about a third of those, and definitely another third will shift over into the next fiscal year, and one-third we’ll be able to do this year," Petersen said. "Some things we were able to catch up on and some things just can’t be retrieved so quickly. We were basically gone for a month."

Gaps in funding mean lost opportunities for some researchers. Researcher Joan Vondra, of the University of Pittsburgh, lamented that her research may be made obsolete by funding delays. Vondra’s grant proposal, under the Human Capital Initiative program, would study low-income children making the

This means that a graduate student who would have gotten funding on the grant has to find other funding for the rest of the year. The whole academic year is basically lost as far as graduate assistance is concerned.

MARI LYNN BREWER
OHIO STATE UNIVERSITY

CONTINUED ON NEXT PAGE
Lane’s words echo a growing fear among research agency officials that science and education research funding as become excessively vulnerable, and that researchers are not doing enough to secure the public’s confidence in the importance of scientific research—especially within the behavioral sciences.

“I think we [in the behavioral sciences] are really beginning to have a number of things going on and we are beginning to be better positioned for really advancing,” said Petersen of NSF’s Social, Behavioral and Economic Sciences Directorate. “[Especially] in terms of anything that has to do with cognition in the brain, but I think in other areas too. I think that our field could have begun a period of really significant growth and I think [the shutdown] puts it in question. Without the money, progress is just much more difficult. I think it will still take place, because science is driven by ideas. But there are issues of critical mass and resources to be able to do that.”

Petersen added that the initial response of many researchers was that the shutdown minimally, if at all, impacted research. In addition, based on the phone calls, mail, and e-mail she received, Petersen said it seemed many researchers were not aware NSF was shut down along with other government agencies.

“We were very distressed by that because, of course, that was taken by Congress as evidence that funding for these fields doesn’t matter,” she said. “The days of doing research and assuming that money is going to come, are over. If we want to expect continued funding for our work, we have to be sure the public understands why this is an important investment for the federal government.”

It is in this effort that psychologists and behavioral scientists can play an especially important role, she said. “We should be able to talk with the public about the importance of our research. I think there are things that people can understand. It is really easier, I believe than talking about basic physics or basic work in math or other fields,” she added.

Petersen encourages the citizen-scientist concept in which researchers proactively integrate understanding of their research into their community. In order to convey to the public what a particular researcher’s work has done, for example, a university’s public affairs office can help put stories in newspapers, journals, and other media that reach a broader public.

Additionally, scientific societies, as part of their lobbying efforts, can more emphatically communicate the importance of the entire research enterprise and use their particular field and contributions as examples.

“People need to understand that when they have federal grants, they are spending taxpayer dollars and they deserve to let the taxpayers know what good they are doing them,” said Petersen. “The broader public issues are connected with government issues, congressional, in particular. If the broader public is enthusiastic about science, then their elected representatives will have the message right away. This needs to be a two-pronged effort because I think that either alone won’t be effective.” E.R.
LETTERS FROM PREVIOUS PAGE

Reply to Berntson and Sarter

Dear Editor:

We would like to comment on a few issues raised by Gary G. Berntson and Martin Sarter in their letter above, "What is a psychology journal? What is a psychology paper?" This letter was written in response to David Pendlebury's January 1996 Observer article, "Which Psychology Papers, Places, And People Have Made a Mark?"

Berntson and Sarter's primary concern is "...the schema employed by ISI to define 'psychology' journals, as it effectively excludes the biological perspective in psychology, and the premier journals that represent this perspective." Further, they state, "There is an appalling lack of representation in this listing of the major areas like behavioral neuroscience, behavioral medicine, cognitive neuroscience, comparative psychology, neuropsychology, and psychopharmacology."

Berntson and Sarter are correct to the extent that the study did not include many journals in these areas. As Pendlebury states, the study was a follow-up to an earlier series run in the November 1992 Observer. In his introduction, Pendlebury clearly defines the parameters as "...some 300 journals listed in the psychology subsection of Current Contents/Social & Behavioral Sciences. These titles represent research in all fields of psychology, including applied, clinical, developmental, educational, experimental, and social, among others."

These categories have been the range of CC/S&BS's coverage since its creation, while journals concerned with areas such as behavioral neuroscience, behavioral medicine, cognitive neuroscience, (i.e., journals concerned with the neurobiology of behavior, including the excellent Behavioral Neuroscience and Journal of Comparative Psychology) have customarily been covered in Current Contents/Life Sciences.

We have been aware, however, that the parameters created by this scheme have not met all the needs of our users. Distinctions between disciplines continue to erode, and we recognize this to be the case with what we have defined as "Life Sciences" and "Social & Behavioral Sciences." To that end, in recent years, we have added several "biological psychology" journals to Current Contents/Social & Behavioral Sciences and created a new category called "Psychology, Biological" in the Social Sciences Citation Index.

Last, and, we feel, most importantly, ISI and APS have worked cooperatively over the past two years to create six discipline-specific electronic current-awareness publications. One of these is titled Focus On: Biological Psychology. The remaining five of these carefully defined Focus On datasets also target specific niche areas of psychology including: Clinical & Treatment Research; Cognitive Psychology; Developmental Psychology; Industrial & Organizational Psychology; Social & Personality Psychology. They are drawn from the multidisciplinary ISI database of over 16,000 scientific and scholarly journals, books, and conference proceedings. The Focus On products provide full coverage of the core literature that is specific to each field as well as selective coverage from sources outside the core, thereby linking users to relevant research in fields such as comparative psychology, neuropsychology, and artificial intelligence.

JEFFREY LANG
Senior Editor, Social & Behavioral Science
ADAM KLEIN
Marketing Manager
Institute for Scientific Information

INTERNATIONAL FROM PAGE 7

insights into a particular problem or all the ways we can study it or apply the results from it. The world is full of bright and exciting people with stimulating new ideas from whom we can benefit.

Psychologist/neuroscientist Patricia Goldman-Rakic of Yale University School of Medicine will discuss the role of the prefrontal cerebral cortex in working memory. At the level of cellular activity and neural circuitry, Rakic maintains that experimental studies in nonhuman primates have led to a comprehensive theory of the architecture and mechanisms of prefrontal contribution to working memory. She attributes these theoretical achievements to the reciprocity between cognitive psychology and neuroscience, a collaboration she deems "important in attempts to connect the mind to the brain."

Martha Farah's presentation on the neural basis of visual recognition in humans will examine the extent to which different types of visual patterns (e.g., faces, printed words) are governed by the same neural systems. Drawing on a subject pool of brain-damaged patients and other subjects, Farah, of the University of Pennsylvania, will also pinpoint the neuroanatomical locations of specialized visual recognition systems, their degree of innateness, and the types of processing in each location.

Mark Rosenzweig of the University of California-Berkeley will present a state-of-the-art lecture on the increasing interaction between psychology and neuroscience, with a look ahead at what forms the relationship may take in the future.

Rosenzweig, who was IUPsyS's president from 1988 to 1992, pointed out that IUPsyS is a UNESCO-sponsored organization of national psychology organizations, one per country. The International Association of Applied Psychology (IAAP), on the other hand, is supported by dues from individual members. It also holds international congresses every four years but staggers them at two-year intervals relative to IUPsyS. IAAP's next meeting will be in San Francisco in 1998; IUPsyS's next meeting is in Stockholm in 2000. D.K.

March 1996
Hamad has kept close ties with the University of Kansas—where he got his PhD in developmental psychology in 1977—working on preschool and school projects with Todd Risley and George Semb, now both APS fellows. Today Hamad notes his school is engaged with a consultant at the University of Kansas, Richard Saunders, “to bring principles of science into a normal daily routine for people living in our cottages.”

Hamad’s interest in mentally retarded adults is an offshoot of his graduate school work with normal preschool children in a day care center designed by Risley and others at the University of Kansas.

“That program model for infants seemed applicable for people with profound mental retardation,” Hamad said. “So 14 of us went to the Western Carolina Center in North Carolina and set up what was ultimately called the Road Runner program—a complete service delivery system, soup to nuts, for 15 or 20 people with profound mental retardation. I think it was really the first attempt at developing a behavioral systems-wide program for people with mental disabilities in an institutional setting. We wrote all the training manuals and monitoring systems and then invited the staff back into the program and trained them to run the program, all in a two-week period.”

After finishing up at the University of Kansas and teaching college for a short while at Long Island University, Hamad took a job at the Walter E. Fernald State School outside of Boston. He became director of psychology there and also taught at Northeastern University and had a research appointment at the Eunice Kennedy Shriver Center on the Fernald grounds, a sophisticated research center focusing on medical and behavioral research in mental retardation. The masters program there was the source for well-trained psychology staff, he notes.

The Fernald period was “10 years of bliss—academic, research, and service bliss,” Hamad says.

“We had cases that were extremely challenging and difficult. I was treating one person for self-injury who would kneel himself in the eyes, eventually blinding himself. He had to be in restraints constantly. But we developed a stimulus shaping/stimulus control program that took him out of restraints for 15 seconds a day at first, and, over time, we increased it selectively. After six months he was in restraints 15 minutes a day and the rest of the day out of them.”

Hamad points out that 75 to 80 percent of the clients at facilities like Fernald and Southbury do not have sufficiently well-developed verbal repertoires to make talking therapies particularly relevant. Behavior analysis approaches are employed, with emphasis on systems design and analysis. Psychologists train staff to organize a day in a way that affords opportunity for clients to engage in appropriate behaviors that the attendants can promote and reinforce.

Hamad says that one of the things he likes best about APS “is the relationship between practitioners and science. In our approach to services, we don’t just make up things here at Southbury. But we are attempting to incorporate the principles of science into what may seem like a pretty random set of circumstances, methods and procedures.” D.K.
Better Than Three out of Four

Three of every four psychologists in the NAS are members of the American Psychological Society. And, since the Observer began keeping track in 1990, about 3 psychologists have joined the Academy’s roster each year.

“NAS tends to be hard science,” notes APS Fellow Eleanor Maccoby, a developmental psychologist of Stanford University best known for her research in gender differences in early childhood and work on divorcing families. “It’s something of an old boys’ network, most interested in biology, physics, and math. And even the psychologists elected to NAS tend to be people researching perception and the connections between psychology and neuroscience. I don’t deplore that in any sense. I think that’s probably what the NAS is most about.”

