

PSYCHOLOGICAL SCIENCE AGENDA

SCIENCE DIRECTORATE of the AMERICAN PSYCHOLOGICAL ASSOCIATION

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Richard C. Atkinson Receives 2003 Vannevar Bush Award

Psychologist Richard C. Atkinson, University of California President and former director of the National Science Foundation, was recognized on May 21 by the National Science Board as the 2003 Vannevar Bush Award recipient.

Atkinson is the 25th recipient of NSF's most prestigious award. Previous recipients have included former NIH director Harold Varmus, David Packer, Linus Pauling, and a host of Nobel laureates. The award is given to an individual "who, through public service activities in science and technology, has made an outstanding contribution toward the welfare of mankind and the nation." Atkinson's career is highlighted by significant contributions and research in the social sciences, which generated lasting effects in areas of science, engineering, and mathematics.

Atkinson was a faculty member at Stanford University from 1956 to 1980. As a professor of psychology, he was involved in research related to problems in memory and cognition. The theme of research has been primarily the quantification of studies of learning and memory, through mathematical models, the analytical use of computer-assisted instruction, models of optimization, and the theory of short and long-term memory.

As testimony to the breadth of his knowledge and contributions, he also held appointments in the School of Engineering, School of Education, Applied Mathematics and Statistics



RICHARD C. ATKINSON

Laboratories, and the Institute for Mathematical Studies in the Social Sciences. With Ernest Hilgard and Rita Atkinson, he authored one of the most successful introductory psychology textbooks of the late 20th century.

He was named deputy director (1975) and then director (1977) of the National Science Foundation – the first psychologist to hold the directorship. During his tenure as director, he negotiated a memorandum of understanding between the United States and the People's Republic of China, an agreement that led to a wider exchange of scientists and academics. The move resulted in improved communication between the two countries and increased reciprocation of ongoing research.

Atkinson left NSF in 1980 to become Chancellor of the University of California, San Diego, where he

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concentrated on building the academic programs. He was named president of the University of California system in 1995, where he continues to serve as one of the country's top academic officers.

Atkinson's push for diversity in the area of student admissions was published in a recent opinion piece published in *The Washington Post*. He stated, "What we do about this is a source of real concern. We must continue our efforts to help close the achievement gap in the public schools. We must continue refining our admissions policies to ensure that they reward high achievement and yet recognize that high achievement can be demonstrated in different ways in different educational settings."

APA has recognized Atkinson twice for his significant contributions to science—first with the Distinguished Scientific Contribution Award in 1977, and then with the Association's Lifetime Achievement Award in 2002. He served on the APA Board of Directors from 1973 to 1976.

Norman Anderson, CEO of APA, also commented upon the news of the award. "We are extremely gratified that our own Dr. Atkinson has been honored with this most prestigious award," Anderson said. "He truly represents the very best we have to offer as a profession and we are simply proud to be associated with him."

The Bush Award was created in 1980 by the National Science Board to honor Vannevar Bush, whose recommendation to Congress in 1945 for a new foundation resulted in tangible government support in the areas of science and technology and a more fully established national science policy. ■

APA Member Kicks Off Congressional Testimony Season

by Heather O'Beirne Kelly, Public Policy Office

On Wednesday, March 9th, APA member Timothy Wilson presented our annual testimony in support of psychological research before a House Appropriations Subcommittee in the U.S. Capitol. Wilson, a social psychologist and Chair of the Psychology Department at the University of Virginia, advocated for increased funding at three federal agencies under the jurisdiction of the House VA-HUD Appropriations Subcommittee: the National Science Foundation (NSF); National Aeronautics and Space Administration (NASA); and Department of Veterans Affairs (VA). Psychological researchers receive grant support from each of these agencies, and NSF in particular is a primary source of funding for our scientists.



APA Member Timothy Wilson presents the annual testimony before a House Appropriations Subcommittee.

The testimony (posted on our Public Policy Office website at www.apa.org/ppo/issues/svahudtest03.html) highlighted two large-scale grant programs at NSF in FY04 – the Human and Social Dynamics research priority area within NSF's Social, Behavioral and Economic Sciences Directorate, and the foundation-wide Science of Learning program. For more information on each, see NSF's website at www.nsf.gov.

Following the official testimony, Wilson and

Heather Kelly, APA's Senior Legislative and Federal Affairs Officer, met with staff from Rep. Virgil Goode's office (a Republican Congressman from Virginia on the influential VA-HUD Appropriations Subcommittee) to obtain his support for psychological science at NSF. ■



SPIN: Science Policy Insider News

What is SPIN?

APA's Science Policy staff wants you to know about the important policy issues that affect psychological science and psychological scientists at the national level. The Science Policy staff advocates for psychological science not just with members of Congress, but also the Departments of Defense, Health and Human Services, Transportation, Veterans Affairs, Education and with the National Aeronautics and Space Administration and National Science Foundation. To keep you aware of science policy within these agencies and on Capitol Hill, we have created APA's Science Policy Insider News (SPIN), a monthly email newsletter that will take you inside the Administration and Congress for timely information. Visit www.apa.org/ppo/issues/spinhome.html to read legislative news, subscribe to SPIN via the web, or to browse through past issues.

EXECUTIVE DIRECTOR'S COLUMN

KURT SALZINGER, Executive Director for Science

Moving Graveyards

We know that there is nothing so reinforcing as the familiar. And there, no doubt, lies part of the answer to our limited interest in changing our behavior, the books we read, the rules of behavior by which we function, the courses we teach, the people with whom we do research, and the kinds of research problems we tackle. Constancy is critical and lack of it makes people think we have no substance to our beliefs; change, however, is a necessary part of life. I raise these issues in response to a talk given by Robert Croyle, social psychologist, Associate Director for Behavioral Research at the National Cancer Institute, and one of the recipients of the APA Meritorious Research Service Commendation at our Board of Scientific Affairs. He raised the issue of stimulating our fellow scientists in psychology to take better advantage of current trends in science, namely interdisciplinary research and “big” science. That talk, in turn, raised the need for change in psychology departments’ attitudes, because paying attention to new trends in science requires that departments of psychology consider change.

The educational enterprise, however, is ironically among the worst perpetrators of an unproductive constancy. Hence, the saying that changing educational procedures is like moving graveyards. Now, just to anticipate your defense of the educational system as it exists, let me admit immediately that some things must remain the same and that I do not suggest that all must change with every new trend even if it does emanate from funding agencies. Furthermore, we have



changed with the times in some ways, and let me boast that the APA Science Directorate (as directed by the Board of Scientific Affairs) has been in the forefront of these developments, by introducing psychologists to new methods, e.g., by producing the Advanced Training Institutes (see www.apa.org/science).

Nevertheless, there is a need for change in departmental, and perhaps in university, cultures. Most research funding agencies have come to the realization that the way in which our universities have divided up the sciences does not reflect the way in which nature has divided up its problems. For this reason, each of our funding agencies has increasingly turned its attention to soliciting research proposals that require a number of sciences working together to solve problems, whether they refer to educational quagmires, as in the teaching of mathematics, or to a serious health problem, as in the amelioration of Alzheimer’s disease. The problem as stated by these agencies is that universities seem unwilling to train their students so that they are able to work along side of other scientists so

that they can be meaningfully and fruitfully involved in “big” research, that is, in research centers comprising various fields of research.

