

The Psychological Science Agenda



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APA Kicks off the Fiscal Year 2007 Appropriations Season by Advocating for a Strong Psychological Research Program within the VA

by Heather Kelly

TABLE OF CONTENTS

Culture of Service Awards: Nominate Someone and/or Your Department!	2
Executive Director's Column: Psychological Science and National Defense	3
Hormones Excite the Senses	4
Committee on Scientific Awards Names Recipients	7
Homeland Security Partnership Program Moves Forward	10
Funding Outlook for NIDA, NIA: News from the Experts	11
Friends of NIDA Coalition Holds Briefing on Prescription Drug Abuse	13

On Wednesday, March 1st, Executive Director for Science Steve Breckler presented APA's testimony on funding for psychological research and services within the Department of Veterans Affairs (VA) before the House Appropriations Subcommittee on Military Quality of Life and the VA. Congressional subcommittees handle input from outside individuals and organizations in different ways as they "mark up" annual legislation funding federal agencies. Some hold public witness hearings, and in this case APA was lucky to receive a five-minute "slot" to testify orally before the Subcommittee, which directs funds to the VA and its research and medical care accounts.

In Breckler's testimony, he thanked the Subcommittee for doubling the mental health research budget within the VA in Fiscal Year 2006, and requested continued, strong support in Fiscal Year 2007, despite a cut to overall VA research support proposed by President Bush this year. Breckler also encouraged Congress to require more direct collaboration between the research arms of the VA and the Department of



Steve Breckler, Executive Director for Science, delivers APA's oral testimony on funding for veterans research and services before the House Appropriations Subcommittee. Members of Congress present included Subcommittee Chairman James Walsh (R-NY), Ranking Democrat Chet Edwards (D-TX), and Subcommittee members Sam Farr (D-CA) and Sanford Bishop (D-GA).

Defense, which appeared to catch the interest of Subcommittee Chairman James Walsh (R-NY). Ranking Member Chet Edwards (D-TX) and his Democratic colleague Sam Farr (D-CA) were struck by the numbers – how many researcher positions and research projects would have to be eliminated if the proposed cut to the VA research program stands. Breckler also emphasized the need for psychological scientists to be involved in the design, implementation and analysis phases of newly-mandated studies of Post-traumatic Stress Disorder and other mental health issues with military and veteran populations.

continued on page 6...

Culture of Service Awards: Nominate Someone and/or Your Department!

by Suzanne Wandersman

The Science Directorate is looking for nominations for its two culture of service awards. One award honors individuals and the other **new** award honors academic departments.

Award for Distinguished Service to Psychological Science

The APA Board of Scientific Affairs (BSA) is soliciting nominations for the Award for Distinguished Service to Psychological Science. This Award recognizes individuals who have made outstanding contributions to psychological science through their commitment to a culture of service. Award recipients will receive an honorarium of \$1,000. The deadline for nominations is **May 15, 2006**.

Nominees will have demonstrated their service to the discipline by aiding in association governance; serving on boards, committees and various psychological associations; editing journals; reviewing grant proposals; mentoring students and colleagues; advocating for psychological science's best interests with state and federal lawmakers; and promoting the value of psychological science in the public eye. Nominees may be involved in one service area, many of the areas, or all of the service areas noted above. An individual's service to the discipline and not a person's scholarly achievements are the focus of this award.

Additional information and instructions on submitting applications can be found on the APA Science Directorate website: http://www.apa.org/science/serv_award.html.

Departmental Award for Culture of Service in the Psychological Sciences

The APA Board of Scientific Affairs (BSA) is soliciting nominations for the Departmental Award for Culture of Service in the Psychological Sciences.

This Award recognizes departments that demonstrate a commitment to service in the psychological sciences.

Departments selected for this award will show a pattern of support for service from faculty at all levels, including a demonstration that service to the discipline is rewarded in faculty tenure and promotion. Successful Departments will also demonstrate that service to the profession is an integral part of training and mentoring. Each Department selected will receive an award of \$5,000 to be used for departmental activities. The deadline for nominations is **May 15, 2006**.

Service to the discipline includes such activities as departmental release time for serving on boards and committees of psychological associations; editing journals; serving on a review panel; or

chairing an IRB. Other culture of service activities that a department would encourage include mentoring students and colleagues; advocating for psychological science's best interests with state and federal lawmakers; and promoting the value of psychological science in the public eye. The focus of this award is a department's faculty service to the discipline and not their scholarly achievements.

Both Undergraduate and Graduate Departments of Psychology are eligible. Self-nominations are encouraged.

Additional information and instructions on submitting applications can be found on the APA Science Directorate website: http://www.apa.org/science/dept_award.html.

Upcoming Deadline – Travel Awards for the 2006 APA Convention

Graduate students – are you traveling to the APA Convention in New Orleans to present first-authored research? Could you use some extra cash to facilitate the trip? Are you an APA Student Affiliate or are you ready to apply for affiliate status?

If you answered “yes” to these questions, then you are eligible to apply for a Travel Award!

For more information, visit the website (<http://www.apa.org/science.html>) or contact the APA Science Directorate at Email: science@apa.org.

Application packets are due by April 3, 2006.

EXECUTIVE DIRECTOR'S COLUMN

STEVEN BRECKLER, Executive Director for Science

Psychological Science and National Defense

War and war-like efforts carry with them all kinds of consequences – political, economic, social, and scientific. Indeed, some of the greatest leaps forward in contemporary science – including psychological science – came as a result of World War II. The legacy of that war effort can be found almost everywhere in psychological science today, including work on attitudes, persuasion, group dynamics, visual perception, motor performance, testing, assessment, sleep, stress, decision making, and the list goes on. We may not like war, or necessarily support recent war efforts, but we can't deny the impact they have on psychological science.