So, at first, Maccoby saw her own election to NAS in 1993 as a bit of “a mystery, a sort of exception.” Later, as she was called on to work on studies of family violence and reform issues that are at the top of the nation’s political agenda today, she began to perceive that there are not very many members of the Academy who have been involved in research on policies in areas such as welfare or food stamps.

“I seem to be the psychologist identified as relevant to these issues, and so I feel useful. I think we all need to have our fingers in the dike at this point,” Maccoby said. Maccoby was pleased her type of specialty included in NAS, “because I have all my life been devoted to the rational scientific processes, and I detect a general slipping away from that point of view. That worries me. I think we all need to do our utmost to keep society secular and consonant with science knowledge.”

Academy Continuation

One of the Academy members’ main functions is the decision-making that leads to continuation of the Academy. For this and many other functions, Gardner Lindzey of the Center for Advanced Study on the Behavioral Sciences at Stanford University serves as the point of communication between individual members of the NAS Psychology Section and the NAS-NRC home office.

Lindzey, an APS Fellow best known for his work in personality and social psychology and behavioral genetics, was elected in 1989 and took office as chair of the Psychology Section of NAS last April, when James McGaugh completed his three-year term. McGaugh recalls that the position “involves an awful lot of work, believe me; it’s relentless throughout the year.”

Lindzey says he shoulders those tasks willingly because he has “long been interested in the Academy, and, of course, I hope it plays an important role in all of the sciences and higher education, with psychology being the part that I’m most interested in.” The Academy complex plays important roles in supporting the science function and representing science to the general public and particularly to the decision-makers in government as well as to private funders, Lindzey points out.

CBASSE

As already noted, the Academy complex does, in fact, reach outside its own membership to recruit thousands of experts in various fields to serve on its commissions, standing committees, and groups appointed to conduct specific studies.

APS Fellow John Swets, who was elected to NAS in 1990, chairs the NRC Commission on Behavioral and Social Sciences and Education (CBASSE), which is responsible for most of the behavioral, social and educational studies undertaken by the Academy. He has been a CBASSE member continuously for eight years and will complete his three-year term as chair in April. CBASSE functions as a board of 18 commissioners advising the NRC on its widespread behavioral, social, and educational research. The Commission’s projects are implemented and supervised by the permanent staff of CBASSE.

Swets devotes about 30 days a year to CBASSE and works full time as chief scientist with Bolt, Beranek and Newman, Inc., of Cambridge, Massachusetts, a major 2,500-employee firm in acoustics design and computer applications.

The main challenge for CBASSE, Swets says, is to make the science behind the nation’s behavioral, social, and...
The 78 Members of Section 52—Psychology Of the National Academy of Sciences as of 1995

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* Member or Fellow of APS
(D) Deceased in October 1995. See obituary in this Observer.
(F) Foreign Associate of the Academy
vague they provide no guidance at all. Others are so detailed they offer no opportunity for students to rethink their work. The goal should be to provide brief suggestions without rewriting the paper.

**Anticipate Problems That Students Will Encounter**

There are normal developmental milestones in the production of a research paper. Inform students that problems, such as the 10 listed below, are not errors or evidence of weak writing skills. Rather, they are normal and unavoidable aspects of the writing process. The process itself helps writers organize their thinking and solidify their understanding.

Forewarned that they are bound to make at least some of these mistakes, students may catch and correct them at earlier stages in writing. And, they may feel freer to take risks because they understand how impossible it is to write a perfect draft. They are also more likely to view resulting feedback on their drafts less as condemnation than as helpful guideposts.

**Top 10 Problems**

1. **The Early Exaggeration**

Many students portray their topics as the most important ever to confront humankind, or they approach the topic from such a broad perspective that they could hardly hope to adequately cover the issue even in a dissertation. For example, a paper about current student reactions to the words politically correct need not start with a comprehensive discussion of the history and disastrous effects of stereotypes. We need to help students understand that papers can contribute to the literature even when they address small parts of larger issues. Helpful feedback might be as follows: "My first impression was that this is a paper about stereotypes rather than a study of student attitudes. How about starting closer to your topic?"

2. **Providing Partial Pictures**

Students often take shortcuts and leave out important information, or they neglect to show how the information they do provide relates to their topic. For example, a student may report Smith's assertion that people often recover repressed memories in the late afternoon, but neglect to say whether this conclusion is based on theory, clinical experience, or empirical data.

Instructors often respond to this type of problem by marking "incomplete," or "rework." Or, they spend an inordinate amount of time actually filling in the missing content, an activity which is understandably very agreeable to students but which does not help them become better writers. We suggest more efficient yet informative responses such as "How does Smith support this assertion?" Or, we could make a statement that highlights the importance of the audience, such as, "Readers who have not read Smith's article may not understand the basis of this argument."

3. **The Plethora of Particulars**

Including too much information in drafts often leads to the opposite problem: Too much detail makes it hard for the reader to follow the discussion. In a case study, for example, the eye color of the client, or the number of years a therapist has been in her present location, are usually not germane. In this situation, a direct statement will suffice: "Omit these details that readers don't need." Or, simply, "Omit unnecessary details."

4. **Data Dumping**

Students often simply summarize and report what they have read, assuming that their grade will be based on the quantity of the material they present rather than on the quality of their thinking about that material. We have all encountered papers that are little more than a string of one-paragraph abstracts of each paper the student has found. An expression of curiosity rather than scorn may stimulate some thought: "I'm interested in how you relate these data to your thesis." Or, "How do these two paragraphs tie into each other, and into the rest of your paper?"

5. **Strutting Sources' Stuff**

A variant of data dumping occurs when students incorporate the conclusions of other authors, often by stringing together long quotations. In order to encourage students to do their own integration and interpretation, we might say, "You've read more than anyone on this topic; what sense do you make of the issues?" Or, "Paraphrase these quotations, and explain their significance."

Excessive use of quotations may also indicate that students have lost their focus. In this case they may need only a gentle reminder: "Omit the quotations. How do the ideas relate to your thesis?"

6. **The Petrified Position**

Students often gather and present data from a narrow and rigidly held ideological position, and they may either misinterpret or ignore alternative information and perspectives. For example, students may adhere to a psychodynamic viewpoint while minimizing family systems or behavioral explanations. As instructors, we need to remind students of the attitude that underlies research in general, and of the creativity and objectivity necessary for good thinking. Questions such as, "How would a family systems theorist interpret these data?" or, "What are the distinctions between behavioral and psychodynamic approaches?" may stimulate a fruitful discussion.

7. **Focusing on the Flashlight**

Consider a paper with the objective of applying ethical principles to a given problem. Students will often devote the majority of their paper merely defining the ethical principles they have studied in class and then impulsively proffer a solution devoid of an actual application of the principles learned. When students repeat but do not apply what they have learned, it is as if they take us into an uncharted cave but spend all their time describing the flashlight rather than the cave. We might respond, "I need less definition of the principles and more about how they apply."

*SEE TIPS ON PAGE 31*
CONTINUED FROM PAGE 23

8. The Conclusion Cliff

Students often jump precipitously from the body to the conclusion of their papers, and assume that the reader will intuitively understand their reasoning. After a careful summary of the literature on both sides of an issue, students might conclude, for example, that “serotonin indeed yields a better explanation than does norepinephrine” but provide the reader with no clue about how they moved from the conflicting set of studies to such a confident judgment. We need to encourage students to think more carefully, as well as to explain and convey their thought process to the reader: “I don’t understand how you came to your conclusions. Your reasoning is the most interesting, creative, and important part of your paper! Please share your thinking with me.”

9. The Ending Equivocation

While some students are busy jumping over the conclusion cliff and proving petrified positions, others are refusing to take any position at all at the end of their papers. They often fear making judgments or offering personal conclusions. We need to encourage them to take the risk: “After all your good analysis, I’d love to hear your personal conclusion; what is your judgment on the ethics of deceptive research?”

10. Stilted Style

Finally, there are times when the student’s writing style does overcome substance and needs to be addressed. The temptation may be quite strong for us to rewrite sentences. A better option is to point out the types of errors that students make rather than take it upon ourselves to mark each one. For example, we might say, “Watch out for passive voice throughout the paper,” or “You have a number of run-ons and sentence fragments.” We thus place responsibility for finding and correcting grammatical errors on students; plus, we have 20 extra minutes and lots of extra ink to spend on our crossword puzzles or rewriting our own papers.

Conclusion

By providing students with more productive feedback on draft versions of research papers, much of the frustration of both students and instructors can be avoided. The research paper should be a vehicle instructors use to help students think better and develop their own excitement and passion about psychology. When instructors are freed from responding to papers as grammarians, we can instill in students—through the writing process—more of the excitement about the ideas that attracted us to the teaching of psychology in the first place.

Recommended Readings


Mitchell M. Handelsman is Professor of Psychology at the University of Colorado-Denver. He is a 1995 recipient of the Teaching Excellence Award given by Division 2 (Teaching of Psychology) of the American Psychological Association. Requests for reprints should be addressed to Mitchell M. Handelsman, Dept. of Psychology, Campus Box 173, Univ. of Colorado-Denver, PO Box 173364, Denver, CO 80217-3364, or via E-mail at MHANDELSMAN@CASTLE.CUDEDNER.EDU.

Margie Krest is an instructor at the University of Colorado-Boulder in the Department of Environmental, Population, and Organismic Biology. She teaches courses in scientific writing.
Educator, Learning Modeler, Neurobehavioral Toxicologist Helen B. Daly (1941-1995)

November 14, 1941, was an auspicious day for psychology—Helen Bohmer Daly was born in Manhattan, New York. However, November 23, 1995, was a tragic day—Helen died after fighting a vigorous three-year battle against breast cancer. That day, her family, friends, colleagues, and the discipline of psychology suffered an irreparable loss.

Helen completed her undergraduate education in 1963 at Harpur College in Binghamton, New York. During the summer of 1962, she was a participant in an Undergraduate Research Program sponsored by the National Science Foundation (NSF) at Syracuse University. In 1966, she received her PhD degree from the University of Rochester. The next two years were spent in our laboratory at Syracuse University as a Postdoctoral Fellow sponsored by the National Institute of Mental Health (NIMH).