As long as I am once more exhorting you to engage in new behavior, allow me to describe a second change that ought to be taking place. In this interdependent world in which we live, we can no longer (if we ever could) expect to be able to devote all of our time and effort to any given research problem that strikes our fancy. I don’t mean to suggest that we should forsake problems that we know need to be examined; I mean to suggest that part of our role must be to explain what we do, especially to those laypeople who decide whether our research should be supported by tax money. I am talking about members of Congress as well as our fellow scientists (in fields other than psychology) who may not know much more about the science of psychology than the typical layperson does. Unless we spend some of our time writing op-ed pieces (see, www.apa.org/science), testifying before congressional committees, writing letters to various government agencies as they get formed, e.g., Department of Homeland Security, we will not receive the support that our research deserves, nor will we be able to provide our students with the option of working in the science of psychology as supported by these agencies. ■

Reminder!

The Psychological Science Agenda will soon be going electronic.

See page 18 for details...

Visit our Op-Ed Page at
www.apa.org/science/editorial.html

APA Weighs in For Balanced Science Advice

by Geoffrey Mumford, Public Policy Office

In every administration, questions arise over how science should or does influence policy decisions. But, last September, an article in *The Washington Post* significantly changed the volume of that debate here in DC and across the country. The article focused on the apparent arbitrary decision at the Department of Health and Human Services (DHHS) to dissolve advisory committees related to the protection of human subjects (National Human Research Protections Advisory Committee, NHRPAC) and, separately, genetics testing (Secretary's Advisory Committee on Genetic Testing, SACGT). The same article suggested that the rosters of other committees were undergoing dramatic turnover generating additional concerns about new appointees and the appointment process in general. The article and several others that followed in the lay and scientific press gained the immediate attention of Congress and began to create a buzz in the scientific community.

The so-called sunset provisions were built into the advisory committee process to ensure a regular review of committee activities. Those committees that had met the goals of their charters and completed their agenda, it was thought, should be terminated in the name of streamlined government. Although the media buzz seemed to suggest this was a novel action by a newly dominant Republican majority, attempts to radically reduce the numbers of advisory committees were actually hallmarks of both the Carter and Clinton Administrations. But while it is the prerogative of every administration to make these sorts of adjustments, the apparent dissolution of these two committees came at a time when ethical issues related to human

subjects and genetic testing had become front burner issues.

As members of both the Consortium of Social Science Associations and the Federation of Behavioral, Psychological and Cognitive Sciences APA endorsed letters praising the work of NHRPAC and SACGT and recommend that the Secretary of DHHS reconsider his decision to terminate them. Whether or



not as a result of that input, Secretary Thompson in fact did reinstate the committees, and they have since been re-chartered with slightly different names and foci.

So we now have the Secretary's Advisory Committee on Human Research Protections (SACHRP) and the Secretary's Advisory

Committee on Genetics, Health and Society (SACHS). Thankfully, APA member Celia Fisher was appointed to the SACHRP and while behavioral science is not currently well represented on the SACHS, we will continue to supply nominations.

Background concerns related to the appointment process continued to fester and actually worsened. Articles and letters in the journal *Science* suggested that the alleged politicization of advisory council appointments had even penetrated the sacrosanct world of peer review study sections.

But perhaps the mostly widely publicized story and the one that really hit home for APA was that of University of New Mexico researcher (and APA Fellow) Bill Miller concerning his vetting for the National Advisory Council on Drug Abuse. As reported by *Mother Jones*, Miller's voting record, as well as his views on abortion and the death penalty, played into a negative evaluation of his nomination. Congressional Democrats seized on details of Miller's interview

to raise a number of pointed questions about the appointment process with DHHS.

With Congress doing the heavy lifting on the issue, APA's senior management asked the Public Policy Office to continue monitoring the situation and to look for opportunities to collaborate with other organizations. We learned of two substantive activities taking place and immediately joined in an effort to support them.

First we learned Congresswoman Eddie Bernice Johnson (D-TX), who serves as the top Democrat on the Research Subcommittee of the House Science Committee, requested that the General Accounting Office (GAO) initiate an investigation. The GAO agreed to the request and while it was still making decisions about the scope of the investigation, APA advised leaders in the scientific community so that they could provide comments. However, APA also began to hear from individual scientists who were concerned about possible professional repercussions for cooperating with the investigation. So APA worked with GAO staff to secure a provision that the GAO would not include the names of individual scientists in their notes or final report. APA then sent summary information about the investigation to the Executive Committees of all APA Divisions and the administrators of all APA Division listservs for dissemination.

The second opportunity evolved through APA contacts with the National Academy of Sciences (NAS). Following a series of background discussions, Norman Anderson was invited, as APA's CEO, to appear before the NAS Committee on Science, Engineering, and Public Policy (COSEPUP), to discuss the issue of the appointments and procedures of federal advisory committees on February 19, 2003. Along with the Science Advisors to

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Three Psychologists Elected to the National Academy of Sciences

by Jonathan Tin, Science Programs Associate

The National Academy of Sciences announced the election of 72 new members and 18 foreign associates from 11 countries in recognition of their distinguished and continuing achievements in original research.

The election was held on April 29 during the business session of the 140th annual meeting of the Academy. Election to membership in the Academy is considered one of the highest honors that can be accorded a U.S. scientist or engineer. Those elected today bring the total number of active members to 1,922. The three psychologists elected were:

Linda M. Bartoshuk, a professor in the departments of surgery and psychology



at the Yale University School of Medicine. Bartoshuk conducts research on genetic variation in taste

perception, oral pain, and taste disorders. Substances such as 6-n-propylthiouracil (PROP), for example, will be perceived as extremely bitter to 25% of subjects (known as super-tasters), moderately bitter to 50% (medium tasters), and nearly tasteless to the remaining 25% (non-tasters). She then stains subject tongues to determine that, as one might expect, super-tasters have the most fungiform papillae (where taste buds are embedded); non-tasters, the least. Bartoshuk is also involved in studies of taste disorders.

Claude M. Steele is a professor of psychology and social sciences, at Stanford University. His research interests are in three areas: self-evaluation; group stereotypes; and addictive behaviors, particularly alcohol addiction. The first led to a

general theory of self-affirmation processes; this in turn led to his concept



of “stereotype threat” – that group stereotypes (e.g., of gender or race) raise questions of belonging and self-evaluation to

member individuals sufficiently to impact performance. In addictive behaviors, he has created the concept of “alcohol myopia” — that alcohol’s narrowing of perceptual and cognitive function may create many of its stress-reducing effects, thereby underlying its addictive capacity.

Brian A. Wandell is a professor in the department of psychology, also at Stanford University. Wandell’s research includes image system engineering and visual neuroscience.

Professor Wandell’s work in visual neuroscience uses both functional MRI and behavior testing to



understand the action of the visual portions of the brain. Recently, he has measured the reorganization of brain function during human development and following brain injury. In addition to numerous scientific articles, Wandell is the author of the vision science textbook *Foundations of Vision*. ■

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Presidents Nixon, Bush Sr., and Clinton, representatives of the American Association for the Advancement of Science (AAAS) and the American Public Health Association (APHA) were invited to participate. A statement of task circulated in advance proposed the formation of an ad hoc

Federal Science Advisory Committee under the auspices of COSEPUP and provided a framework for the discussion on the February meeting.

Statement of Task

The ad hoc committee is charged with analyzing the federal government’s capacity to select highly qualified individuals for the top science and technology (S&T)-related advisory committees in the executive branch. This committee will assess the current recruiting environment, the appointments available, and provide guidelines for obtaining the most qualified candidates.

The meeting participants were encouraged to address the following four sets of questions and then engaged in a free-flowing open-ended discussion. See Norman Anderson’s statement at: www.apa.org/ppo/issues/snbacosepup.html.

- 1) What are your general thoughts regarding the issue of science, engineering, and health professional appointments to federal advisory committees?
- 2) Do you believe that COSEPUP should undertake a study to identify the principles that should guide such appointments?
- 3) What are your thoughts on the proposed statement of task?
- 4) If a study is undertaken, what type of individuals should be on the committee? Who should chair it? What should be the timeframe?