Psychological Science Thrives

Connected with the “war on terror” and the military involvement in Iraq is a wide range of psychological science. To cite just a few examples:

~Psychologists conduct research in many high-priority areas especially relevant to our nation's military veterans, including post-traumatic stress disorder, substance use, aging-related disorders, chronic pain, and physical and psychosocial rehabilitation. As Heather Kelly describes elsewhere in this issue of Psychological Science Agenda, APA advocates for the funding of psychological research within the Department of Veterans Affairs.

~Psychologists working in military defense settings conduct research on human effectiveness in such areas as warfighter training, crew system interface, bioeffects and protection, and deployment and sustainment. Last month's PSA describes APA's visit to Nellis Air Force base in Nevada, where



laboratory behavioral researchers are linked with operational Air Force personnel.

~Numerous questions are being raised about the involvement of psychologists in interrogation. Former APA President Ron Levant assembled an APA task force to examine the issue of Psychological Ethics and National Security. The so-called [PENS report](http://www.apa.org/releases/PENSTaskForceReportFinal.pdf) (<http://www.apa.org/releases/PENSTaskForceReportFinal.pdf>) was released in June, 2005. One conclusion of the task force was that more research is needed, including the need “to examine the efficacy and effectiveness of information-gathering techniques, with an emphasis on the quality of information obtained.”

APA's own Division 19 – [The Society for Military Psychology](http://www.apa.org/divisions/div19/) (<http://www.apa.org/divisions/div19/>) – represents hundreds of scientists who conduct basic and applied research in a wide range of areas relating to human behavior and well-being. Through its meetings and journals, the society helps to support and promote psychological science in service of national defense and the women and men who serve our nation's military.

Psychological Science Can Grow

Opportunity for scientific advancement often arrives in the form of societal challenges and problems. War efforts carry with them not only an urgency to address specific problems, but also the diverting of people and funds to support the research.

As scientists, we should seek to understand our choices and their consequences. Many among us may choose – for good and noble reasons – to keep our attention focused in areas that do not bear on national defense, national security, war, or terrorism. It is essential that some make this choice, because many of society's most pressing problems have little to do with these areas. Yet, it must also be recognized that the funding and research support may not be as lucrative as it once was.

Others may choose – for equally good and noble reasons – to focus precisely on matters having to do with defense, security, war, or terrorism. It is essential that some make this choice as well. It helps that this is where the resources are currently being devoted. Yet, this should not be the primary motivation. Instead, we should recognize in this choice what really motivates most scientists – a quest for fundamental understanding and the opportunity to apply what we learn.

Whether one chooses to work in these areas or not, we should be respectful of the choice. The consequence of either one will be the growth of psychological science, and for that we can all be proud.

SCIENCE BRIEFS

Hormones Excite the Senses

by Donna Maney



Donna L. Maney earned her PhD in Neurobiology and Behavior from the University of Washington in 1997 and did her post-doctoral work in the Department of Psychological and Brain Sciences at Johns Hopkins University. She is currently an Assistant Professor of Psychology and a member of the Graduate Program in Neuroscience at Emory University in Atlanta, GA. Her research focuses on the sensory physiology and neuroendocrinology of auditory communication, using songbirds as model systems. Other research interests include the genetic bases of social behavior, particularly the interactions between genes, neuropeptides, steroid hormones and the environment as they relate to behavior. She is a recipient of the Presidential Early Career Award for Scientists and Engineers (2004) and her research is funded by a CAREER award from the National Science Foundation.

4

Behavioral endocrinologists are fond of saying that hormones don't cause behavior. This tenet dates back to the father of behavioral endocrinology himself, Frank Beach (1948), who noted that even when an animal's levels of reproductive hormones are high, social behavior is limited to specific contexts and therefore won't occur in the absence of appropriate external sensory cues. Beach argued that these sensory cues, which could take the form of courtship displays, aggressive threats, or crying babies, may act as triggers for behavioral responses, whereas hormones raise and lower the threshold for performing those responses. In other words, when you encounter that crying baby or the "How YOO doin'?" from that guy in the bar, your behavioral response may depend on your hormones—but without that visual or auditory (or perhaps olfactory) signal, you aren't likely to perform that response at all.

In the above scenario, sensory and hormonal inputs arrive through different doors at the same hypothetical spot in the brain, usually called a "motivational center." At that point their influences sum and, if the total stimulation is above threshold, the

message is sent to motor systems that a behavior needs to happen. The idea that the sensory and hormonal influences meet for the first time in the motivational center has, however, been quietly poo-pooed for decades. Beach himself argued that hormones affect the periphery and thus the sensations that are perceived. Over the last fifty years, many investigators have shown that hormones can have profound effects on sensory systems themselves, to the extent that detection thresholds and discrimination ability can be altered. In both rats and humans, for example, the ability to detect odors is greater during periods of high estrogen than during other phases of the reproductive cycle, and estrogen treatment improves olfactory sensitivity in ovariectomized rats and postmenopausal women (Caruso et al., 2001; Caruso et al., 2004; Pietras & Moulton, 1974). Hormones, particularly gonadal steroids, may therefore affect not only our behavioral responses to sensory stimuli but whether we can tell one stimulus apart from others, or even detect it at all. Our hormones thus affect the way we perceive the world around us.