Beginning in 1968, and literally until her death, Helen was engaged in teaching and research at the State University of New York (SUNY) at Oswego. She was appointed Full Professor in 1982 and was promoted in 1989, by the SUNY Board of Trustees, to Distinguished Teaching Professor. Helen was the recipient of a number of special awards bestowed by SUNY-Oswego: President’s Award for Creative and Scholarly Activity and Research (1985), Chancellor’s Award for Excellence in Teaching (1986), and a Gold Medal in recognition of her success in obtaining research support (1994).

National recognition of Helen’s abilities and achievements was also evident during her career by virtue of her selection as a Consulting or Associate Editor or a frequent reviewer for a number of leading psychological journals. She served for several years on the Basic Behavioral Processes Review Panel of NIMH and also reviewed grant proposals for NSF. Helen was a Fellow of the American Psychological Association, and, in 1995, she was elected as a Fellow of the American Association for the Advancement of Science. Helen’s research and teaching endeavors were funded over the years by NIMH, NSF, and SUNY-Oswego, and as mentioned below, she received ample funding for her later toxicology research.

Helen’s enthusiasm for research, beginning in her undergraduate days and continuing throughout her life, was evident in any interactions with her: Discussing research, either hers or others, was always a given. She also was a dedicated and effective teacher, both at Rochester as a graduate student and at Oswego. As such, she exerted an important influence on the training and the careers of a large number of students. Many of us will recall the copious notes that Helen wrote in the margins of her convention programs. She used these notes to help her incorporate the latest findings into her lectures and to inform her students about new areas of research that they might wish to pursue in their independent studies or theses. Such concern for students was to Helen simply a part of her responsibility as a professor. Always high on her agenda as a teacher was her desire to transmit to neophytes her convictions about the importance of the research enterprise. She taught a demanding course in Research Methods which, because of her knowledge of and her devotion to the subject matter, elicited evaluations of appreciation for the course from her students despite the course’s difficulty. This commitment culminated in her co-authoring (with Kenneth Rosenberg) a 1993 textbook on research methods: Foundations of Behavioral Research: A Basic Question Approach.

Despite a relatively short career, Helen’s professional contributions were considerable in size and scope. She made major research contributions in three areas: frustration theory, the DMOD mathematical theory, and the effect of environmental toxins on behavior. The manner in which frustration affects behavior was a theme that played some role in each of these areas. This interest originated with her doctoral dissertation, conducted under the guidance of Jim Ison. That research, and the studies conducted during her postdoctoral years at Syracuse University and her initial years at Oswego, tested implications of Amsel’s frustration theory. Her findings provided support for the theory and added importantly to knowledge about the motivational and reinforcing properties of frustration. Much of this research is summarized in her 1974 chapter in Volume 8 of Psychology of Learning and Motivation (edited by Gordon Bower).

In the 1970s, Helen noted that certain phenomena obtained in learning experiments that could not be accounted for by the dominant Rescorla-Wagner learning theory could be explained by Amsel’s frustration theory. She reasoned that if the two theories could be combined in some way, these recalcitrant findings might well be accounted for more parsimoniously. Therefore, Helen, in collaboration with her husband, John (Professor of Mathematics at SUNY-Oswego), developed a mathematical model that incorporated frustration theory into the Rescorla-Wagner theory. The development of this modification of the Rescorla-Wagner model, named DMOD, was facilitated by discussions with Allan Wagner during 1976-1977, when the Dalys were Visiting Fellows at Yale University.

By 1982, DMOD had successfully simulated results (trial-by-trial changes and asymptotic levels) in over 30 basic learning situations involving appetitive motivation and discrete trials. Subsequently, the scope of the model was greatly broadened, and the number of successful simulations was more than doubled. These extensions of the model included paradigms involving free operant behavior, learning based on aversive motivation, the ontogeny of paradoxical appetitive reward effects in rat pups as reported by Amsel, and the effect of toxic chemicals on behavior. The simulation of Amsel’s data was aided by a visiting professorship at the University of Texas-Austin in the spring of 1988. Helen was particularly intrigued by the ability of DMOD to account correctly for the counter-
Daly from page 33

intuitive results of observing response studies involving preferences for predictable or unpredictable rewards and nonrewards. Much of this material is summarized in two book chapters: M. Ray Denny (Ed.), Fear, Avoidance, and Phobias: A Fundamental Analysis (1991); and Isidore Gormezano and Edward Wasserman (Eds.), Learning and Memory: The Behavioral and Biological Substrates (1992).

Helen’s interest in the effect of environmental pollutants on behavior began in the 1970s when she joined a community group involved in preventing, with some success, the proliferation of nuclear power plants in the Oswego area. Subsequently, she became concerned about the toxic chemicals found in the Great Lakes, and the data suggesting that ingestion of fish from these waters affected both human and animal behavior. To determine more precisely the basis for such effects, Helen and her colleagues conducted a series of animal experiments using standard learning tasks with rats as subjects. In general, the results indicated that ingesting Lake Ontario salmon rendered the subjects hyperreactive to negative events. For example, when expected rewards were not forthcoming, an unusually large increase in frustration occurred. More recent findings indicate that this increase in the reaction to aversive stimuli also occurs in the adult offspring of rat mothers who ate Lake Ontario salmon, even though the offspring had never themselves ingested the salmon. A summary of many of the animal studies and an explanation of how DMOD can predict these results is contained in the 1992 book edited by Robert Isaacson and Karl Jensen, The Vulnerable Brain and Environmental Risks, Volume 1: Malnutrition and Hazard Assessment.

A continuing concern about the effect of environmental toxins on human behavior led Helen to seek funding to study the behavioral effects of the consumption of Lake Ontario salmon on human mothers and on their children. For this purpose, she organized and directed the Center for Neurobehavioral Effects of Environmental Toxins at SUNY-Oswego and formed a research team to carry out a large-scale longitudinal study. This research team was successful in obtaining funds from the New York State Great Lakes Research Consortium, the Great Lakes Protection Fund, the Agency for Toxic Substances and Disease Registry (ATSDR), as well as from SUNY-Oswego. Helen was particularly gratified in September, 1995, by the receipt of another large grant from ATSDR to support the continuing work on this project. The initial findings from this research are in the process of being published in the Journal of Great Lakes Research and have been presented at several conferences including the 1995 meeting, held at Duluth, Minnesota, of the International Joint Commission on the Health of the Great Lakes. The keynote address at this meeting, which received national television news coverage, was presented by Helen exactly two months before her death. She was an impressive spokesperson in support of the importance of research on environmental pollutants. Helen was invited to give presentations about her research, both animal and human, to a large number of organizations concerned with environmental issues. In addition, she discussed her research in several documentaries that were broadcast on local and national television. Her talents in this endeavor will not be easily replaced.

Helen was an enthusiastic, energetic, friendly person, full of joie de vivre. Her positive, optimistic view of life led her to seek unrelentingly, during her fight against cancer, for new experimental therapies that might result in a cure. Indeed, almost until the end, she believed that such a miracle might occur and that she might be able to complete her research. She loved sailing and skiing and took time in season to enjoy these recreations with her husband, John. Both she and John were attracted to California living and delighted in the sabbatical years they spent at the University of California-San Diego (1983-1984) and at the University of California-Irvine (1990-1991), where they worked and learned about many things, not the least of which were the gastronomic pleasures of sushi. Helen’s immediate survivors are John and her parents, Hilda and Josef Bohmer. It is sad to think that we will never again see her sparkling smile nor hear her cheery greeting.

DOROTHY E. MCALLISTER
WALLACE R. MCALLISTER
DEPARTMENT OF PSYCHOLOGY
NORTHERN ILLINOIS UNIVERSITY

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Some 34 organizations have improved their visibility dramatically by having "their story told" in the Observer's regularly appearing department the ORGANIZATIONAL PROFILE. Since the first Organizational Profile appeared in 1990, officers of profiled organizations have raved about the increased interest in their society generated by the appearance of a description of their organization in the Observer profile.

If your scientific organization is related to behavioral science and could benefit from such publicity, contact Observer editor, Lee Herring, with your proposed ORGANIZATIONAL PROFILE.

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Email (lherring@info.cren.net), phone (202-783-2077 ext. 3028), or fax (202-783-2083)
Random Samplings

How would you have responded to the question posed in the last issue of the Observer: “Is the integrity of the discipline of psychology going to be seriously challenged in the next 20 years?” Read below to see how your APS colleagues responded to this informal Observer poll. Check out next issue’s challenging question in the box below and send your reply in now!

The present and future hold tremendous challenges for the discipline of psychology. In many ways the advances of the recent past make psychology even more central to finding solutions to world problems. We now know, for example, that cigarette smoking is related to scores of illnesses. It will be the job of psychology to help people quit smoking and refrain from beginning. Similarly, we now know that conflict is life-threatening at both neighborhood and international levels. It will be psychology’s job to develop conflict resolution strategies that can be applied at all levels. Some problems have been solved by the simple application of drugs, yet people often do not adhere to their medication regimen. It will be psychology’s job to find ways to achieve better therapeutic compliance. And, as demographics change and families more frequently consist of single-parent, divorced/blended/combined families, or multigenerational extended networks, it will be psychologists who find ways to promote adaptation and minimize maladaptive behaviors.

Thus, psychology is becoming increasingly important to a wide variety of fields (e.g., medicine, social work, politics, law, environmental science). The task, as we enter the next century, will be to maintain our integrity while recognizing our limitations. We will need to reach out and be useful to these other disciplines but not overstate what we can offer. It will be a difficult but exciting task and one we are fully prepared to meet. However, it may change the face of psychology as we know it.

Toni Antonucci, APS Fellow
Univ. of Michigan-Ann Arbor

Yes, for many clinical psychologists. Probably not, for most scientist-practitioners. In the clinical field, there are an increasing number of clinicians from disciplines, aligned to, but separate from, clinical psychology. These include many well-trained counseling professionals (licensed and unlicensed) as well as numerous providers of advice ranging from “call-in” numbers for personal counsel to “therapists” who are unconcerned with and/or escape the principles of ethics and standards of practice that will apply to clinical psychologists.