It is likely that results from the GAO investigation will be ready in December 2003. It may be that COSEPUP will wait for the results of that investigation before developing its broader guidance document. APA members with information directly relevant to the GAO investigation should contact Ross Campbell at (202) 512-6550 or campbellr@gao.gov and Christine Fishkin at (202) 512-6895 or fishkinc@gao.gov. ■

Work/Family Research Aims for Federal Funding Boost

by Dianne Brown Maranto, Director for Psychology in the Workplace

Several institutes, in collaboration with the Alfred P. Sloan Foundation, recently assembled to construct a future agenda for work-family, health and well-being research. The National Institutes of Health (NIH), The National Institute for Child Health and Human Development (NICHD), along with other key groups such as the Child Care Bureau of the Administration for Children and Families (ACF), are beginning to carve out an agenda for future efforts that will build upon existing knowledge.

NICHD and other NIH Institutes have funded work-family research in the past, but much of this work has been funded in response to general calls for research instead of a specific initiative focused squarely on work, family and health. According to Lynne Casper, NICHD's director of this program, "The time has come to build a program specifically targeted at this area of research. We are holding a conference in June 2003 to launch the new work, family, health and well-being initiative. This will bring together researchers from a variety of disciplines to help identify theories, methodologies, and constructs that will help to inform a comprehensive model for future research."

Another future conference will examine current workplace policies and practices, state and federal laws pertaining to work, and employees' notions about workplace policies and programs. This conference will also foster partnerships between employers and researchers. Both conferences may help shape a future research agenda and funding priorities in this area.

In addition to the support from previously mentioned NIH research, the military, and some funding from the National Institute for Occupational

Safety and Health (NIOSH), work-family research has had a major benefactor in recent years in the Alfred P. Sloan Foundation. Kathleen Christensen, a former professor of environmental psychology, developed Sloan's Workplace, Workforce and Working Families program in 1994. Since then, Sloan has sponsored 150 grants totaling over 40 million dollars. Sloan's program is organized around three goals: (1) understanding the structure of the workplace and how it

centers and grantees, and the third represents a newer, more applied focus of the foundation.

After several years of workplace research, Dr. Christensen recognized that many of the issues confronting families and work center around the fact that although the demographics and economic needs of the workforce have changed greatly, the setting and demands of the workplace have not. "A workplace that requires, full-time, full-year work, with minimal opportunities for time off or for flexible career paths, subverts the needs of many in today's diverse workforce. The lack of career paths that mirror life cycles makes it difficult for many, including dual earner working parents, older workers, and single parents, to live the lives they would like. Many do not want to work full time, full year, year in and year out, on a rigid lock step career path for their entire lives. But right now they have little choice. The rigidity of the workplace is profoundly mismatched with the needs of the changing workforce."

She has worked to shape Sloan's research agenda accordingly, with new projects examining career ladders for dual earner families and examining workplace restructuring in specific industries. While the Sloan Foundation continues to support important research on working families and the issues they face, "we have also developed the workplace-workforce mismatch formulation to support action-oriented research that identifies innovative workplace ideas and practices that can form the genesis of a movement towards a more flexible and productive workplace that will be good for children, good for society, and good for business in the future."

Sloan Centers on Working Families

Employment & Family Careers Institute,
Cornell University

Center on Parents, Children and Work,
University of Chicago

Center on Working Families,
University of California at Berkeley

Center for the Ethnography of Everyday
Life,
University of Michigan

Center on Myth and Ritual in Working
Families, Emory University

Center on the Everyday
Life of Families,
University of California, Los Angeles

Center on Workplaces for
Working Families,
Massachusetts Institute of Technology

For more information, check out Sloan's
web site at: [http://www.sloan.org/
programs/stndrd_dualcareer.shtml](http://www.sloan.org/programs/stndrd_dualcareer.shtml).

can be rethought to meet the varied needs of American workers; (2) understanding the daily lives of working families and the issues they face; and (3) promoting public understanding of working families through popular books, radio and television. The first and second goals represent the research foci of Sloan's

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Science Student Council Meets in Washington

by Jonathan Tin, Science Programs Associate

The Science Directorate's group of graduate student advisors — the Science Student Council (SSC) — met at the APA building over the weekend of April 12 to discuss its agenda for 2003. Graduate student awards and Convention programming were especially active topics.

The SSC, in conjunction with the American Psychological Association of Graduate Students, anticipates creating two awards for graduate students. The awards are in development; details will be posted on the SSC website (www.apa.org/science/apasscweb.html) when final plans are made. The Council also suggested changing the structure of existing Science Directorate dissertation awards so that a smaller number of larger awards would be



Science Student Council, from left to right: Michele Brumley, Patrick Bennett, Matthew Anderson, Margo Noel Gardner, Michael John Proulx, Ken Kelley, Amy Mezulis, and Diane Bonfiglio.

available. These changes are likely to be implemented in 2004. For 2003, fifty \$1,000 dissertation awards will be offered, as in recent years. The deadline for dissertation award submissions is September 15, 2003.

Leslie Hammer, Portland State University, is another psychologist (industrial/organizational) who has conducted Sloan-funded research and who believes that psychologists have a valuable perspective to offer. "Our research on working families caring for both children and parents provides a glimpse of the dynamics, both positive and negative, that occur among dual-earner couples who are managing multiple family and work role demands simultaneously."

Tammy Allen, an industrial/organizational psychologist at University of South Florida, has conducted research on family supportive workplace issues and work-family conflict. "This is an exciting opportunity for industrial/organizational psychologists to contribute to an important research agenda. Our training in understanding

Please visit <http://www.apa.org/science/dissinfo.html> for more detailed information.

The Council also prepared for the upcoming APA convention in Toronto by putting the finishing touches on its program on Non-Academic Careers for Psychological Scientists. Psychologists working in industry, health care, and government will describe the sorts of jobs available to research psychologists, and how to go about landing them. The program will be held in the APAGS suite on Sunday, August 10, starting at 9 am. Two confirmed speakers are David Schroeder, Manager of the FAA's Aerospace Human Factors Research Division; and Sue Bogner, Chief Scientist of the Institute for the Study of Human Error. ■

both organizational and individual well-being provides an ideal foundation for conducting research on the intersection of work and family roles."

Diane Halpern, APA president-elect, will undoubtedly bring more visibility to this area of research. Placing a high value on influencing public policy, Dr. Halpern sees the work/family balance issue as a natural for science to inform policy. "The world of work is still organized for the fictional family that lived in the world of black-and-white television in the 1950s. There are few real families with a dedicated company man, stay-at-home wife to care for the children or elderly parents, and two children who apparently never needed much care or suffer from serious illnesses. We need a new model of work—one that works for employers and working families, and psychologists are in a position to do the research to inform that new model." ■

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With new sources of funding on the way, psychologists may have more active opportunities in this area of research. Although multidisciplinary teams are common, the area seems to be dominated by sociologists and labor economists. Rosalind Barnett, a clinical psychologist at Brandeis University's Community, Families and Work program has been conducting research on worker scheduling and family demands, funded by Sloan and the National Institute for Occupational Safety and Health (NIOSH). "The new funding will encourage more psychologists to consider how their focus on individuals can be broadened to encompass dyadic relationships and the reciprocal effects of work and family on individual and couple health and well-being."

SCIENCE BRIEFS

The Social Impact of Internet Use

by Robert Kraut and Sara Kiesler, Carnegie Mellon University

8



ROBERT KRAUT

Psychologists have long studied how people's communication context changes social relationships. Classic studies by Festinger, Schachter and Back (1950) and Newcomb (1961) examined how people's physical proximity influenced their communication patterns and friendships. The Internet opens new options for communication that may challenge our understanding of how communication shapes social relationships. We have been studying the influence of Internet use on social relationships since 1995 (Kraut, Scherlis, Mukhopadhyay, Manning, & Kiesler, 1996).