Of all the sensory stimuli available to us, perhaps none are more important

than those associated with successful reproduction—such as the courtship signals of a potential mate. We might predict, then, that if reproductive hormones affect sensory transduction or processing in a given species, they are most likely to affect the modalities most important for communication of sociosexual signals in that species. In rodents, which have exquisitely developed pheromonal communication systems, receptors for both estrogens and androgens can be found in the olfactory bulb—most notably in cells that are known to help sharpen discrimination of similar odors (Kelliher et al., 1998; Yokoi et al., 1995). Within both the bulb and the olfactory epithelium, cellular responses to opposite-sex pheromonal stimulation are significantly greater in rodents treated with gonadal hormones than in their gonadectomized counterparts (e.g., Halem et al., 1999). In the tropical fish known as the tinfoil barb, gonadal hormones dramatically increase the sensitivity of peripheral olfactory receptors to fish pheromones (Cardwell et al., 1995), thus enabling them to smell each other more easily when their levels of these hormones are high. In

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fish that have evolved auditory communication, preferring to hum to each other in addition to emitting the old-fashioned pheromones, the tuning of the female's inner ear depends on her levels of estrogen (Sisneros et al., 2004). During times when she is most fertile and estrogen is high, her ears are much more sensitive to the particular frequency at which the male hums, and she responds by swimming in his direction. After she has spent all her eggs and her estrogen levels drop, she doesn't give a whit about his humming and probably can't hear it as well as before, either (Sisneros & Bass, 2003).

Perhaps the most famous auditory courtship signal (other than our own "How YOO doin'") is the widely diverse and often seasonal subject of my own work, bird song. Both male and female songbirds sing for many reasons in many contexts, but in North America the males are doing most of the singing, and they do their courtship singing in the spring. In many species, the female will respond to the sexiest male songs by performing what's called a "copulation solicitation display," which is exactly what it sounds like. She raises her tail and head (see the bird in the figure), quivers her wings, and lets out a trill, all of which signals to the male that he's passed the test and she's ready to mate. The display is highly estrogen dependent, occurring only during the breeding season when estrogen levels are high. During the non-breeding season, when the females' estrogen levels are low, males still sing but of course it's not the right time of year to interpret that as a sexual advance. So the females politely pay attention to these winter songs, which are likely to signal defensive feelings, but do not respond by soliciting copulation outside the breeding season—doing so might be considered socially inappropriate and downright rude. The female's estrogen levels, which are tightly controlled by the time of year, make sure that the females respond with the display only when it's a reasonable thing to do.

In my lab, we are interested in finding

out how hormones such as estrogen so dramatically change the female's behavioral response to male song. We take advantage of the fact that when treated with estrogen, laboratory-housed female White-throated Sparrows (*Zonotrichia albicollis*) will



Figure caption

*Foreground: A female White-crowned Sparrow (*Zonotrichia leucophrys*) performs a copulation solicitation display in response to a recording of male song. Background: Photomicrograph showing the song-induced genomic response in the inferior colliculus, an auditory processing area. The black dots represent cell nuclei immunoreactive for the protein product of the immediate early gene zenk, which is expressed in cells undergoing sustained depolarization.*

perform beautiful displays in response to audio recordings of male song. We can play them sexy songs, record their behavioral responses, and then use immunocytochemical techniques to look for something called a "genomic response"—the expression of immediate early genes, which are transiently expressed in neurons undergoing sustained depolarization related to neuronal plasticity (see Mello et al., 2004). In other words, we can actually look in the auditory regions of the brain to see which neurons are responding to the song with increases in activity. We've known for some time now that the more behaviorally relevant the sound, the greater the genomic response in the auditory forebrain. Mello et al. (1992) showed that in canaries and zebra finches, hearing synthetic beeps induced only a small

genomic response, whereas heterospecific song induced a somewhat larger response and conspecific song a much larger one. Since that study, many researchers have shown support for this general relation between the behavioral salience of the stimulus and the genomic response—for example, we've shown that more familiar, preferred songs induced a greater response than unfamiliar ones (Maney et al., 2003). All of these studies, however, were conducted on birds in breeding condition with plenty of reproductive hormones.

Recently, we compared estrogen-treated females with females that were not treated with hormones (Maney et al., 2006). Both groups of birds were otherwise in non-breeding condition. We played these females recordings of either male song or synthetic, frequency-matched beeps. As expected, in the estrogen-treated birds the genomic response to song was far greater than the response to beeps. In the untreated birds, however, the response was not selective for song. In other words, without breeding levels of estrogen, the genomic response to song was equal to the response to beeps. We saw this effect not only in the auditory forebrain, but also in the inferior colliculus, an auditory processing area upstream of the forebrain (see Figure). Interestingly, the response was just as high to both sorts of auditory stimuli in the untreated females as it was to song in the treated females. The main difference between estrogen-treated and untreated birds was not, therefore, that estrogen increased the response to song. Rather, estrogen *decreased* the response to beeps.

Our results remind me of an overarching principle in neuroscience—that sensory systems of all modalities are designed to dampen responses to non-relevant stimuli, particularly those near the perceptual "edges" of relevant stimuli. Such inhibition sharpens the contrast between auditory stimuli, and may aid in both detection and discrimination of those sounds that are

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particularly relevant. But what if the behavioral relevance of a signal changes over time—what if an individual needs to pay attention to a sound today that she could have disregarded yesterday? Decades of research have shown that the auditory system does a great job of keeping up with what is relevant and processing it accordingly. For example, when animals are trained to associate a reward or a punishment with specific sounds, those sounds become over-represented in the auditory cortex as neurons that previously responded best to other stimuli are co-opted to respond to new, behaviorally relevant ones (Bakin & Weinberger, 1990; Bao, et al., 2001; Recanzone et al., 1993). By learning which stimuli to pay attention to, and by inhibiting auditory responses to non-target stimuli, the brain ensures that the most important signals will be processed properly and given the attention they deserve. Whether hormones can enhance or even mimic the effects of learning is a future area of research.