The scientist-practitioner will fare better but will find it increasingly necessary to apply research and applications expertise to a wider scope of practice. The evolution from an individual measurement and prediction model toward a more integrated systems approach will result in multi-disciplinary projects with other professions as well as movement into domains of study and practice not widely embraced today. This may include extension into the fields of values-based leadership, group decision processes, and group trend analyses. As a result, the professions of psychology and sociology (especially industrial/organizational specialties) may move even closer together. This will likely result from increased attempts to better understand and balance individual and group influences and interactions (while maintaining scientific objectivity and standards).

Larry Axline, APS Charter Fellow
Holt Consulting Services, Inc.

No, I don’t think psychology will be seriously challenged—no more so than the field has been challenged historically. I think there has always been a trend towards specialization, because the field of psychology is extremely broad. This has brought certain tensions within the field. I think psychology has historically held together well as a science with an identity as a cohesive discipline. My expectation is that it will continue to do so.

Michela Gallagher, APS Member
Univ. of North Carolina-Chapel Hill

The challenge is already upon us, and it comes from outside the discipline. Like it or not, psychology is caught up in a larger social trend. Research results, and even research methods, are evaluated for their political implications more than their intellectual integrity. It’s time for psychologists to speak up clearly and forcefully on behalf of free inquiry.

Avery Nelson Gilbert, APS Member
Synesthetics, Inc.

It is being challenged now by managed medicine and HMOs. I think managed care is influencing the practice of psychotherapy by psychologists by requiring certification for joining an HMO and restricting services. This is driving psychologists out of the practice of psychotherapy and bringing in social workers and master’s-level counselors who are employed at lower fees. To paraphrase the law of economics “Bad money drives out good money,” “Bad therapy and cheap therapy drive out good therapy.” This will have important implications over the next 20 years. Psychologists are fighting this, but it is inevitable that managed care is in our future.

C.H. Patterson, APS Charter Fellow
Retired

What are the three most significant discoveries in behavioral science? Want to participate in the next RANDOM SAMPLINGS informal poll? Your response may appear in an upcoming Observer! Send your reply (150 words max) to Editor Lee Herring via email (lherring@info.cren.net) or via fax (202-783-2083).

March 1996
On-line Service and Guidebook Make Education, Career Decisions Easier

Undergraduates, graduate students and recent graduates in psychology can now turn to a new on-line service and guidebook, sponsored in part by the National Academy of Sciences (NAS), to help in making professional and educational decisions.

The guidebook, Careers in Science and Engineering: A Student Planning Guide to Graduate School and Beyond, provides information to help students plan their careers and the education necessary to attain them. On-line, students can access “Career Planning Center for Beginning Students and Engineers” through the NAS home page on the World Wide Web.

The free on-line service provides information and guidance to help evaluate the job market and build upon existing activities of several scientific and engineering disciplinary societies. The on-line service consists of six components:

- The Bulletin Board, which allows students to discuss education and employment opportunities with other students and scientists;
- The Advice Center, which gives students the opportunity to have one-on-one mentoring by scientists and professionals;
- The Employment and Fellowship Center, which offers links to on-line employment, fellowship and post-doctoral position listings, as well as a location where companies can announce positions and students can add their resumes;
- The Resource Center—a collection of links to documents published by the Academy, disciplinary societies, and university programs, among others;
- The Trends and Changes in Job Markets section, which provides analyses of the trends in science education and employment from a student perspective; and
- The Linkage Center, a collection of hypertext links where students can connect to existing activities at scientific societies, government agencies, universities, potential employers, and other student organizations.

Created by the National Research Council’s Policy Division and Office of Scientific and Engineering Personnel, the Center can be found at <http://www2.nas.edu/cpc>.

The guidebook offers tips on educational paths, advice on evaluating potential occupations, help in choosing an advisor, as well as guidance on pursuing a postdoctoral appointment, and academic and non-academic employment positions. Copies of the guidebook may be purchased from the National Academy Press, 2101 Constitution Ave., NW, Washington, DC 20418. An on-line version will be available at the above website this month.

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Each Executive Council member (see below) welcomes students and others to contact them about any concerns relevant to the member’s respective office.

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Articles and Ideas Sought...

As Student Notebook Editor and on behalf of the APSSC, I would like to encourage more student input for what appears in the Student Notebook section of the Observer. If you have any suggestions or comments, or would like to submit an article (500-1000 words) that addresses an issue of general interest to students, contact me, Susan Perry, at SPERRY1@PHOENIX.KENT.EDU, fax to 216-672-3786 or send mail to:

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Origins and Purpose
In July 1953, a group of Texas psychologists felt the time had come for a new regional association of psychologists and mailed a letter stating their interest to all American Psychological Association members living in Mexico, Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas. This effort culminated the following December in San Antonio as the Southwestern Psychological Association met for the first time. Although Arizona and New Mexico today stand with the original states to form the Association’s core, SWPA’s membership continues to reach across international boundaries and includes members in states from Washington to Florida, California to Connecticut. From its founding to the present, SWPA has worked to promote and strengthen psychology’s scientific, professional, and educational facets.

Membership
Annual membership dues are $20 for members and $10 for students. Convention registration is $15 for members and graduate students, $5 for undergraduates. Membership is open to students currently enrolled in psychology programs and professionals maintaining concurrent membership in a nationally or internationally recognized psychology-related professional association.

The “Organizational Profile,” a regular feature of the APS Observer, informs the research community about organizations devoted to serving psychological scientists and academicians. It is difficult for anyone to keep abreast of the various organizations of potential personal interest. This section should help in that task. The Editor welcomes your suggestions as to organizations warranting coverage.
Behavioral Science Is Key to NIDA Mission

Alan I. Leshner
Director
National Institute on Drug Abuse
Guest Contributor

In 1995, the NIDA-supported "Monitoring the Future" annual survey found that the use of cigarettes and most illicit drugs had increased significantly among 8th, 10th, and 12th-graders over the previous year. At the same time, the perceived risk of drug use among high school students decreased and has been declining since 1991. No longer can anyone deny that drug abuse remains one of the nation's greatest health problems. NIDA, as the largest organization in the world devoted to drug abuse research, recently instituted a number of changes to enhance its ability to respond to fast-changing trends in drug abuse, understand the behavioral and neurobiological underpinnings of drug abuse, develop prevention efforts, and discover better behavioral and pharmacological treatments for drug abuse and addiction.

In previous Observer issues, I have spoken about the gains conferred by the NIDA reorganization. Among them, support for behavioral science research in particular has been expanded and enhanced. The understanding of basic behavioral processes is fundamental to making any progress in curbing drug abuse and addiction. Fortunately, now as never before the behavioral sciences are in a unique position to contribute to the research base undergirding more effective prevention and treatment approaches that respond to the threat of drug abuse to the health of the public. Behavioral research can help us understand the underlying behavioral mechanisms, determinants, and correlates of drug abuse (both licit and illicit), and can aid in characterizing the harmful sequelae of drug abuse and addiction.

Recent findings have shown, for example, that voucher systems in which cocaine abusers build up points during outpatient treatment to exchange for non-cash items such as YMCA passes and continuing education materials are surprisingly effective in curbing cocaine abuse in a variety of addict groups, including inner-city addicts. This approach to treating cocaine dependence focuses on behavior, creating paths for behavior change, rewarding positive change, and strengthening social relationships that reinforce healthy choices. Development of such behavior therapies would not have been possible without extensive animal and human laboratory research based on behavioral economics.

To underscore NIDA's commitment and interest in behavioral sciences, last year NIDA established a new Behavioral Sciences Research Branch within the Division of Basic Research. Jaylan S. Turkkan, a prominent behavioral biology researcher at the Johns Hopkins University School of Medicine, came on as Chief of the branch to guide its creation and direction (see July/August 1995 Observer). Turkkan has undertaken a number of new initiatives to expand the scope of basic behavioral science research in drug abuse. Following a "brainstorming workshop" that included a number of APS members, a Request for Applications was issued in August 1995 ("Broadening Basic Behavioral Sciences Research in Drug Abuse," #96-001) to attract applications in behavioral science research areas that have been underrepresented at NIDA. Targeted research areas in the RFA (Request for Applications) included cognitive science, experimental social psychology, motivation, perception, and behavioral medicine, among others. These applications are in the review process for funding this fiscal year.
Sex Differences in Brain and Behavior: On the Interaction of Structure, Hormones, and Social Influences

Psychological research reveals several biological and social mechanisms that govern and modulate sex differences

BALTIMORE, MARYLAND, FEBRUARY 10—By middle age, men are losing frontal lobe brain tissue almost three times as fast as women of the same age. Trying to compensate for the loss, men tend to overdrive their neurons, “riding hard on what’s left ... with limited success,” according to APS member Ruben C. Gur of the University of Pennsylvania Medical Center, speaking here at the annual meeting of the American Association for the Advancement of Science (AAAS).

Women, however, seem to be able to reduce their rate of neuronal activity in proportion to the tissue they lose, Gur said. This may account partially for the fact that women survive about a decade longer, on average, than men, Gur believes. If you overdrive cells, according to Gur, cytotoxic effects may begin to act on the active cells due to the inability of wastes to be cleared out quickly enough to avoid a toxic buildup that kills cells. His findings augment those published last year (see January 27, 1995, Science) that showed marked metabolic differences between men and women in the regions of the brain controlling motor functions and emotional responses.

Men’s IQ scores appear to decline more than women’s IQs with aging, Gur said in response to questions. He made this finding by using IQ tests and “other measures that are not included in the typical IQ test,” he said. He used Positron Emission Tomography-scans to measure glucose metabolism rates in the frontal lobes of the 24 women and 37 men in his study, and Magnetic Resonance Imaging to measure their brain volumes. (Males begin life with larger brains on average than women, primarily because males’ bodies are larger, in general.)

Gur joined four other behavioral scientists to discuss recent findings on sexual differences in brain and behavior in humans and in other mammals and birds at the AAAS symposium. Their aim was to shed some initial light on how various factors might interact.

Academic Achievement, Sexual Stereotyping

Jacquelyne Eccles, an APS fellow, presented findings on sexual stereotyping and differential treatment by parents and teachers. Along with colleagues at the Institute for Social Research of the University of Michigan, Eccles conducted research using two longitudinal studies of a total of 2,600 boys and girls from kindergarten to high school.

Eccles said that when sixth graders in one of the studies got high grades in mathematics, investigators asked their parents how they accounted for that success: whether it was because “my child is very talented” or because “my child worked very hard.” The investigators found that “if parents are talking about a son, they say both of those things are important, but if they are talking about a daughter, they say it’s because she works hard, not because she is smart.” The same effect was documented with teachers, too, though it proved to be independent of any measure of real aptitude differences between the boys and girls, Eccles said.