Over 60% of U.S. households now have a personal computer and over 50% have Internet access (U. S. Department of Commerce, 2002). Although people use the Internet for many purposes, interpersonal communication is probably the most important, in the sense that it is most popular (e.g., Horrigan & Rainie, 2001) and drives other Internet use (Kraut, Mukhopadhyay, Szczypula, Kiesler, & Scherlis, 1999).

Robert Kraut is Herbert A. Simon Professor of Human-Computer Interaction at Carnegie Mellon University. He received his PhD in Social Psychology from Yale University in 1973, and previously taught at the University of Pennsylvania and Cornell University. He was a research scientist at AT&T Bell Laboratories and Bell Communications Research for twelve years. Kraut has broad interests in the design and social impact of computing and conducts research on everyday use of the Internet, technology and conversation, collaboration in small work groups, and computing in organizations. More information is available at www.cs.cmu.edu/~kraut.



SARA KIESLER

Sara Kiesler was trained as an experimental social psychologist and has a PhD in psychology. She has held positions at Yale, Connecticut College, University of Kansas, the National Research Council, Interval Research, and Carnegie Mellon University. Her research aims at understanding the design and social impact of computer and telecommunications technologies. She has studied social aspects of communicating through computer networks, and she published papers on phenomena such as flaming, group equalization in electronic groups, and participation of remote and marginal organizational members in teams. With Lee Sproull, she authored *Connections: New Ways of Working in the Networked Organization* (MIT Press). Her subsequent work included HomeNet, the field study of families on the Internet; studies of collaborations and distributed work arrangements in organizations; and studies of human-robot interaction.

Because interpersonal communication dominates Internet use, using the Internet could have positive social impact on people's social engagement and on its psychological benefits (e.g., Cohen & Wills, 1985; Diener, Suh, Lucas, & Smith, 1999). Research, however, suggests that online communication is less beneficial than offline communication. For example, communication online is less

interactive than face-to-face or telephone conversation, and it conveys less contextual information per unit of time (Sproull & Kiesler, 1991). Relationships developed or maintained online are slower to develop (Walther, 2002) and weaker than those developed or maintained in more traditional settings (Cummings, Butler, & Kraut, 2002; Parks & Roberts, 1998).

Our approach

Most claims about the social impact of the Internet are based on evidence from cross-sectional surveys that compare Internet users and non-users on such social outcomes as communication with family, community participation, or psychological health (e.g., Katz & Rice, 2002). It is well known, however, that Internet users and non-users differ in their demographic attributes, attitudes, values, and life style (see U. S. Department of Commerce, 2002 for evidence on demographic differences). Statistical controls for pre-existing differences between Internet users and non-users in cross-sectional samples are generally inadequate, because measurement errors cause statistical techniques to under-adjust and because researchers fail to include relevant

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individual differences, such as extraversion.

We have adopted a longitudinal approach, examining changes in social variables of interest among comparatively light and heavy Internet users. Measuring the effects of Internet use across time on the same individuals provides natural controls for pre-existing differences. By using statistical growth models (Singer & Willett, 2003), one can identify the attributes of individuals, including their amount and type of Internet use, that predict changes in social engagement and psychological well-being.

Since 1995, we have conducted studies of Internet use. We describe three here. Others can be found at <http://homenetresearch.org/progress>. We conducted the first project, HomeNet-1, in the early days of residential Internet use. To examine how ordinary Americans would use this then-new technology, we created a field experiment. We gave families Internet access in exchange for observing their online behavior. Much of this early work was descriptive, to understand how people integrated the technology into their lives. In the HomeNet-2 project, in 1998, we recruited a sample that had recently purchased a new home computer. We intended to conduct a true experiment, by randomly providing half of the computer purchasers with free Internet service.

Unfortunately, within six months, 83% of the households assigned to the no-Internet control condition purchased Internet service on their own. As a result, we examined the impact of Internet use through analysis of the longitudinal data. By HomeNet-3, in 2001, we were convinced that how people used the Internet influenced its impact over time. For example, using the Internet to find information might have a different impact than using the Internet for talking with friends and family. We recruited a large U.S. sample, to provide sufficient statistical

power to differentiate the effects of specific uses of the Internet.

Internet use, social involvement and psychological well-being

Given the extensive use of the Internet for interpersonal communication, we have been surprised to find that greater use of the Internet doesn't necessarily lead to larger social networks, more social support, better relationships with online partners, or the positive psychological outcomes generally associated with social engagement. For example, in all three studies, compared with people who did not use the Internet at all or used it lightly, people who used the Internet heavily reported larger increases in daily life stress (Holm & Holroyd, 1992; Kanner, 1981). Internal analyses did not reveal a single stressor or source of stress that increased with Internet use. Rather, Internet users appear to experience a diffuse increase in stress. One explanation is that the Internet introduces more activities and social obligations into users' lives, and the increased time pressures add stress to what had been a slower-paced life. Another explanation is that difficult-to-use technology, barrages of information and communication, and other online irritants make users more sensitive to routine events that they could have easily coped with in the past.

Our other findings about the impact of Internet use on social involvement and psychological well-being have been less consistent. Our initial research (Kraut et al., 1998) showed that greater use of the Internet was associated with declines in users' communication with family members, declines in the size of their social circle, and increases in their depression and loneliness. This research led to national news articles with evocative headlines, such as "Researchers Find Sad, Lonely World in Cyberspace." A 3-year follow-up of the same respondents, however, found that most of the negative effects dissipated (Kraut et al., 2002, study 1).

In HomeNet-2 (Kraut et al., 2002, study 2), computer purchasers, after a year, generally experienced positive effects from using the Internet on communication and social involvement—increases in the size of their social circles, face-to-face communication, community involvement, trust in people, and positive affect. At the same time, heavier Internet use was associated with the increases in stress already mentioned and declines in users' knowledge of, and commitment to, their local area. Consistent with a "rich get richer" hypothesis, having more social resources amplified the benefits that people got from using the Internet. Among extraverts, for example, using the Internet was associated with increases in community involvement and self-esteem, and declines in loneliness, negative affect, and time pressure. The reverse trends were found for introverts.

Our most recent national panel study, as yet unpublished, shows a mixed pattern, in which using the Internet for entertainment and information search is associated with different changes in social outcomes than using it for communication with friends and family or for meeting new people online. Overall, people who use the Internet for social purposes are more generally socially engaged offline as well, but their use of the Internet for social purposes, surprisingly, predicts declines in some measures of social engagement.

We continue to examine how people's uses of the Internet and individual differences play a role in the impact the Internet has on them. We believe that a major reason for some changes in our findings over time is that the Internet, the purposes for which it is used, and norms surrounding use are co-evolving. The Internet of today is not the Internet of 1996, and the Internet of tomorrow will not be the Internet of today. For example, the nature of electronic mail changes as more friends and family go online and as more companies send unsolicited advertisements. As these

changes take place, people will find new ways to use this technology, and its social impact will change once again.

Reflections

We originally predicted that because the Internet is a social technology, using it would have effects similar to traditional forms of communication: more social support and less loneliness and stress. For some people, this positive expectation seems to be confirmed. Their social contacts and outcomes are augmented by Internet use. Among people whose Internet use fails to have these beneficial consequences, we believe there are two reasons. First are the activities these users perform online. Not all Internet use is communication, and even communication can be harmful in some circumstances. For example, in our early studies, we witnessed teens from different high schools hurling racial insults and anti-Semitic epithets over electronic mail. Second are opportunity costs. The time people spend online can come at the expense of other, more valuable offline activities. For example, in our early research we saw teens spending hours online chatting with strangers instead of hanging out or playing sports with friends from school.