What subjective experience results from enhanced auditory selectivity for song during the breeding season? When I think about this question, I am always reminded of the year or two I spent at the beginning of this decade watching home decorating shows on television. No matter which network, whether the decorating was being done by well-intentioned neighbors or The Fab Five, invariably there would come the point where the designer announces, “Now we’re going to pop the couch!” For those unfamiliar with this exercise, it involves decorating an entire room completely in beige—wall, floor, furniture, etc—then upholstering the couch in lime green chenille. The couch then “pops” visually against the bland background, and the lucky homeowner beams with gratitude. Perhaps to our listening female, estrogen “pops” male song such that in the breeding season her auditory system enhances the contrast between song and less relevant sounds. Then, after the breeding season is over, she can still hear and attend to song, but she’s not listening for it the way she once was.

Her auditory system responds similarly to other sounds, too, like strange, unexplained beeping noises.

Can hormones “pop” sociosexual signals in humans? The literature suggests that perhaps they can. Researchers conducting studies in humans, however, usually report effects on signal preference rather than detection or discrimination, leaving open the possibility that signal salience is actually unaffected by hormones. Such studies are nonetheless very interesting; for example, in studies of visual preference, ovulating women judged photos of darker and more masculine faces to be more attractive than women in other phases of their cycles (Frost, 1994; Penton-Voak et al., 1999). Ovulation is also associated with an auditory preference for deeper, more masculine voices (Feinberg et al., 2006; Puts, 2005). Surprisingly, some studies even suggest that ovulatory hormones may influence olfactory preferences in humans. Rikowski and Grammer (1999) asked men to sleep in cotton T-shirts for a couple of nights, then asked women to judge the attractiveness of the odors of those T-shirts. An independent group of women rated the visual attractiveness of the same men, using photographs. The ratings of the viewers and the sniffers were positively correlated, meaning that the visually attractive men also smelled more attractive. This correlation, however, was significant only in ovulating women. Women in other phases of their cycles found the visually appealing men to smell just as bad as the ugly men, meaning that the preference for the odors of attractive men may depend on ovulatory hormones. It’s actually no surprise that olfactory systems may be sensitive to hormonal modulation, because pheromones that we presumably smell are themselves derivatives of steroid hormones. Pheromonal communication probably evolved as a way for us to judge the reproductive hormone level, and thus reproductive readiness, of a potential mate. So your behavioral response to that guy in the bar may be based not only on your own hormones, but his, too.

Acknowledgment

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Science Policy staff will continue to push Congress to restore the VA research budget throughout the spring appropriations season on Capitol Hill, both through individual lobbying and joint efforts with the Friends of VA Medical Care and Health Research coalition, of which APA is an active member. APA’s complete oral testimony regarding the VA budget may be found at <http://www.apa.org/ppo/issues/vatestfy07.html>.

Committee on Scientific Awards Names Recipients

by Jennifer Webb

The Committee on Scientific Awards selected the following individuals to receive the 2006 APA scientific awards in recognition of their outstanding theoretical or empirical contributions to basic or applied research in psychology. These outstanding researchers will be honored at APA's 2006 Annual Convention in New Orleans at an awards ceremony that will be held on Friday, Aug. 11, at 4 p.m.

Awards for Distinguished Scientific Contributions

Michael Davis, PhD, the Robert W. Woodruff Professor of Psychiatry, Behavioral Sciences and Psychology at the Emory University School of Medicine, is being honored for his major discoveries about the brain circuits underlying basic aspects of behavioral plasticity and learning. Michael Davis was the first to identify the entire brain circuitry for the startle response and its habituation. He applied this analysis to learned fear, using conditioned potentiation of the startle response. He localized the site of potentiation and identified N-methyl-D-aspartate receptors on neurons in the amygdala as critical for the learning of fear. He applied this elegant analysis to achieve a much greater understanding of the neural mechanisms underlying anxiety and post-traumatic stress disorder in humans.

Davis began his career working with Allan Wagner at Yale, where they focused on habituation and sensitization. Recently, he found that a growth factor called BDNF is critical for both fear conditioning and fear extinction. Davis has demonstrated that the N-methyl-D-aspartate partial agonist, d-cycloserine, can improve the effectiveness of psychotherapy in people suffering from anxiety-related disorders. As a result of his research, Davis developed and refined a behavioral tool (the startle reflex) that

has proven remarkably fruitful in analyzing important questions about the neural circuitry and the neuropharmacological mechanisms behind fear and anxiety.

Marcia K. Johnson, PhD, the Charles C. and Dorathea S. Dilley Professor of Psychology at Yale University, is being honored for raising and illuminating fundamental questions about the cognitive and neural processes that constitute the subjective experience of mental life. Johnson's reality/source monitoring framework addresses foundational questions: how people make attributions about the origins of mental experience and the mechanisms by which memories are constructed and distorted. Her Multiple-Entry, Modular Memory System (MEM) model ambitiously proposes a finite set of component processes that could account for the range of human cognition, and her functional magnetic resonance imaging work explores the link between those processes and neural activity. Both have increased psychologists' understanding of cognitive aging. She is a valued mentor and colleague, with infectious enthusiasm, warmth, generosity, and humor.

Johnson began her career collaborating with John Bransford on research in comprehension and memory. Their studies helped create the focus on constructive and reconstructive mental processes that now guides much theory and empirical work in human cognition. Throughout her research, Johnson's multiple-entry modular memory system model has guided and integrated her work. She developed the Memory Characteristics Questionnaire approach for assessing the subjective experience of remembering, which she used along with objective measures such as accuracy or response time, to study healthy young adults, children, older adults and amnesic patients. She later began using fMRI and found evidence that prefrontal cortex regions, associated with the "refresh" process

involved in thinking about an item that was just experienced, can be impaired by aging, potentially accounting for a variety of cognitive deficits in the elderly. Her work has influenced research in areas of social cognition, psychopathology, forensic psychology and cognitive neuroscience.