“So, are girls really working harder?” Eccles asked with a shrug of the shoulders. “Well, if you ask girls, they will tell you they are working harder. But if you compare the actual number of minutes they spend working on math homework, in fact there is no difference. And if you do not tell teachers that you are studying gender, and you ask them how hard ‘Johnny’ works and how hard ‘Mary’ works, they tell you there is no difference. Yet, the teachers nevertheless believe the girls are working harder,” said Eccles.

Over time, these attributions of success, according to Eccles, undermine “girls’ self-confidence, so girls come to believe ‘I am doing well because I work hard, and when the material gets difficult I will fail.’ They are not willing to project [their current success] over time and say instead ‘Why wouldn’t I do well next year, too?’ or ‘Why wouldn’t I do well in engineering as a career?’” Whereas boys, Eccles stated, absorb a very different message from their educational experiences: “I’m doing well both because I’m working hard and because I’m talented.”

Hormones and Sexual Differentiation

A third member of the panel, APS member Melissa Hines of the University of London and University of California-Los Angeles, discussed variations in sex and gender behavior of humans exposed to abnormal endocrine environments during early development.

“We are now beginning to get beyond the question of whether or not hormones have an influence,” Hines said. “We can now begin to identify the nature of the influence and sort out critical periods for the influences and even begin to identify how hormonal influences might interact with other factors such as social and cultural influences to shape human behavior.”

Hines’ described some of her own research focused on women exposed prenatally to DES, the synthetic estrogen that was prescribed for millions of pregnant women in the 1950s because it was...
About 5,000 psychologists from 100 countries are expected at the 26th International Congress of Psychology in Montreal in mid-August, the Canadian committee organizing the event has announced.

Five days of addresses, symposia, state of the art lectures and business meetings, and social events will follow the opening ceremony on Friday, August 16.

All events will be held in the Palais des Congrès in the heart of Montreal, on the border of Old Montreal and close to the main hotels, shopping areas and restaurants.

"You couldn't situate a convention center any better," said Pierre Ritchie, a clinical community psychologist and professor at the University of Ottawa who is secretary-treasurer of the organizing committee. "Let's face it, people go to conferences not just for the intellectual content. They go to see colleagues and enjoy the ambiance. An advantage of this site is that people will easily be able to go to receptions and other social events at the end of the day and then zip off to dinner at nice restaurants within walking distance."

Attending the meeting will be psychologists from more than 50 countries who are not members of the International Union of Psychological Science (IUPsyS), as well as representatives of the 55 countries that are members of the sponsoring Union, according to Michel Sabourin, who heads the organizing committee of the congress. Many ex-Soviet and African countries are sending representatives, he said, and some of their national organizations are applying for membership in the Union.

An economic incentive also makes the Montreal meeting attractive, Sabourin noted, with the American dollar buying about $1.37 Canadian.

Congress President David Belanger, himself a emeritus professor, emphasized that "the average age of main speakers at Montreal is much lower than is usual at IUPsyS meetings. We have made a point to get speakers...who are at the very peak of their work, and this includes lots of women reporting on excellent research."

IUPsyS President Kurt Pawlik, of the University of Hamburg, in a special message to his fellow members of APS emphasized the "added value" of international scientific activities over and above probing cross-national contacts and good will among people.

"There is an additional, genuine agenda for international psychology as such: in recognizing, for example, endogenous culture-bound roots of (and limits to) psychological enquiry, in exploring a cultural matrix as it affects the development of individual and collective behavior, in research on individual behavior differences," Pawlik said, "or in studying phenomena like global environmental or demographic changes, which extend well beyond national cultural boundaries. Here we can and must learn from each other across regions of culture and language."

A sampling of events scheduled for Montreal follows.

In a keynote address on how attitudes may influence memory, Alice H. Eagley of Northwestern University will present new primary research and an overview of studies that have compared the effects of congenial and uncongenial information on memory processing.

Another keynoter, John Cacioppo of Ohio State University, will discuss research on psychological stressors that affect immune function. Among his findings are that acute psychological stressors that activate the sympathetic adreno-medullary system affect immune function, and that persons with high sympathetic cardiac reactivity to psychological stressors also show activation of the hypothalamic-pituitary-adrenocortical system and altered immune function.

Susan Mineka of Northwestern University...
Unused Science

There are a number of "disconnects" in how drug abuse and addiction are handled in this country. Drug use is up, yet treatment is losing support. Managed care systems don’t offer adequate services, and public funding for prevention and treatment is declining. In this same vein, "we have a phenomenal scientific base," Leshner told the gathering, but it is not being fully used to address the large and complex drug problems facing the nation.

This is particularly frustrating for NIDA, which is the main producer of scientific knowledge on drug abuse and addiction in this nation and in the world. According to Leshner, NIDA provides 85 percent of the world’s support for research on drug abuse and addiction. Yet NIDA’s budget is only $458 million, a paltry sum when compared to the billions of dollars in this country’s economic and social costs of drug abuse and addiction, including health care, treatment, law enforcement, welfare, lost productivity, and the pain and suffering of people with drug problems and their families.

It’s the Stigma

The meeting was a giant step forward in reducing the disconnect between science and public views of drug disorders. It brought together disparate groups that have a stake in the drug addiction research enterprise—groups that had little interaction with one another until NIDA convened them in a single spot.

At the meeting, there was unanimous agreement about the Great Disconnect—that it exists and that there are a number of causes, most of which stem from a widespread stigma against people suffering from drug-related problems.

The stigma, said Leshner, also extends to people who work with addicts and it exists “not only in the general public. It occurs among health care professionals and policymakers” as well. The end result is that primary care or emergency physicians do not recognize symptoms of drug abuse and may only treat the acute episode and not refer people appropriately. And, legislators respond to public pressure to fund new jails rather than fund new research or treatment. Further, insurance companies often do not provide coverage for substance abuse treatment.

"One take-home message from this conference," said Timothy P. Condon, deputy director of NIDA’s science policy office, "is that it’s critical for policymakers and the public to understand that funds spent on research represent an investment, not a consumption."

Participants also agreed that science is the key to ending the Great Disconnect and that NIDA’s constituent organizations should take the lead in getting the word out to the public and to policy makers about what has been learned about drug abuse and addiction. Many groups pledged to make drug research a priority on their public policy agenda.

This unanimity was especially significant given the diversity of the organizations around the table. In addition to psychology researchers, there were physicians, nurses, social workers, AIDS advocates, anthropologists, health care executives, representatives from the entertainment industry, state and community officials, women and minorities, advocates for anti-drug coalitions, and representatives of patient groups.

But not everyone will be saying the same thing. "What I found most striking were the differences in emphasis between those involved in treatment delivery and those involved in research," said Steinmetz. "Although they have the same goals—reducing drug abuse—these two groups are often at odds with one another in vying for shrinking amounts of dollars."

Steinmetz, himself a behavioral neuroscientist whose research on learning has included animal studies of alcohol preference and basic pharmacological mechanisms, favors making a strong case for increasing behavioral research on drug abuse. "APS, as a scientific psychological organization, should be promoting the application of the science of psychology in solving this problem, he said, adding that the Society’s annual convention and publications should include programs and articles that target policymakers and the public.

Participants spent a considerable amount of time during their day and a half together identifying possible ways to increase public understanding of the nature of drug abuse and addiction. The consensus was that educational efforts should attack the stigma problem directly by debunking some widely held myths about drug addiction, so that people understand that drug addiction is not a character flaw and is not limited to certain segments of society.

That Mantra of Mine

Ideally, people should understand that addiction is a health problem, a "chronic, relapsing, and treatable illness," said Leshner. That’s where the science comes in.

But, as Steinmetz observed, different groups have different orientations toward problems of drug abuse, and they favor different approaches for “making the public, including policymakers, more sympathetic toward the plight of the drug abuser.”

For example, those who see drug abuse as caused more by social or environmental factors focus on improving the environ-
FROM PREVIOUS PAGE

transition to school. It would follow up on 200 children who have been studied since they were infants, in order to understand how individual and family factors help at-risk children succeed in the transition to school.

“The time constraint in doing developmental research is very real,” wrote Vondra, “If these children, their families, and teachers are not contacted this spring, it will be too late to get accurate information about making the transition to kindergarten and first grade. The five years of data collection we’ve undertaken will not be able to be used for the proposed study of the transition to school.”

The fast and furious work of NSF staff, though, has paid off for some researchers, like Bruce Overmier, who found out about his grant only moments before being contacted by APS staff for this story.

“I just got off the phone with NSF and they are going to fund the grant proposal and they are going to give me an April start date, instead of the original March start date,” said Overmier. “I think it is just miraculous. [NSF] clearly went out of their way to make this possible.”

Overmier’s research program involves 10 undergraduate students and about a dozen faculty. “My fear was that we wouldn’t get funded and wouldn’t get information in a timely manner,” he said. “We have to let students know by the first week in April, otherwise the students make other plans.”

Despite the month-long shutdown, said Leshner, NIDA’s backlog was relatively small. “NIDA was exceptionally well prepared,” said Leshner. “[O]ur administrative staff and our program staff were sort of anticipating it, and so things were primed so that almost no [NIDA grantees] got seriously impacted. We have been a bit slow in making awards...but the NIDA staff worked tremendously hard at both ends—before the shutdown and immediately after it—and we are basically pretty well caught up.”

Leshner said that approximately 90 percent of NIDA’s staff were considered “non-essential” and that the work was next to impossible for the employees who did work through the furlough. “The shutdown was bad for both sides,” said Leshner, referring to the employees who were furloughed and the employees who remained on the job.

While no work was being done by the people who were not in the office, progress was stymied for those who were. “It was really a terrible problem. That is to say that [non-furloughed staff] couldn’t do any work, because there was no one here.”

Leshner credits the dedication of the NIDA staff for the minimum impact of the shutdown. “There was tremendous potential for backlog and initially there was a backlog, but the NIDA staff worked very, very hard. We had our council meeting on time and we had our study sessions on time and grants are going to be made, but people have really had to go the extra mile to accomplish that. The NIDA staff really handled this very well, but they were discouraged by it and appropriately so.”