This behavior was especially likely during the mid-1990s, when only a small fraction of the U.S. population was online and software applications like instant messaging, which links "buddies," were not yet developed. For those teens in 1996, online communication, of itself, was not harmful. Rather it provided fewer benefits than communication with local friends, who, for example, could provide more social support. More generally, online communication may be harmful if it substitutes for more effective ways of being with people. As the technologies for online communication evolve, they will offer new ways for people to substitute or augment their valuable social relationships. Psychologists can discover the choices people make in using the Internet and their

consequences. They can also participate in the design of online communication so that it is socially beneficial. ■

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AAMC Monitors the Effects of HIPAA on Research

The Association of American Medical Colleges (AAMC) recently announced the creation of a database to collect information on the effects on research of the Health Insurance Portability and Accountability Act of 1996 (HIPAA).



The AAMC survey is found online at <http://services.aamc.org/easurvey>. AAMC established this project to properly document the effects of HIPAA on medical, health sciences, and epidemiological research.

AAMC is particularly interested in case reports from investigators, Institutional Review Board members, privacy officials, research administrators, deans and others involved in the conduct or oversight of medical and health sciences research. The data received by the AAMC will serve as the basis of future policy recommendations

Please send questions, comments or requests for further information to Rina Hakimian, AAMC, Division of Biomedical and Health Sciences Research, at 202-828-0484 (rhakimian@aamc.org).

Concern for Increased Involvement Steers Discussion at the Board of Scientific Affairs

by Gwyneth M. Boodoo

Under the direction of chair Suzanne B. Johnson, the Board of Scientific Affairs (BSA) met from March 28-30, 2003 in Crystal City, Virginia and focused on a wide range of scientific issues pertinent to APA. The members of the board are Suzanne B. Johnson, Chair, David Barlow, Linda Bartoshuk (who was absent from the meeting), Gwyneth Boodoo, Jacquelynne Eccles, Harry Reis and new members Marilyn Carroll, Jo-Ida Hansen, and Roberta Klatzky.

One theme that recurred in discussions throughout the meeting is the importance for all psychologists (including graduate students) to engage in a better understanding and increased involvement in interdisciplinary training and research. Another prevalent theme dealt with the need for graduate students to develop an appreciation and have active involvement in service to the field of psychology.

These themes took on added urgency as we discussed the need to engage psychological scientists and academics in APA's many service and leadership activities. BSA members had the opportunity to discuss these issues with APA president Robert Sternberg. Board members decided to plan a meeting at the 2003 APA Convention to continue discussions with division leadership.

The Board viewed the second in a series of videos developed by the Committee on Animal Research and Ethics (CARE) for use in high schools and colleges and universities. This video dealt with psychopharmacology and the use of animals. BSA discussed the development of a working group to address current issues in the area of human research regulation. The Board received reports from the Advisory Group on Conducting Research on the Internet, the Task Force on Psychological Testing on the Internet

and the Working Group on Genetics Research Issues.

BSA is very proud of the success of the Advanced Training Institutes (ATI) program that was initiated in June 2000. This year, a new ATI will focus on the 10-year National Institute on Child Health and Human Development (NICHD) child day care study database and it will be held in August at the University of North Carolina. The NICHD has agreed to fund this particular ATI on large-scale data sets for five years. Other ATIs that are being offered June 2003 are the third year ATI on functional magnetic resonance imaging (fMRI) funded by NIMH and the third year ATI on Longitudinal Methods. Recognizing that the ATI program must continue to offer cutting edge subjects not readily available at other institutions, BSA has proposed many topics for future ATIs.

Last year, BSA gave the first ever Meritorious Research Service Commendations that recognize outstanding psychologists in the federal government who help foster research through their programmatic activities. Two of the 2002 recipients joined BSA for lunch and discussed their research programs. Sarah Friedman (NICHD) talked about her work on archiving data, data sharing and efforts to provide information about her research study to the public. Robert Croyle of the National Cancer Institute (NCI) discussed the need for psychologists and psychology to become more involved in large-scale research and be part of interdisciplinary teams.

Associated with this is the need for graduate students to better understand how important it is to be part of an interdisciplinary team as the co-investigator and to publish more broadly across journals and not just psychology journals. The complete list of 2002 awardees is: Rodney Cocking

(NSF, NIMH, DOE) (posthumous); Sarah Friedman (NICHD); Joseph Young (NSF); Robert Croyle (NCI); and David Shurtleff (NIDA).

This year BSA reviewed, and ranked or selected recipients for the 2003 Meritorious Research Service Commendations; the 2004 Master Lecture Series; the 2004 Distinguished Scientist Lecturer Program; and the 2002 award recipients selected by the Committee on Scientific Awards. BSA also considered nominations to fill the three BSA vacancies that will occur in January 2004 in the areas of psychopathology/personality; developmental/educational psychology; and social/cultural psychology.

We thank the many colleagues who attended our meeting to discuss issues related to a report or issue and provided us with timely and helpful information. Among these were the APA President, Robert Sternberg who discussed his initiatives regarding governance, education and reviewers; APA Past-President, Philip Zimbardo, who discussed his compendium project and his task force working on guidelines regarding external funding; APA President-Elect, Diane Halpern, who discussed her 2004 convention theme of Work, Family, and Child; and APA CEO, Norman Anderson, who discussed emerging opportunities for behavioral science.

Marjorie Speers, Director of the Association for the Accreditation of Human Research Protection Programs (AAHRPP), provided information about AAHRPP's accrediting program and operations. Finally, and very importantly we thank the staff of the Science Directorate for the timely and constructive information they provided for this meeting and throughout the year. ■

Richard Petty: Decade of Behavior Distinguished Lecturer



by Keren Yairi, Special Projects Assoc.

APA Fellow Dr. Richard Petty will be featured as a *Decade of Behavior Distinguished Lecturer* at the upcoming annual meeting of the American Association for Public Opinion Research (AAPOR). Dr. Petty will discuss his work on *Understanding the Process of Public Opinion Formation and Changes*. His research shows how “need to evaluate” and “need for cognition” shape the ways people’s opinions are formed and change, how strong opinions are, how much opinions affect behavior, and how much opinions are biased by cognitive and circumstantial forces.

The goal of the Decade’s Distinguished Lecture Program is to promote discussion and exploration of Decade themes across disciplinary boundaries. The program funds disciplinary associations to bring prominent scientists from other disciplines to talk about their research at the association’s annual meeting. As AAPOR has had relatively little involvement of psychologists to date, Petty will demonstrate the relevance of psychological expertise and literature to understanding how people form opinions on public issues and how government and individual citizens interact with one another.

Petty’s talk will help to build bridges between the study of public opinion and basic psychological theories of personality and information processing, highlighting the potential for psychology to offer new hypotheses to

Increasing Representation of Scientific Psychology Within APA

by Matthew J. Anderson, Science Student Council

Over the past several decades, practitioners have come to outnumber science-oriented psychologists in the membership roles of APA. This is a reflection of the changes in the field and in society, as the demand for psychological services increased steeply in the second half of the 20th Century. As we move into the 21st Century, we need to be certain that basic and applied researchers in psychology continue their involvement both in APA and in the discipline as a distinct field of science.