Martin E.P. Seligman, PhD, the Fox Leadership Professor of Psychology at the University of Pennsylvania, is being honored for a career spent charging creatively ahead of his field and then pulling his colleagues along. As a student of basic learning processes, Seligman showed that learning is both more biological and more cognitive than researchers had thought. This led to the development of an understanding of learned helplessness and its relation to depression. He has recently nurtured the creation of a new field—*positive psychology*—that addresses the sources of psychological strength rather than frailty, and this may be his most influential contribution of all. He has done all of this work with a style that is bold, courageous, and unafraid of being wrong.

Seligman began his career by investigating the phenomenon of learned helplessness and prepared learning, or associative learning predisposed by evolution. Later, Seligman reformulated the theory of learned helplessness to incorporate the causal attributions made by people for the range of responses that individuals showed in response to uncontrollable events and proposed that someone's habitual tendency to explain bad events with stable, global, and internal causes could be a risk factor for depression. He then used these findings to demonstrate that cognitive therapy for depression works because it targets an individual's pessimistic explanatory style, changing it to a more optimistic direction. Seligman initiated research

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showing that pessimistic explanatory style was a risk factor for failure in school, for poor vocational performance, for disappointing athletic outcome and for physical illness and even early death. Recently, he began focusing on optimism or positive outcomes, now called positive psychology. This approach represents an attempt to refocus the attention of the field on the processes leading to growth and development and opens up new areas of inquiry.

8 Award for Distinguished Scientific Applications of Psychology

John P. Campbell, professor and chair of the psychology department at the University of Minnesota, is being honored for his many different contributions to the field of industrial and organizational (I/O) psychology. Campbell has been a major force in the conceptualization and measurement of job performance and still provides a guiding light for scholars in the field. His book on managerial behavior, performance, and effectiveness is considered one of the classics. He has made considerable contributions in the general domain of training and development, providing comprehensive reviews and insights about this subspecialty in I/O psychology. His methodological work to develop a system of measuring and predicting job performance among military personnel was monumental in scope and impact. Additionally, he has made considerable contributions to general research methodology and psychometrics, providing instructional insight among researchers across many fields of psychology. As a fantastic teacher and instructor, he has helped lead the way for scholars in both I/O psychology and other disciplines.

Campbell's realization that one needs multidimensional measures of job performance has led to a change in our understanding of individual differences and work behavior, and to further realizations that psychologists could not develop personnel selection systems for organizations unless the

organization could specify the value it applied to each facet of performance. One of his most important empirical contributions was his work as principal scientist for the U.S. Army Project A from 1982 to 1989. Project A broke new ground conceptually and empirically in the areas of test development, construction of performance criterion measures, training assessment and validity generalization. Campbell then followed up on project A as principal scientist for the Career Force Project, and he currently serves as principal scientist on a series of related projects dealing with the prediction of future demands on the U.S. Army. He also served as a consultant for the Department of Labor's O*NET Project, which has mapped out all the knowledge and skill requirements for every major job in the United States economy.

Awards for Distinguished Scientific Early Career Contribution to Psychology

Animal Learning and Behavior, Comparative

Mark G. Baxter, of the experimental psychology department at Oxford University, is recognized for insightful and incisive contributions in studies of learning, memory, attentional processing, executive function, and goal-directed behavior in work that has translated across species. Baxter has used behavioral paradigms to probe the roles of neural systems, drawing on concepts from learning theory rarely applied in neuropsychological research. In a comparative approach, he has shown how certain neuropsychological processes can be studied in both rodents and nonhuman primates, and how related circuits are involved, rendering a setting for powerful experimental approaches in the further study of brain and behavior relationships.

Baxter earned his PhD at the University of North Carolina, Chapel Hill, in 1997.

Cognition and Human Learning (tie)

Brian J. Scholl, PhD, of the Yale University psychology department, is recognized for his brilliantly creative and sweepingly broad research program

that addresses the hard questions in cognitive science. Drawing on insights from psychophysics and developmental work, Scholl has advanced psychologists' understanding of what counts as a visual object and what rules are used to compute object persistence. To study the nature of visual consciousness and processing without awareness, he has developed ingenious visual tasks as freely as a painter mixing colors on a palette. His imaginative studies on causal perception have revived the elegant traditions of Gestalt psychology. He has set a breathtaking agenda that inspires junior and senior researchers alike. Scholl earned his PhD from Rutgers University in 1999.

Anthony D. Wagner, of the Stanford University psychology department, is recognized for outstanding and innovative research on the neural basis of memory and executive control. Wagner's innovative studies using neuroimaging have elucidated how prefrontal and medial temporal lobe systems are involved in the creation and retrieval of episodic memories and have provided novel insights into the functional organization of memory processes within each of these regions. His studies of executive control have demonstrated fundamental anatomical dissociations between different control processes in the prefrontal cortex. This body of work has shown how neuroimaging can provide insights into the organization of both cognitive processes and brain systems. Wagner earned his PhD from Stanford University in 1997.

Developmental Psychology

Seth D. Pollak, PhD, of the University of Wisconsin - Madison psychology department. How does a child develop emotionally? How do biology and social environment interact in emotional development? Pollack's research answers these important questions about the mechanisms of emotional development through an innovative combination of methods from psychophysics, neuroscience, and

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behavioral endocrinology. Through his studies comparing children who have experienced neglect, stress, or abuse early in life with children who have developed typically, he has documented how early experience sculpts the brain to create the emotional lives of children. He has made significant contributions to developmental theory while helping psychologists understand the important changes wrought by child abuse and deprivation. Pollak earned his PhD from the University of Rochester in 1997.