Leshner noted, with irony, how essential the “non-essential” employees were. “Exactly the same people who were allowed to be called ‘non-essential,’” he said, “worked like mad in order to make all of this possible.”

Petersen said that should another shutdown occur after the current continuing resolution runs out March 15, the biggest impact would probably be on staff morale.

“If we shut down again, it sounds like we are telling lies,” she said. “This is not how it is supposed to work. It will really begin to look like a pattern, and then I think people who work here will really begin to have a very different concept of what it means to be a part of the federal workforce. It just tells people that they are not valued by their employers, which are the public ultimately.”

Assuming a Proactive Approach

“One thing that has been striking during this year of budget battles and, most recently, the shutdown, is the perceived stony silence of the science and technology community—the universities, where most of the fundamental research is done, and with a few exceptions, business and industry, which depend on the knowledge and technologies research provides,” said NSF’s Lane at the January meeting of the American Astronomical Society. “And I can assure you that this perceived lack of concern has not gone unnoticed in Washington.”

CONTINUED ON NEXT PAGE
Member Profile

Something Old, Something New

Charles Hamad endeavors to breathe new life into aging facility for mentally retarded and others

Charles Hamad, an experienced gardener and strong supporter of psychological research, knew it would not be a bed of roses when he took over as director of the Southbury Training School in Danbury, Connecticut, last September.

For many persons the school had become "a hated symbol of an era when the retarded were locked away in monolithic institutions and forgotten about," the Danbury News-Times commented. It "was in desperate need of new programs, new methods of financing and a new public image."

Hamad got "a mandate to transform an institution under siege," the local newspaper declared. Advocacy and parent organizations were suing the school. Expert inspectors had testified in federal court that inadequate procedures at the school were linked to several deaths among residents. The school's previous director had resigned. And CBS's 60 Minutes was at the gate, gearing up a segment that would feature former residents complaining of misdiagnosis, mistreatment, and neglect.

As the storms brewed, Hamad "was able to articulate a really new and positive direction" for the school, according to Connecticut State Mental Health Commissioner Peter O'Meara. And, in short, he was offered the top job in the seventh largest facility in the country for people with mental retardation, where he already had been assistant director for a half dozen years.

"He is tenacious, he's been through a lot of adversity, seen cycles of it," said Richard Fleming of Auburn University, who wrote his doctoral dissertation from work he did with Hamad at Southbury from 1988 to 1990. "The adversity is incredible. You are always getting something thrown at you—if a client gets hurt in some behavioral incident, your week could be shot by the time you get to the bottom of the incident. And when psychologists left, they couldn't be replaced. Staff morale was always at risk. But Hamad's response would be to reinforce the staff, work with them more, and say 'All right, these are hard times, so we've got to persevere—we're not going to let go of this.'"

For Hamad, the 55-year-old facility—with its 825 residents, 1,751 full-time staff, about 500 part-time staff, and $117 million annual budget—"isn't really a school at all."

At one time it was a school for delinquents, he points out. Then, over time, people with developmental disabilities were admitted. "Some people here today actually do not have mental retardation—they were sent here 40 years ago because nobody knew what to do with them, or they were dyslexic, deaf, or had cerebral palsy. That was common at the time," Hamad said. The number of residents is now about half what it was in the 1980s, when new admissions closed. They range in age from 21 to 90, with an average age of 50.

In its first few months, Hamad's three-fold program for turning Southbury around appears to be taking hold, though it's still far too early to call it a victory.

One of its thrusts is program enhancement. A "supported routines" model of small "family" groups of four or five residents supported by one or two staff members is being used, with "scenarios" of activities throughout the day. The goal is having everyone engaged in regular daily activities. Every month, a Quality Enhancement staff evaluates the extent to which activities are being carried out as scheduled, as well as the state of the living environment, the quality of the activities, and the staff-client interaction.

Another type of regular daily activity is employment. About 300 Southbury residents have jobs that pay money, ranging from people who are competitively employed to those in supported employment situations in supermarkets and fast food restaurants, to some who are in sheltered workshops. The number is being steadily increased.

The second thrust of Hamad's program is revenue enhancement, primarily by obtaining broader Medicaid support. Only a quarter of the beds at Southbury are supported by Medicaid at present but he is making strong efforts to certify 200 more within a year.

Hamad's third and newest thrust is community integration—lowering barriers between Southbury and the community, increasing Southbury residents' ties with the town, and opening the school's sports fields, swimming pool, auditoriums and other facilities to townspeople.

CONTINUED ON NEXT PAGE

APS OBSERVER
American Psychological Society

March 1996
NAS FROM PAGE 1

"It's obviously a career high point," said APS Fellow John Liebeskind of the University of California-Los Angeles, one of three psychologists elected to the Academy last April. "I felt a kind of a glow when I woke up in the morning. I was so delighted I could hardly express it, but I try to be appropriately modest. I have a good sense of how many other people there are with credentials equal to and surpassing mine who are not members of the Academy but who should be."

Boost to Psychology

It's a big boost to psychology itself every time another psychologist is elected, said another new NAS member, Richard M. Shiffrin of Indiana University, "primarily because psychology has been fighting an uphill battle for many years to be taken seriously as a science." Shiffrin, an APS Charter Member, said that psychology is too commonly misidentified by outsiders as "some kind of peculiar non-scientific philosophy or some kind of [non-scientific] clinical practice." And he views the NAS as a stronghold in the battle to overcome this inaccurate image and to "get psychology taken seriously as a basic science—a science that is as strong and important as other sciences."

Shiffrin said that the added punch psychology receives from NAS recognition extends from the campus to the federal capital. "In our schools, in fighting for resources for psychology versus other sciences and other departments, it helps to have the recognition accorded by NAS membership. That helps the university administration take psychologists seriously as scientists and helps assure that our needs and requests are taken seriously. In Washington, too, it helps us get our fair share of resources," Shiffrin said.

A third new member of the NAS, elected in 1995 along with Liebeskind and Shiffrin, is APS Fellow Austin Riesen of the University of California-Riverside, whose work is in visual development. He discovered that light and visual stimulation are required for vision to develop, and that animals who spend their infancy in darkness behave as though they are blind when eventually exposed to light. Riesen, Shiffrin, and Liebeskind were formally inducted into the Academy at its 133rd annual meeting in April 1995 (see July/August 1995 Observer).

History

Though a private organization of distinguished researchers and scholars in science and engineering, the Academy was established this month in 1863 by a congressional act of incorporation signed by Abraham Lincoln. It was dedicated to the furtherance of science as well as to the application of science to promote the general welfare. The Academy's mission was to act as adviser to the government, upon request, in any matters of science and technology. Today that mission remains the core charge of the NAS and the sister institutions that have grown up around it: the Institute of Medicine (IOM) and National Academy of Engineering (NAE), and the National Research Council (NRC). The NRC is the research arm of these institutions, and it draws on the scientific talent in the individual academies to conduct the scientific studies and surveys for which the NAS is so well-known.

From its initial 50 members in Lincoln's day, the NAS has grown to 1,809 members and 299 foreign associates. (The foreign associates are not American citizens, although many of them work and reside in the United States.) Next month the Academy holds its 134th annual election of new members, during which some 60 new members will be elected to the Academy.

A survey conducted in 1993 revealed that a majority of the NAS members were unfamiliar with the various commissions, boards, divisions, and committees of the Academy complex. And, no wonder! There are now about 625 NRC committees, tapping the expertise of more than 6,000 NAS members. Some 80 percent of these committee participants are not members of either the NAS, NAE, or IOM.

Psychologists

As for psychologists, today they make up about 3.8 percent of the NAS membership. The Psychology Section of the NAS currently counts 78 members, 8 of whom are foreign associates. Psychology is one of NAS's 25 sections and, in terms of membership, is of average size, comparable to the Microbiol-

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Educational policy issues clear and accessible to policymakers and the public.

"We do studies primarily as requested by government agencies, often mandated by Congress, and we usually get to refine the scope," Swets said. "But to some extent we also initiate studies and perhaps try to get a government agency interested in them."

APS President Richard Thompson, elected to NAS in 1977, is one of those 18 CBASSE commissioners, and, as such, helps oversee CBASSE's nearly 60 panels, committees, subcommittees, and working groups.

With a budget of about $10 million and staff of 60, CBASSE focuses on five broad areas: Its individual and group behavior programs are concerned with human performance, productivity, and innovation in wide-ranging fields, from air traffic control to natural disaster relief, nuclear power plants and industrial productivity. The CBASSE focus on children and families includes studies of bilingual education, spousal and child abuse, and the impact on children of major changes in social welfare programs.

The population issues studied by CBASSE include both domestic and international priorities in family planning and reproductive health, aging, and the demographic and economic impacts of immigration. CBASSE's fourth broad focus area is education reform, concerned with translating research on how children think and learn into classroom applications and with issues of testing and assessment. A fifth focus area is concerned with the improvement of statistical methods and information on which public policy decisions are based.

[The Academy was established this month in 1863 by a congressional act of incorporation signed by Abraham Lincoln. It was dedicated to the furtherance of science as well as to the application of science to promote the general welfare. The Academy's mission was to act as adviser to the government, upon request, in any matters of science and technology. Today that mission remains the core charge of the NAS and the sister institutions that have grown up around it: the Institute of Medicine (IOM) and National Academy of Engineering (NAE), and the National Research Council (NRC).]

Reaching Out

The NAS and NRC have started to sponsor colloquia on various topics, and Michael Posner of the University of Oregon has agreed to help organize a meeting on imaging and the human brain that will take place at the Beckman Center at Irvine, California, early in 1996. The colloquium will focus on relating neuropsychology and circuitry of higher brain functions, which Posner's work has centered on for the last 10 years, though, when elected to the Academy in 1981, he was primarily doing cognitive psychology. Currently he is researching brain circuitry by looking at high density electrical recording of scalp electrodes in relation to activated areas identified through PET scans, trying to describe the time course of the

CONTINUE ON NEXT PAGE
Improving Your Students' Writing: Arts and Drafts

Mitchell M. Handelsman
University of Colorado-Denver

Margie Krest
University of Colorado-Boulder

More and more psychology instructors are having students write multiple drafts of research papers. This process leads to better final papers and is closer to what psychologists do when they write their own scientific work. However, faculty members are often frustrated by the enormous amounts of time needed to comb through and respond to rough drafts. Likewise, students become frustrated and overwhelmed when their papers are returned with a mass of red ink, with every extraneous comma circled, and with each page littered with multiple occurrences of "AWK," as if the paper were annotated by a tropical bird.