The splintering of psychology is perhaps the greatest cause for the smaller scientific representation within the APA. The ever-emerging trend toward specialized research emphases within psychology has been coupled with a move away from the APA and into professional societies that concentrate on more specific subtopics. While the benefits of specialized societies are undeniable, they cannot substitute for those earned with APA membership. With so many specializations within the discipline, the goal of scientific advancement of the whole of psychology is often lost. This failure to consider the greater good of the field is not without practical problems. Besides the obviously impaired communications between psychological subdivisions, voices for advocacy are much louder when united. Smaller, more specialized organizations cannot possibly achieve the political influence of a unified APA. For these reasons, it is advantageous both to discipline, as well as to the research specialist, that steps are taken in order to bring individuals back into the APA and attract new scientific membership.

Recently, the Science Student Council met and discussed some possible means by which to achieve this recruitment. Perhaps the most obvious and necessary technique to achieve this



MATTHEW J. ANDERSON

goal is one that can be implemented by each individual member of the APA. Simple word of mouth may be an effective tool toward the goal of increased scientific representation. Speak to colleagues about the advantages of membership. This may be done in a “brownbag” setting or perhaps in a “professional issues” colloquium. The word of a respected colleague can go a long way.

A particular emphasis should be placed on the recruitment of new student members. Speak of membership advantages in undergraduate classes as well as at psychology club and Psi Chi chapter meetings. Graduate faculty have a particularly unique opportunity and obligation to influence the minds shaping the future of psychology. It is *vital* that advisors encourage graduate students to consider APA membership and better educate them of the importance of the organization. Clearly, these are the individuals who will shape the future of the field and determine in which directions it moves.

We are all currently faced with the difficult challenges of reuniting psychology and increasing scientific representation within the APA. The tasks go hand in hand. We owe it to both ourselves as well as to the greater good of the field of psychology to work toward a stronger, more representative APA. ■

...continued on page 14

Genes and Behavior Take Center Stage

by Frank Beylotte, Science Affairs Program Assistant

On May 2-3, The American Association for the Advancement of Science (AAAS) and the Hastings Center hosted a conference entitled: *Can We Talk? A Public Conversation About Behavioral Genetics and Society*. The conference, held at the AAAS headquarters in Washington, DC, included a variety of formats such as lectures, panels, round table discussions, audience commentary, and a screening of the PBS special *Genes on Trial*.

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At the May 2 keynote address, Steven Hyman of Harvard University, discussed the importance of scientific advancements in light of the extreme burden that mental health issues put on society. He asserted that “the benefit of modern behavioral genetics should lie in its contribution to understanding the evolution of and the neural mechanisms underlying behavior by identifying relevant genetic loci at which variation contributes to the phenotypes of interest.”

Following the keynote address, the convention started with the series, *What We Know and What We Need to Find Out*. The first three presenters focused on historical and philosophical issues related to behavioral genetics, which included many achievements and future challenges.

Matt McGue of the University of Minnesota provided an historical overview. He also asserted the importance “molecular genetic research aimed at identifying the specific genes that influence human behavior.” Eric Turkheimer of the University of Virginia provided a philosophical overview. He suggested the possibility of linking specific genes with specific behavioral outcomes is far fetched: “Most variability in human behavior cannot be predicted from genes or environment.” He went on to say, “we [humans] are complex enough to be free from predictability.”

Irving Gottesman of the University of Virginia finished the morning talks with

a survey of facts from genetic epidemiology. He suggested that “a quick fix has eluded researchers, but the over enthusiasm has been moderated, not dashed, by reality with what it means to unravel the complexities of common genetic diseases.”

The rest of the conference concluded with the two part series *What Might Behavioral Genetics Tell Us About Ourselves?* Erik Parens and Gregory Kaebnick of The Hastings Center discussed some ethical issues associated with behavioral genetics. Next, Harold Edgar of Columbia University School of Law framed the issue from the legal perspective.

Troy Duster of New York University laid out three recurring themes about the role of behavioral genetics: 1) some genetic information has an apparently predetermined outcome, we can do little or nothing about it; 2) the idea that genetic information is precise and definitive; and 3) there are emerging controversies that will surround the creation and use on national DNA databanks.

Nancy Press of Oregon Health and Science University addressed behavioral genetics in the context of culture and medicine. She asserted that the availability for genetic inquiry is tied to two features of Western society: “A set of cultural filters that construct certain behaviors as problematic; and a tendency to see problematic behaviors through a medical lens.”

At the May 3 keynote address, David Goldman of the National Institute on Alcohol Abuse and Alcoholism focused on the interaction between genes and the environment in the context of alcoholism. He reported some recent findings that suggest functional polymorphisms primarily found in East Asians, which are alcohol specific, may protect against alcoholism (built-in Antabuse).

Following the screening of PBS’s, “Genes on Trial,” a round table discussion entitled *Can We Keep Talking? Chal-*

lenges to and Opportunities for Extending Public Conversations on Behavioral Genetics, that included scientists, practitioners, public policy officers, and members of the media handled a number of challenging questions posed by both the moderator, Mark Frankel of AAAS, and conference attendees.

Can We Talk is a behavioral genetics project with ongoing activities. For example, the forthcoming book *Wrestling with Behavioral Genetics: Implications for Understanding Selves and Societies* and the September issue of the Hastings Center Report, contains the results of a three-year project entitled *Crafting Tools for Public Conversation about Behavioral Genetics*. The APA Science Directorate will keep abreast of additional events and publications related to this project. In addition, we are updating our website to include a special behavioral genetics section. ■

... Petty, continued from page 13

be studied through survey research. His findings also yield a range of fascinating and important insights into how persuasion unfolds in democratic countries and has interesting implications about how democratic countries should react to public opinion shifts.

Petty is Distinguished University Professor of Psychology at the Ohio State University and past President of the Midwestern Psychological Association. He is a fellow of AAAS, APS, and APA and has served as a consultant and panelist for several prominent federal agencies.

Three other Decade of Behavior Distinguished Lecturers will be held this year, hosted by the Neurobehavioral Teratology Society, the International Society for Developmental Psychobiology, and the Society for Personality and Social Psychology. For more information, visit www.decadeofbehavior.org. ■

Weathering Four Seasons of Nomination

Have you ever been nominated for a board or committee and then you didn't know what was to happen next or never heard about the outcome of the election? Here is some information about the steps involved in elections for APA boards and committees. The important thing to remember is that you can contact Science Directorate staff to find out how to be nominated, the status of your nomination, or the results of elections.

Fall: Targeted Nominations

Boards and committees annually review their composition, noting who will be rotating off at the end of the following year. If someone with a particular expertise is leaving the group, the board or committee might want to replace the expertise represented by that individual. Or if a particular major project is beginning, the group may want someone who can be helpful with the project. Each group provides a "targeted nominations" statement describing the expertise or perhaps the ethnic or gender balance that the group needs.

Winter: Call for Nominations

The *Call for Nominations* is published in the *Monitor* and mailed in early December to all Council representatives, board and committee chairs, Council caucus/coalition chairs, presidents and secretaries of divisions, and officers of state/provincial associations. This is the point at which you can see whether you "fit" into one of these slots. *Anyone can nominate himself/herself or others during this time*; often multiple nominations are received for a single person to be on a particular governance group. Nominations are due February 1 to the Governance Affairs Office within the Central Office and are then compiled by the staff liaisons for each group.

The more people who nominate you, the more weight your nomination will hold. But it is not just number of nominations; it is identifying who the key players are. If someone contacts a

member of the group to which you want to belong and gives compelling reasons why you would be a good addition, the weight of the member's opinion can make a big difference. Compelling reasons can include such things as your expertise, your ability to get things done, your ability to work as part of a team, your perspective on issues, your



experience in a certain area, and your energy and enthusiasm for the position.

Spring: Slates Made Final

At the Spring Consolidated Meetings—during which many, but not all, of the standing and continuing groups meet at the same place over the same weekend—the nominations that have been received are given to the boards and committees. They then plan to put together their slates, usually composed of three nominees for each vacancy. Some rank their choices, and some do not. Alternates are also named, in case someone cannot or does not wish to serve on a particular group.