Health Psychology

Angela D. Bryan, of the University of Colorado psychology department, is recognized for her outstanding theoretical and applied research on health behavior change. Bryan's work as a social and health psychologist, methodologist, and statistician has produced numerous advances. She has used social psychology theory to understand dynamics of unhealthy behavior and has used that knowledge to design, implement, and evaluate effective, theory-based interventions to change unhealthy behavior. As a statistician and methodologist, she has used the most sophisticated techniques and has been extremely skilled at answering important theoretical and applied questions. She has attracted major external grant funding for her work and is an extraordinary mentor to many, as well as a fabulous teacher. Bryan earned her PhD from Arizona State University in 1997.

Psychopathology

Theodore P. Beauchaine, of the University of Washington psychology department, is recognized for core contributions in developmental psychopathology, especially related to the biological underpinnings of various mental disorders among children, sophisticated and elegant quantitative approaches to these issues, and exemplary work on the prevention of such conditions. The breadth of Beauchaine's interests is enormous, spanning attachment, taxometrics, vagal tone, emotion regulation, and

moderator–mediator processes. In each area, however, his depth, sophistication, and thoughtfulness are clearly evident. His integrative models and careful methods are exemplary. His work is transdiagnostic, spanning attention problems, aggression, depression, self-injurious behavior, and personality disorders. He will be a paragon of interdisciplinary work in the field for years to come. Beauchaine earned his PhD from the State University of New York at Stony Brook in 2000.

ATI Deadline Extension!

Hurry, register now! Due to popular demand for the APA Advanced Training Institutes on Non-Linear Methods (http://www.apa.org/science/ati_nlm.html) and Web-Based Research (http://www.apa.org/science/ati_wbr.html) the registration deadline has been extended to April 10. Take advantage of your opportunity to gain valuable knowledge in cutting-edge technologies at one of these hands-on APA-sponsored events. Register now!

9

OBSSR Announces Anniversary Conference

The Office of Behavioral and Social Sciences Research (OBSSR) of the National Institutes of Health will celebrate its 10th anniversary June 21-22 with a special conference on the NIH campus. "OBSSR 10th Anniversary: Celebrating a Decade of Progress and Promise" will showcase the last decade's major contributions of behavioral and social sciences research to health promotion and disease reduction.

In addition to a series of presentations on promising research, there will be a town hall meeting designed to obtain participant views of OBSSR's priorities for the future. NIH Director Elias Zerhouni will take part, as will Norman Anderson, APA CEO and founding OBSSR director. Nobel Laureates Eric Kandel and Daniel Kahneman will be among the presenters.

The meeting is open; those interested in attending may visit <http://obssr.od.nih.gov/OBSSR10th/intro.htm> for information on registration, housing, and agenda. There is no registration fee, but space is limited, so please make plans early.

Homeland Security Partnership Program Moves Forward

by Geoff Mumford

APA Science Policy staff have spent considerable time advocating for the importance of psychological science in the mission of the Department of Homeland Security (DHS). Much of that work began when the Department was merely an Office of Homeland Security in a small suite on the White House complex. Back then it was easy to identify central points of contact, eager OHS staff were receptive to new ideas, and we had a dedicated Senior Scientist, Susan Brandon, willing to tackle a whole new set of scientific issues. When Brandon left APA, she soon found herself discussing many of the same homeland security issues but from the White House end of the phone where she served so ably as the Assistant Director of Social, Behavioral, and Educational Sciences under John Marburger at the Office of Science and Technology Policy (OSTP). It's worth mentioning the early work, not as a trip down memory lane but more as a reminder of how far we've come.

Psychologists are now involved in a broad spectrum of activities within the jurisdiction of DHS. For example, Michelle Keeney manages the Social and Behavioral Research Program within the Threat Awareness Portfolio of the DHS Science and Technology Directorate. Baruch Fischhoff and Roxane Cohen Silver provide expertise as members of the Homeland Security Science and Technology Advisory Committee and the Academe and Policy Research Senior Advisory Committee of the Homeland Security Advisory Council, respectively. Detlof von Winterfeldt and Arie Kruglanski serve as Principal Investigators directing the activities of two of the five University-Based Centers of Excellence and student psychologists are becoming the next generation of Homeland Security experts training under the DHS Scholars and Fellows program.

And what of Brandon? She's now a Behavioral & Social Sciences Principal within the Information Technology Division of Mitre, a nonprofit government contractor leading, among other projects, one she conceived while still at OSTP – the DHS Social and Behavioral Sciences Partnership. As described by DHS, the Social and Behavioral Sciences Partnership (Partnership) Program assembles leading thinkers on the social and behavioral aspects of terrorism and national security to participate in study sessions and web-based dialogue focused on topics of relevance to the SBR Program, DHS, and the nation as a whole. It was created to describe the significant roles that social, cultural, economic, and psychological factors play in the threats we face and our counter-threat activities and provide a mechanism for communicating social and behavioral research findings to policymakers. In FY06, at the request of the DHS Policy Directorate, the Partnership will examine the impact of U.S. policies on radicalization in the United States. It will also hold study sessions on topics related to 1) assessing the intent of terrorist groups and 2) determining the long-term impacts of a terrorist attack with improvised nuclear device.

I was fortunate to have been invited to the first meeting of the group as part fly-on-the-wall, part scribe. Because all participants signed non-disclosure agreements, we are limited to sharing this approved summary (see box below) but I can say it was a very stimulating, if somewhat sobering, experience. Suffice to say psychological science is well represented within the group and Brandon continues to provide the sort of leadership for which she received an APA Presidential Citation at the recent Science Leadership Conference (SciLC).



Ron Levant presents Presidential Citation to Susan Brandon at SciLC in December 2005.