Assumptions

This Teaching Tip column provides instructors with advice on how to improve the scientific writing of their students. We start with two assumptions. First, writing well is not so much a matter of correct grammar as it is a matter of expressing ideas well. Indeed, grammatical and stylistic problems often arise from unclear thinking about one's ideas. Second, early drafts of research papers demand different types of comments than do final versions. Responses to early drafts should be supportive, helping students formulate and develop their ideas. Only later should stylistic and grammatical concerns become a focus of attention.

Our basic approach is to limit the length and number of our responses to each paper while providing students with useful and substantive comments. We spend time helping students organize their thinking and convey their ideas rather than marking every dangling modifier, vague pronoun, or split infinitive. The result is a more efficient and effective process.

We have divided this column into two sections. First, we outline general guidelines for responding to drafts. Second, we outline the common problems in drafts and suggest ways to respond to these problems.

General Tips for Responding to Drafts

Focus on Ideas and Thinking

Grammar and writing style are less important at this stage. Our major role as instructors should be to help students develop and convey their thinking. We can expect students to take more responsibility for editing their own papers once they know what they want to say. Interestingly, grammar and style often improve markedly as students discover how to think about the issues addressed in their papers.

Adopt Reader's Perspective

Share responses as a reader rather than as a critic. This will help students keep their audiences in mind and make your comments seem less punitive. For example, "I was confused when I read this; I could use more explanation," might work better than, "This is vague and poorly written." The former statement gives information about the experience of the audience and gives the writer direction, while the latter seems more negative and provides little direction.

Be Collegial

Teach students how psychologists work with each other by treating students as we [as scholars] treat colleagues. Good comments are ones that stimulate additional thought and productive conversations among students and between students and instructors.

Be Specific, Up to a Point

Some comments by instructors are so
Teaching Institute Brings the Latest Research and Teaching Techniques to San Francisco

On June 29, APS will hold its 3rd Annual Institute on the Teaching of Psychology at the San Francisco Hilton. Scheduled in conjunction with the 8th Annual Convention (June 29-July 2), this exciting one-day preconference is open to teachers of psychology at two- and four-year colleges and universities, graduate students, and others with an interest in teaching. The APS Teaching Institute has attracted over 400 of your teaching colleagues each year, and we expect an even larger and more diverse audience in San Francisco. (See insert for registration, hotel, and travel information.)

The APS Teaching Institute offers a special blend of cutting-edge psychological research and proven teaching techniques. In plenary and breakout sessions, leaders in psychological science discuss the latest research and theories in their fields so that you can tell your students about the most recent and exciting developments in psychology. And just look at the list of renowned invited speakers! This preconference offers you a golden opportunity to see and hear some of the best and the brightest in psychology all in a single jam-packed day. But that’s not all! The APS Teaching Institute also provides two special forums in which to interact informally with your peers and swap information on innovative and successful teaching strategies, classroom demonstrations, course organizations, and more. In the poster presentations and participants idea exchanges, you will delve into the nitty-gritty of teaching psychology at all levels and walk away with ideas and techniques that you can put to use in your classroom right away (see titles on opposite page for a sample of these presentations and discussion topics). This exciting combination gives you both substantive scientific research and the tools with which to share this information more effectively with your students.

If you are a teacher, don’t miss this opportunity to interact with these leading scientific psychologists and your many colleagues from across the country. Register early, though, since enrollment is limited.

Invited Speakers

Elliot Aronson
University of California

Howard Friedman
University of California-Riverside

Ellen Markham
Stanford University

David Rosenhan
Stanford University

Amos Tversky
Stanford University

Robert Zajonc
Stanford University

Sheldon Zedeck
University of California-Berkeley
Experimental Psychologist Richard L. Solomon (1918-1995)

Experimental psychologist and APS Charter Fellow Richard L. Solomon died on October 12, 1995, in Boston, during cardiovascular surgery. Since his retirement from the University of Pennsylvania in 1984, Dick and his wife Maggie had been living in Conway Village, New Hampshire, an area he had come to love when he owned and worked a tree farm nearby.

A keen outdoorsman, who as a camp counselor had led city kids on hikes through the Maine woods during the summers throughout his academic career, in retirement Dick remained an enthusiastic hiker, cyclist, and canoeist, interests he and Maggie shared. He was the chief cheerleader and support system for the town’s running club, shouting encouragement at the start and finish lines of every race. He is survived by his daughters Janet and Elizabeth.

Dick Solomon was born in Boston in 1918. He received his AB from Brown University in 1940 and his MSc in Psychology from the same school two years later. During the second world war he was a research psychologist for the Office of Scientific Research and Development, most notably working on new perceptual-motor systems to control the defensive gunfire of the B-29 bomber. When the war ended, Dick returned to Brown, where he received the PhD in 1947. He moved to Harvard’s Department of Social Relations that year and was promoted to a Professorship 10 years later. In 1960 he joined the faculty of the Department of Psychology at the University of Pennsylvania, where he was named the first James M. Skinner University Professor of Science in 1975.

Solomon was elected to the National Academy of Sciences and was awarded the Warren Medal for research by the Society of Experimental Psychologists, as well as APA’s Distinguished Scientific Contribution Award. He also received the American Psychological Foundation’s Award for Distinguished Teaching in Experimental Psychology and Sigma Xi’s Monie A. Ferst Award for “...notable contributions to motivation and encouragement of research through education.”

Solomon’s laboratories at Harvard and Pennsylvania were magnets for graduate students; 32 men and women completed their PhDs under his direction. I hope they will forgive me for not citing them in the usual way in this necessarily brief history of research from Solomon’s laboratories.

Dick Solomon was educated at a time when an extraordi-
Emotional Response and transfer of control procedures, powerful tools for studying fear and its inhibition, made fear an attractive vehicle for studying Pavlovian conditioning. Research by Solomon, his Harvard and Penn students, and others, using fear as a representative conditioned response, made substantial contributions to the exploration of Pavlovian conditioning, as novel experimental designs generated provocative new phenomena, which in turn inspired comprehensive and fruitful theories.

Interest in the role of Pavlovian conditioned fear in avoidance responding stimulated interest in the role of Pavlovian processes within instrumental behavior generally, and by the late 1960s, transfer of control experiments designed to elucidate Pavlovian-instrumental interactions abounded. Stimulus as well as motivational properties of Pavlovian conditioned states were seen to be important determinants of instrumental responding. The direction of this research was in large part set by a framework for categorizing interactions between Pavlovian and instrumental processes that emerged from Solomon’s laboratory.

The learned helplessness hypothesis, which has had a substantial impact on nearly all of psychology, was prompted by the finding, in Solomon’s laboratory in the mid-1960s, that prior exposure to inescapable, unavoidable shocks resulted in profound impairment with subsequent escape learning. Search for this interference effect itself arose from observations in transfer of control experiments that latencies of the first escape response in avoidance/escape training were longer for animals that had received classical conditioning first than for animals that had received avoidance training first. Interestingly, the importance of the level of conditioned fear, and of signals that mitigate that fear, has been a focus of recent experimental analysis of learned helplessness.

From the early 1970s Solomon’s primary theoretical focus was on the opponent-process theory of acquired motivation, which, taking the phenomena of opiate addiction as a model, asserts that with repeated presentations of a hedonic event, the initial affective response to that event diminishes, and an affectively opposite response develops to termination of the event. Dick always was concerned about how results from the laboratory might apply to the “real world,” but it was in the case of opponent processes that he extrapolated most freely, from changes in emotional responses to aversive events or drug experiences in dogs and rats to changes in affect as people become veteran sport parachutists, sauna bathers, or distance runners, and even to changes in lovers’ affective reactions to separations.

Dick Solomon’s profound impact on his graduate students was largely through example. He exemplified those characteristics that a scholar, researcher, and teacher of graduate students should possess. His enthusiasm for a broad range of psychological questions was perhaps his most striking characteristic, and he communicated that enthusiasm to students and colleagues alike. On listening to him discuss research questions in first-year pro-seminar, and later in his weekly research seminar, it became obvious that the formulation of fundamental, testable questions about learning and motivation and consideration of the implications of the research that followed from those questions were vitally important and exhilarating activities. After a relatively short time in Dick’s laboratory such issues and activities became terribly exciting for his graduate students too.

Dick Solomon created a research environment that was supportive as well as exciting. He characteristically treated with respect ideas proposed by his students in seminars and casual conversation. In research seminar, where students and postdocs proposed new approaches to research problems, often there was considerable “cut and thrust” as participants focused on a proposal’s shortcomings. Dick took a different tack, guiding the discussion so that what was valuable in a proposal, however incomplete or flawed, could emerge. When a question of research design or strategy was being considered, he encouraged students to work out answers for themselves. Even less confident students discovered that they could make worthwhile contributions to the research effort. Dick Solomon used his personal force and eloquence to create an intellectual climate that fostered creativity and independence, and the students thrived. Throughout his retirement Dick maintained an affectionate interest in the intellectual development of his former students.

Dick also taught his graduate students, again largely by example, that acceptance of the role of university professor entails a commitment to maintain a balance between the time and energy spent on one’s particular research interests and those devoted to teaching and the operation of the university. Despite his dedication to research, Dick never acted as though it was appropriate to pursue a research question to the exclusion of the other roles that the best scholars and researchers must play if the universities are to fulfill their promise. Although he was actively engaged in several research projects and was doing an extraordinary amount of editing and reviewing—he was editor of the Psychological Review from 1959 to 1964—Dick nonetheless contributed much more than his share to the life of the university.

In May 1983, Dick’s students and colleagues from all over North America met to honor him in his 35th academic year. His former graduate students and postdocs presented 22 scientific papers which were collected in the volume Affect, Conditioning, and Cognition: Essays on the Determinants of Behavior (Brush and Overmier, 1985), a volume the group offered to Dick in appreciation for all he had done, and with respect and love for the teacher and the man he was. We were grateful for the opportunity to honor him in that way. At this year’s meeting of the Eastern Psychological Association in Philadelphia, on the afternoon of March 30, there will be a symposium “Conditioning, Learning and Affect: The Legacy of Richard L. Solomon,” in which a few of Dick’s students will review his major ideas and research, and outline subsequent developments in learning, motivation and related areas of psychology which his research and thinking continue to influence.