June: Slates Finalized

The Board of Directors Subcommittee on Nominations, composed of the President, Past-President, and Recording Secretary, meets in June to review the slates for balance of ethnicity, special interest representation, and other diversity issues. The subcommittee also ensures that nominees are not put on more than one slate on the ballot. The slates are then reviewed and approved by the entire Board of Directors.

The slates can sometimes be changed if there is a particular concern that the Board of Directors thinks is not being addressed by the governance group or if a member has been nominated for more than one board or committee. However, in a majority of cases, the slates submitted by the board or committee are not changed. Once the slates are approved by the Board of Directors, Executive Office staff will contact the nominee to determine if he/she is willing to serve. The Recording Secretary coordinates filling any vacancies that occur at this point. Alternates provided by the boards or committees are considered when filling a vacancy on the slates.

October/November: Elections

The ballots are then made final and mailed on October 31 to the current members of Council. Many people who appear on the ballot contact members of Council to let them know of their qualifications and willingness to serve—in other words, they lobby Council. The balloting period is 30 days, and the results are announced in early December. Terms begin January 1 and normally run for 3 years, expiring December 31 of the final year.

Reality Check

The reality of this process is that there are many more people nominated each year than eventually end up as members of the governance—an average of 1,500 people for about 50 elective slots. Some people try for several years before they are elected, so don't be discouraged if your name doesn't appear on a slate or on a ballot the first time. (Taken from the brochure: Forest, N. & Honaker, L. M. (1998). *Be active in APA governance: Get your voice heard, play a part, and get elected*. Washington, DC: American Psychological Association).

You can contact Science Directorate staff about the nominations and elections process, by sending an email to science@apa.org or any of the staff listed on the last page of the *PSA*. ■

Science Highlights and the APA Convention

The APA Convention in Toronto this August 7-10 will feature and highlight a variety of activities geared towards psychological science. Renowned science speakers, including many recipients of the Distinguished Scientific Contribution Awards and an impressive list of master lecturers and plenary speakers, will present papers on a wide array of subjects.

15 In the opening session, former APA President and Princeton University psychologist George Miller will be honored with the APA Award for Outstanding Lifetime Contribution to Psychology. Miller's innovative work in language and cognition had already earned him National Medal of Science in 1991 and he is known for being the principal investigator in the development of WordNet, an online

lexical database, due to his involved exploration of psycholinguistic theories.

In addition to these speakers, the directors of NIH institutes, Thomas Insel, Ting-Kai Li, and Nora Volkow will also present at a special session entitled: "Research Priorities for NIH Institutes." The presenters will share added insight to the session with years of expert research behind them.

Thomas Insel, who is the director of the National Institute of Mental Health (NIMH), has a history of research in obsessive-compulsive disorder and the neurobiology of attachment and separation. As director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA), Ting-Kai Li's background has centered on alcohol metabolism and animal models of

alcoholism, and the National Institute on Drug Abuse's (NIDA) newest director, Nora Volkow has researched the effects of drug abuse on the human brain.

For the most updated information on the APA convention, including travel tips, airline information, and hotel reservation, visit <http://www.apa.org/convention03/program.html>. Register online at <https://cyberstore.apa.org/convention03/register.cfm> and get the latest information on the status of exhibitors, speakers, and programs. There will also be a booklet available in July, both on the Science Directorate website and our booth at the annual convention, specifically spotlighting science programs. We look forward to seeing you in Toronto. ■

An Open Letter from Harold Varmus: Grand Challenges in Global Health

Dear Friends and Colleagues:

We seek your help. We need your ideas on what currently are the greatest scientific challenges in global health. Your ideas will help us pose to the international health research community a focused set of critical problems, or "grand challenges," in global health, that — if solved — could lead to important advances against diseases of the developing world. The Bill & Melinda Gates Foundation has committed \$200 million to establish the Grand Challenges in Global Health initiative as a major new effort in partnership with the National Institutes of Health (NIH) and the Foundation for the National Institutes of Health (FNIH).

The Scientific Board will use your recommendations to identify the most compelling Grand Challenges and will announce them this fall. We will then solicit grant proposals to address these Grand Challenges. For a definition of Grand Challenges, details on our Call for Ideas, and instructions for submitting recommendations, please visit our website, <http://www.grandchallengesgh.org>.

Sincerely,

Harold E. Varmus
Chairman

AN INTERESTING CAREER

Psychology Emerges in a Multimedia World

by Simon H. Budman, President & CEO of Inflexxion Inc.

From the time I was a sophomore at Queens College in the 1960s I knew that I wanted to be a psychologist. What I didn't know at that time was that I could have multiple careers within that career. My areas of interest in psychology have gone through many evolutions, each bringing me the opportunity to learn new skills and apply old ones in different ways.

I have always looked for new directions in my work that would enliven what I was doing and challenge me to get out of my "comfort zone." While still in clinical psychology graduate school at the University of Pittsburgh, I became interested in really combining being a practitioner with research. Although the scientist-practitioner (so-called Boulder) model was then in vogue, most of my classmates were most interested in getting a PhD so that they could be clinicians...and never do research again.

In both my internship and post-doctoral work my interest in research *and* clinical work remained strong. This combined interest has been pivotal throughout my career, first at Harvard Community Health Plan as the Director of Mental Health Training and Mental Health Research and then when I formed my own company, now called Inflexxion.

Inflexxion initially began as a behavioral health consultation and training company, called Innovative Training Systems, and then in the early 1990s became a healthcare product development company. Much of our initial support in the product development area came from the National Institutes of Health (NIH) Small Business Innovative Research (SBIR) program. Although SBIR is a very competitive program, Inflexxion



Simon H. Budman is the President and CEO of Inflexxion, Inc. (www.inflexxion.com) a science-based multimedia company in Newton, Massachusetts. He is also on the faculty of the Harvard Medical School. Budman received his doctorate in clinical psychology in 1971 from the University of Pittsburgh. Before founding Inflexxion, he was the Director of Mental Health Training and the Director of Mental Health Research at the Harvard Community Health Plan. In 2000 Budman was the recipient of the APA Distinguished Professional Contributions to Knowledge Award and in the same year won the Psyche Award from the Cummings Foundation.

has had an outstanding record of being able to propose and receive grants to develop products that are based on good science, tested in rigorous clinical trials and impact the health of large populations. These products are also creative, engaging and have excellent commercial potential.

Indeed, several of the products that we have developed with SBIR support are having substantial impact in various aspects of healthcare. For example, our multimedia, CD-ROM version of a widely used structured interview for substance abusers, the Addiction Severity Index Multimedia Version (ASI-MV), is being used at hundreds of

substance abuse facilities by tens of thousands of substance abusers around the country. Another online product, www.MystudentBody.Com, is a comprehensive health site for college students, which has been demonstrated in a large clinical trial to significantly reduce binge drinking. *MystudentBody* has been gaining wide national acceptance. Inflexxion also works with pharmaceutical companies around issues such as coordination of care for children with ADHD; pain management and screening; cancer care, genetic testing and so on.

As the President, CEO and Founder of Inflexxion, a company that now employs over 60 full and part-time staff (8 of whom are doctoral-level health psychologists), I have had to learn many things that I had no idea about ten years ago. Had I been asked at that time about the development of multimedia, what a programmer does, what a SQL server is, how one markets a good product and gets others to use it and pay for it, I would have been totally in the dark.