Citation:

In recognition of her visionary efforts to promote the value of the psychological and behavioral sciences as they apply to our counter-terrorism, homeland security, and national security interests. In the aftermath of September 11, 2001, she served as APA's senior scientist, and later as assistant director of Social, Behavioral, and Educational Sciences for the White House Science Advisor. During her tenure, Susan Brandon was instrumental in convening a unique series of workshops bringing social scientists together with operational personnel to discuss unmet needs and research opportunities on topics that included the social psychology of counter-terrorism, the detection of deception, the phenomenology of intuition, and suicide bombings. Recognizing the need for a coherent approach to research on these and related topics across the federal government and as a stalwart advocate for scientific psychology, Brandon nurtured a Cabinet-level effort to establish research priorities in the social, behavioral and economic sciences for combating terrorism on behalf of the National Science and Technology Council. The report, under development for 18 months and finally released earlier this year, has no parallel in other scientific disciplines and will serve as a lasting legacy to Brandon's perseverance, dedication, and commitment to counter-terrorism research.

DHS Partnership Program can be found at
<http://www.apa.org/ppo/dhspartnersprogram.pdf>

Funding Outlook for NIDA, NIA: News from the Experts

In Fiscal Year 2006, the National Institutes of Health received its smallest budget increase since the mid-1960s—less than one percent—and actually saw its budget cut after a 1% across-the-board cut was applied. How will that affect research funding and programs at the institutes that fund behavioral research? Is there any good news amidst the bad? APA's Science Policy Office put the following questions to several institute officials and program officers, and will publish their responses in the next few issues of *Psychological Science Agenda* (PSA).

Good Advice from NIDA Staff

PSA thanks David Shurtleff, Director of the Basic Neuroscience and Behavioral Research Division at the National Institute on Drug Abuse (NIDA) and Lisa Onken, Chief of the Behavioral and Integrative Treatment Branch, for sharing their advice.

How are your programs being affected by the very lean budget in Fiscal Year 2006?

Shurtleff: For Fiscal Year 2006, it's likely NIDA will fund fewer new/competing research project grants than in the past.

Onken: With a very lean NIH budget, it is possible that fewer grants will be funded in the future. However, every attempt will be made to maintain a behavioral and cognitive treatment field that is not only surviving, but thriving.

Has the number of grant applications to your institute been affected by the budget?

Shurtleff: It is too early to know for certain whether the number of grant applications will be affected by the budget. The number of grant applications received per review cycle has increased over the past two years for NIDA. With the likelihood of fewer

applications being funded, it's likely that more applicants will need to submit revised applications to achieve a competitive score in this funding climate.

Are there new areas of research emphasis at your institute for psychologists?

Shurtleff: Behavioral and cognitive science research continues to be an important part of NIDA-supported research. Of particular interest is the study of co-occurring disorders with substance abuse, adolescent vulnerability to addiction, and genetic and environmental factors associated with drug abuse and addiction. Research focusing on decision making and risky behavior in the context of HIV/AIDS and drug abuse is an important area of research for NIDA. Because drug addiction is a complex bio-behavioral disorder, it's important to adopt multidisciplinary approaches that foster collaboration between psychological researchers together with researchers from other disciplines, such as neuroscience, and genetics. A recently released RFA, DA06-004, "Social Neuroscience," reflects NIDA's interests in collaborative, multi-disciplinary and multi-level approaches to understanding drug abuse and addiction. Both human and animal-model-based behavioral research in these and other related areas are supported by NIDA.

Onken: Behavioral and cognitive treatment research, as described in the Behavioral Therapies Development program announcement (<http://grants.nih.gov/grants/guide/pa-files/PA-03-126.html>) continues to flourish at NIDA within the broader context of the multi-disciplinary, translational framework of the NIH Roadmap (<http://nihroadmap.nih.gov/>). Although it is no longer "business as usual," – some applications that would have been considered competitive in the recent past may no longer be as competitive —

opportunities. Also, the Institute is particularly concerned about attracting top-notch new investigators, so new PI applications may get a second or even third look.

Although it wouldn't be possible to list *everything* of high interest to the Institute, there are a few areas in the behavioral and cognitive treatment field that do stand out. Applications that attempt to determine the basic behavioral, cognitive, and neurobiological mechanisms underlying effective psychosocial interventions (i.e., their "mechanism of action") are of particular interest. Such applications inherently bridge basic and clinical science, another Institute priority. Translational research that attempts to utilize basic science principles and mechanisms of behavior change in the development and refinement of treatments - especially research that takes into account human development - is also of interest. This includes linking what we are learning about brain development in the cognitive, affective, and social domains to behavioral treatment research, and research with a goal of understanding the neurobiology of psychosocial treatment. Applications that seek to modify existing efficacious treatments to make them retain their efficacy while becoming more "community-friendly" (e.g., easier to administer, less costly, less complex, less lengthy, components or training materials computerized, etc.) are also of very high interest. Behavioral and cognitive treatment research on methamphetamine addiction is of great interest, as is research that also addresses the HIV risk behavior of methamphetamine addicts and research that integrates targeted HIV risk reduction interventions – particularly in non-injection drug abusers- into drug abuse treatment

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research. At the intersection of HIV/AIDS research and treatment, research designed to better understand the factors that influence adherence to medications remains of great interest. And of course multidisciplinary research proposals are of great interest.

To help achieve the goal of a thriving behavioral and cognitive treatment research field, the Behavioral and Integrative Treatment Branch is seeking a new Program Officer. (<http://jobsearch.usajobs.opm.gov/>)

12

Are there training or retraining mechanisms in your institute that psychologists should take more advantage of?

The Mentored Career Development Awards (e.g., K01, K08) geared toward newly independent researchers, is one avenue available for psychologists to gain additional training in an area of research that could complement their existing expertise. Early career investigators should also be aware of the new "NIH Pathway to Independence Award program." The program provides the opportunity for promising postdoctoral scientists to receive both mentored and independent research support from the same award (see: <http://grants.nih.gov/grants/guide/pa-files/PA-06-133.html>). Psychologists should also consider collaborating with researchers who have complementary expertise and training that allows for a multidisciplinary approach to the study of drug addiction.