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DEPT. OF PSYCHOLOGY
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March 1996
the contacts stimulating and sometimes useful in connection with his own research.

Rumelhart has a long-term interest in mind-brain relationships that he is now pursuing through the use of functional magnetic resonance imaging. “In psychology we used to have the idea that our mental life was somehow distinguished from the brain, that those were two distinct things. But most people don’t believe that anymore, that what we need to understand is how the mind and the brain work and what the similarities are between them.”

Rumelhart notes that “we are now able to [measure] neural activity at the level of about a square millimeter with techniques that avoid the inherent difficulty to the subject of using [invasive] electrodes. We can measure what is going on in the brain while people are doing mental tasks.”

Yet it is “still not easy to measure or evaluate the connection between what happens in our brain and what happens in our mind,” Rumelhart said. For him, that remains one of the great challenges.

Although most of the work in Magnetic Resonance Imaging is currently being done by people in the medical professions who have access to the scanners, psychologists have a particular advantage in this area, Rumelhart said. It’s an advantage that comes from the fact that scientific psychologists are very good at experimental methodology and have been able to develop techniques that others have never thought about.

Membership Nominations

Mortimer Mishkin of the National Institute of Mental Health, elected to the NAS in 1990, says “it’s such a great honor and really a thrill to be elected that I guess it’s one of the high points of a scientist’s career, one that stays with you and never goes away.”

Mishkin was chair of the Psychology Section of NAS for three years in the late 1980s (following Dick Thompson) and he sees the main duties of an NAS member as being “to consider and nominate for membership other, younger scientists and to publish or sponsor papers for PNAS, [the Proceedings of the National Academy of Sciences].” Each member has four “slots” a year to publish their own papers or publish the papers of others who request their sponsorship.

“Psychologists tend to be a little underrepresented in PNAS, and that seems to me something that should be looked into,” he said.

“You also have the opportunity to serve on committees to nominate and select awardees for large and prestigious prizes given under the aegis of NAS.” These include the Troland prize, the NAS awards in neuroscience, and, said Mishkin, “there are opportunities for participation in research initiatives and scientific reviewing.”

Mishkin’s own research is mainly on brain functions in monkeys and examines the brain’s circuitry that allows for perception in various modalities and for memory formation and skill learning. He says this field is making “fantastic advances and is one of the most exciting areas of research” at present.

Psychology and the NAS

Paul Meehl of the University of Minnesota, elected in 1987, said, “The main thing is that it is hard for psychologists and other social scientists to get into [the NAS], so it’s a nice thing for the individual and the department to have someone among that elite group. But I don’t know that [my membership] has had any great influence on me.”

Meehl has been concentrating on research and writing since his retirement from the University of Minnesota in 1990, working particularly on innovative mathematical methods for classifying mental disorders, methods that have been his main concern for many years.

He states that his methods have nothing to do with the Diagnostic and Statistical Manual (DSM) and do not clump individuals into clusters, as do most of the methods currently used in psychopathology research, and that his methods do emphasize consistency tests.

“You will not get illusory taxons using my method,” Meehl said. “If there are such entities as depression and schizophrenia, then my method will find them. And since in my view most DSM categories are not real categories, my method should be able to show that they are not.”

Opportunity and Responsibility

McGaugh summed up the significance of NAS membership for psychology: “The primary benefit is that it is honorific to the individual and honorific to the field of psychology, because it recognizes psychology as belonging with astrophysics and all the rest of the sciences. So it’s an authentication or validation of our field. And, on top of that, it is an opportunity and responsibility accepted by some, but not all members, to help shape decisions on important government policy matters by working through the NRC.”

“I don’t know anyone who would reject membership,” McGaugh said. “It’s not the Nobel prize, but ... it’s pretty heady.” D.K.
The Student Notebook  

APSSSC Meets in Washington, Discusses Organization’s Future

During the weekend of February 2-4, the APS Student Caucus executive council members braved the freezing temperatures in Washington, DC, to meet at the APS national office and discuss plans for the future of the organization.

Among the topics discussed were plans for making the APSSSC a more user-friendly and effective organization for a majority of APS student members.

These plans include increasing student participation in the student research competition, small grant award, and Student Notebook; enhancing the mentorship program by providing a World Wide Web page with information about mentors and graduate school admission; increasing APSSSC chapter participation; and providing an Ethnic Minority Concerns committee World Wide Web page.

“The APSSSC would like for as many students as possible to become involved in the organization,” said APSSSC President Chris Ratcliff, following the meeting. The APSSSC executive council would accomplish this goal, he said, by implementing and improving the programs listed above. “We [the executive council] cannot involve students by mandate. We, instead, need the self-starting initiative of students around the country and the world. As a governing body, we can help, but we must learn the concerns of the students from the students themselves.” Ratcliff and the members of the executive council urge students to forward their suggestions on how to improve your student organization. Contact any of the officers or committee chairs listed in the blue box to the right.

At the winter APSSSC executive council meeting plans also were made for the upcoming convention. A hotel match-up program, described in an article in this Student Notebook, was implemented to help students find a roommate prior to the convention. The student research symposium, recruitment, and travel awards were also among the topics discussed in a brainstorming session.

But when the APSSSC executive council members were not in official meetings, they were taking in the sights and various cuisines of Washington. Overall the meeting was a productive and enjoyable success.

NEW!

Matching Funds for Speakers

In an attempt to provide local chapters the opportunity to enhance the quality of their participants’ education, the APSSSC has established a matching funds program to sponsor guest speakers.

The funds are provided through support by the American Psychological Society (APS). This program provides opportunities for contact between students and recognized psychologists in the field by paying a portion of the costs associated with sponsoring a guest speaker. APSSSC may award a chapter up to $500 to match funds the local chapter has set aside for the guest speaker. Application for these funds is to be in the form of a letter mailed to:

Communications Director
Michael B. Jordan
Loyola Univ.-Chicago
Dept. of Psychology
Damen Hall
6525 N. Sheridan Rd.
Chicago, IL 60626

To apply for matching funds, include the following information in your letter:

- A signature by your local APSSSC chapter president and faculty sponsor.
- The amount of funds requested (not to exceed $500).
- The amount in your local APSSSC treasury committed to the speaker. This is likely to be the same amount as requested above. (Hence the name “matching” funds.)
- The name of the speaker and the topic to be presented.
- The full amount of the speaker’s fee.
- The date the speaker is scheduled to present.
- The date by which the chapter would need the APSSSC funds. This date should be no later than three weeks after the letter requesting the funds.

Chapter founders should provide information on the institution, department, and students, and designate a faculty sponsor.

After your application has been received by the APSSSC Chapter Coordinator, you will be notified of approval or disapproval of your request.

In addition, a brief summary report is required from the local chapter president and faculty sponsor following the event and should be mailed to Michael B. Jordan no later than two weeks after the speaker presents.
WANT TO SAVE MONEY AT THE 1996 CONVENTION?

Are you looking for a roommate to cut down on hotel expenses at the 1996 APS San Francisco convention? The APS Student Caucus (APSSC) would like to try and match you up with another APS student affiliate from around the country. The APSSC Hotel Match-Up Program allows APS affiliates to request a roommate for the 1996 Convention.

The Match-Up program can not only save you money, it can help you meet new people who are your scientific peers. We cannot guarantee a match, but we will do our best to find you a roommate that meets your preference and one that just might help foster your professional growth at the same time.

If you would like to participate in the Program, send your name, age, gender, smoking preference, area of interest in psychology, and any special concerns. You may send all of the information above by email to N.SCARBERRY@TCU.EDU or by mail to Nikki Scarberry, Dept. of Psychology, Texas Christian Univ., Fort Worth, TX 76129. Be sure to include your postal and email addresses.

CHAPTER-OF-THE-YEAR COMPETITION

Every year, the Executive Council of the APSSC requires all local chapters to submit an end-of-the-year report summarizing the chapter’s activities for the year. This report provides a way for APSSC to keep current records on each chapter.

To reward exceptional chapters and encourage activity and growth, the APSSC awards a Chapter-of-the-Year award to the local chapter that has demonstrated the highest achievement and student participation. The chapter that wins the award will receive a $200 cash award and recognition in the Observer. The award will be presented formally to a representative of the winning chapter at the 1996 APS Convention in San Francisco.

Local chapters are asked to include specific information in their reports. This information will allow the Executive Council to get a better understanding of what local chapters are doing, standardize the reports, and allow for the aggregation of chapter information. In addition, this information will provide a basis for comparison of chapters for this year’s Chapter-of-the-Year award and will also provide a frame of reference for comparing the overall progress of APSSC in the years to come.

Hopefully, this will also serve as a guideline for new chapters who may not be familiar with the nature of the annual report.

Remember, this report is mandatory for all APSSC local chapters and is due by May 24, 1996. Mail your chapter report to Michael B. Jordan, Loyola University Chicago, Dept. of Psychology, Damen Hall, 6525 N. Sheridan Rd., Chicago, IL 60626. If you have any questions about the report, contact Michael at 312-508-3039 or by email at MJORDA1@LUC.EDU.

RESEARCH COMPETITION REMINDER...

All student affiliates are encouraged to submit original research to enter the sixth annual APSSC Student Research Competition. Up to four students (three graduate and one undergraduate) will be selected to receive a cash award of $250 and will be invited to present their research in a special symposium at the 1996 APS Convention in San Francisco.

The deadline for submissions is February 25, 1996. For more information, see the article in the November 1995 Student Notebook or contact APACKLAIAN@CL.UH.EDU.

TRAVEL AWARD REMINDER...

The APSSC travel award program is designed to financially assist those students who are attending the annual APS Convention. Awards are granted to students who express financial need and who are presenting research at the convention.

This year, awards will consist of $125, which may be spent in any way to defray the cost of attending the conference. In return, APSSC asks that award recipients donate six hours during the convention to work at the registration desk, the job bank, or combined book exhibit. If you are interested in applying for a travel award, contact Nikki Scarberry (tel.: 817-921-7410, email: N.SCARBERRY@TCU.EDU).