The terrific thing about my work at Inflexxion is that there is always a new challenge. Every day is different and the issues being addressed are constantly changing. Sometimes I need to wear my scientist hat and help a work team think about issues that are raised by particular research problems. At other times there are usability questions that arise in regard to one of our multimedia programs or websites. Later on, in the same day I may need to think with the marketing or sales team about the best ways to reach the widest audiences possible with our products. In almost every function I have within the company, my psychological training helps to inform what I do and how I do it.

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Psychological Science Agenda Goes Electronic

As mentioned in our previous issue, the *Psychological Science Agenda* will be transferring to an electronic format in the fall of 2003. Readers will no longer receive a printed version in the mail. Instead, the same information will be available online, and can be accessed by either logging onto our website or clicking on the link in the email that will be sent to subscribers for every new issue. Our new format will include more updated articles related to the behavioral research community, national science policy, and news that keeps members of the scientific and academic community informed of future funding and upcoming, featured programs.

Our publication will be accessed through the APA Science Directorate website, so readers can immediately read the most updated pieces, with opportunities to give us feedback and commentary on newsletter content. Remember that to receive an email message and link to new issues of PSA, you will need to provide us

with an email address. APA members who have given APA their email information will receive these emails. If you are not an APA member, or if you are a member who has not given APA an email address, you can still receive PSA by sending a message to science@apa.org, and typing "PSA subscription" in the subject line. Also, if you know of any individuals – including those outside the U.S. — who would like to receive our online newsletter, please have them forward their e-mail address to science@apa.org.

We have already received many constructive suggestions from readers regarding our print to online transition and we especially appreciate their comments. Please let the editor know your thoughts related to our newest endeavor by writing to Amena Hassan at the email listed above. Include what you would like to see in upcoming issues and how we

can improve our publication to better serve the research/academic community. ■

Interesting Career, *continued from page 17...*

In addition to my work at Inflexxion, I still maintain a small private clinical practice. Although the amount of direct clinical work I do has been getting smaller over the years, it is hard to give that up completely. Private practice remains as interesting as ever.

Being in my 50s, I hear friends talking about retirement and waiting eagerly to complete their working years. I can't imagine retirement — at any point. I'm having too much fun and learning too many new things. People retire so that they can enjoy themselves and stop doing something that they feel they have done for too long. I enjoy myself tremendously in what I do now. ■

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Testing and Assessment Evaluates Accountability

by Marianne Ernesto, Director for Testing and Assessment

Accountability. It seems not a day goes by without some mention of the word in the media in some context. Inherent to the concept of accountability is the process of assessment, which incorporates testing as a vital component.

The Science Directorate staff has been involved in a variety of activities related to issues concerning accountability, assessment and testing during the past several months. Some policy related activities include:

- Formulating recommendations by members of the Committee on Psychological Tests and Assessment (CPTA) in response to provisions included in the reauthorization of the Individuals with Disabilities Act (IDEA).
- Participating with other APA staff in a meeting with Robert H. Pasternack,

Assistant Secretary, Office of Special Education and Rehabilitation Services, U.S. Department of Education, to determine how APA members could assist in the reauthorization of the Individuals with Disabilities Education Act (IDEA).

Topics discussed included the utility of retaining the I.Q./achievement discrepancy model for determination of learning disability, and the incorporation of cognitive examinations as part of the assessment process for the identification of learning disabilities.

- Attending the Education Reform Sub-Committee hearing on Head Start reform where the issue of relevant and appropriate assessment was featured prominently during discussions between panel members on proposed

changes to the federal Head Start program. APA governance sponsored activities include:

- Making final and distributing the draft report of the Task Force on Psychological Testing on the Internet to various APA divisions for review and comment.
- Submitting the Joint Committee on Testing Practices (JCTP) draft Code of Fair Testing.
- Practices in Education to APA governance groups for review and approval.

For additional information concerning the testing and assessment activities of the Science Directorate, please contact Marianne Ernesto, Director, Testing and Assessment, APA Science Directorate at: (202) 336-6000 or mernesto@apa.org. ■

Focus is on Performance at Midyear Symposium

by David J. Schroeder, President, Division 21

Division 21 (Applied Experimental and Engineering Psychology) was joined again this year in co-sponsorship of the Midyear Symposium by APA Division 19 (Military Psychology) and the Potomac Chapter of the Human Factors and Ergonomics Society. The meeting was held in Fort Belvoir, Virginia, March 6-7 at the Fort Belvoir Officer's Club. The theme for this year's symposium was *Measuring and Maintaining Performance in Complex Environments*.

The annual mid-year symposium provides an outstanding forum for presenters and attendees who are interested in research designed to assess human performance on the battlefield, in military and civilian aviation, air traffic control, and other complex work environments. This year a special emphasis was placed on advances in the measurement of operator performance and human error. Over 100 professionals and students participated in the meeting. Scientists and students from the University of Central Florida made presentations focused on "Optimizing Cognitive Readiness Under Combat Conditions," based on Army supported research.

Presentations by scientists from the FAA's Civil Aerospace Medical Institute and the William J. Hughes Technical Center and Northrop Grumman Mission Systems were focused on "Measuring and Maintaining Performance in Air Traffic Control." "Cutting-edge Research from the Military Academies – U.S. Military Academy and USAF Academy" was the theme for presentations by professors and students from the U.S. Military Academies.

Research conducted in support of the Navy by scientists at Pacific Science and Engineering Group emphasized "Knowledge Web (K-Web): Improving Knowledge Exchange During Operation Enduring Freedom." Scientists from the

FAA's Civil Aerospace Medical Institute and the University of Illinois Institute of Aviation described research surrounding general aviation pilot performance with "Measuring and Maintaining Performance in Flight."

A student poster session was also included as an integral part of the meeting. Division 19 provided recognition for the best undergraduate and graduate student presentations. Division 19 awards were presented in honor of Jimmy Mitchell who had a distinguished career as a military psychologist both as an enlisted member and an officer in the Air Force. He was a long-time supporter of the International Military Testing Association, and through his military career, teaching positions, and work with the Institute of Job and Occupational Analysis, he influenced the career choice and development of many behavioral scientists.

The student presentations were of uniformly high quality and the poster session provided an excellent venue for direct interactions with students regarding their research and a sharing of additional research opportunities. Here is a sample of some of the presentations and posters:

Graduate Poster - Jennifer Ross, University of Central Florida: Performance, workload, and stress with temporal and spatial task demands.

Undergraduate Paper - Jennie Hattman and Michelle Kracht, U.S. Military Academy: Measuring situational awareness in the field and assessing its relationship to hardiness in field training exercises—A twofold study.

Undergraduate Poster – Simon Boyd, Mark Juntunen, and Kelly Schachtler, U.S. Military Academy: Effect of cueing and presence of a distracting task on detecting change in battle icons.



From left to right: First-class cadets Simon Boyd, Mark Juntunen, Kelly Schachtler, and Division 19 President Henry Taylor, presenting the award for best poster, entitled "Effects of Cueing and Presence of a Distracting Task on Detecting Change in Battle Icons."

An APA policy hour with Heather Kelly, Senior Legislative and Federal Affairs Officer and Dianne Maranto, Director of Psychology in the Workplace, provided attendees with up-to-date information regarding efforts to promote behavioral research in the U.S. legislature and the status of issues of concern for scientists. A question and answer session included a discussion regarding recent concerns associated with proposed Institution Review Board (IRB) legislation.

Scott Shappell from the FAA's Civil Aerospace Medical Institute served as the program chair for the meeting. He developed a meeting that was well attended and provided cutting-edge research on performance measurement issues in air traffic control and general aviation, on the battle field and in other military settings.

Plans are underway for the 2004 Midyear Symposium, which will be held around the same time of the year at Fort Belvoir. Look out for next year's midyear symposium announcement in upcoming issues of the PSA. ■

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