Onken: In addition to the mentored career development awards ("K" awards), there are National Research Service Awards, including T32s (Institutional Research Training Grants) and F awards (Individual Predoctoral Fellowships). Also, predoctoral students can consider applying for a Dissertation Awards (<http://grants.nih.gov/grants/guide/pa-files/PA-05-083.html>). Finally, new investigators should look into the NIDA B/START (PAR-03-146 Behavioral Science Track Award for Rapid Transition) and I/START (PAR-06-092 Imaging-Science Track Award for Research Transition) programs,

which are designed specifically to support scientists early in their careers.

What can psychologists do to improve their chances of being funded?

Shurtleff: First and foremost all applicants should talk with program staff before submitting a grant application to consider how NIDA's priorities fit their research interests. It's important that, for the most part, research be hypothesis driven with clear objectives and specific aims. The applicant must clearly state how the proposed research relates to understanding the antecedents and consequences of drug abuse and addiction, particularly in those cases where the research does not propose to study drugs of abuse or drug addicted individuals.

Onken: In addition to speaking with someone at NIDA within their area of scientific interest, applicants should consider their ideas within the context of the interdisciplinary and multidisciplinary priorities that are being fostered through initiatives such as the NIH Roadmap and the NIH Neuroscience Blueprint.

NIA Budget Leaner, But Funding Opportunities Abound

Thanks to Richard Suzman, Director of the Social and Behavioral Research Program, and to Molly Wagster, Director of the Neuropsychology of Aging Branch of the Neuroscience and Neuropsychology of Aging Program at the National Institute on Aging, for sharing their views with *PSA* readers.

How is your program being affected by the very lean budget in Fiscal Year 2006?

Suzman: Grant funds are tighter than ever, but this needs to be placed in perspective. NIA's budget along with NIH's did double, and even though the budget has declined in terms of purchasing power since 2003, in the

current fiscal year it is slightly over a billion dollars. We continue to fund a substantial amount of outstanding behavioral research and innovative and significant new projects. In over 20 years at NIA, I cannot remember a more exciting time for the science. However, it is especially ironic that just as behavioral science in our area is achieving a level of maturity that suggests we should be mounting more large scale behavioral interventions, our tightened budget requires that we ration the interventions that we can support.

Wagster: We have a funding policy statement for FY 2006 on our web site www.nia.gov stating that we expect to fund to about the 10.5 percentile, but only after an average 18% budget cut. We hope that by the end of the fiscal year we will be able to reach beyond the 10.5 percentile for funding and that we will achieve a success rate of approximately 18% for research project grants in FY 2006.

Has the number of grant applications to your Institute been affected by the budget?

Wagster: There was a small increase in overall number of applications received for the first two funding rounds of FY 2006 as compared to the same two funding rounds of FY2005. So we are continuing to receive numbers of applications at a similar, or even slightly greater, rate as in the recent past.

Are there new areas of research emphasis at your Institute for psychologists?

Suzman: The Behavioral and Social Research (BSR) program is encouraging innovative research in a number of domains including: (1) emerging interdisciplinary fields such as behavior genetics, neuroeconomics, social affective neuroscience, behavioral economics, the measurement of wellbeing and burden of illness; (2) interventions and translation of basic cognition research to useful ways of thinking about how cognition is used in

continued on page 15...

Friends of NIDA Coalition Holds Briefing on Prescription Drug Abuse

by Clare Porac

“I don’t know how this happened to me. I was a good student in high school and a star hockey player.” With these words, 20-year old Nick started his tragic and often tearful description of his four-year struggle with addictions to the prescription pain-killer, OxyContin, and heroin. Nick was one of three speakers at a briefing on Capitol Hill sponsored by the Friends of NIDA (National Institute of Drug Abuse) coalition entitled “Prescription Drug Abuse – An Emerging Public Health Threat.” The February 23, 2006 briefing was held in conjunction with the Congressional Caucus on Addiction, Treatment and Recovery and included two additional presentations by Nora Volkow, NIDA Director, and Carol Boyd, Director of the Institute for Research on Women and Gender at the University of Michigan, Ann Arbor. This briefing was the fifth in a series of educational briefings organized by the APA science policy staff on behalf of the Friends of NIDA coalition. The briefing focused on detailing the prevalence and characteristics of the nonmedical use of prescription drugs among adolescents and young adults.

Volkow began the session with an overview of the problem. The nonmedical use of prescription pain-killers is on the rise including a significant increase in the report of the nonmedical use of OxyContin and Vicodin among 12th grade high school students over the period of 2002-2005. A surprising statistic indicated that in 2005 the number of adolescents reporting a first time drug use involving a pain-killer surpassed the prevalence of the previous first drug of choice, marijuana. Although pain-killers seem to top the list of abused prescription drugs, adolescents and young adults also report the nonmedical use of stimulants, such as Ritalin used to treat ADHD, and tranquilizers. Volkow addressed some possible reasons why the nonmedical use of prescription



Speakers Carol Boyd, Nick; and NIDA Director Nora Volkow.

drugs is rising at an alarming rate in these age groups. Increased media attention to the issue and the availability of drug purchase through internet sources that do not require a prescription to purchase a drug were mentioned as possible contributors to the growing problem.

The second speaker, Boyd, described her NIDA-sponsored research on the nonmedical use of prescription drugs in over 5000 adolescents and young adults from areas in and around Detroit, Michigan. She found that high school students who abuse prescription medications were more likely to use other illegal as well as legal drugs, such as alcohol. Furthermore, her results indicated that internet sources were not used to buy prescription drugs by participants in her study. Prescription stimulant drugs, such as Ritalin, were most frequently obtained from friends while prescription pain-killers were frequently obtained from parents. Boyd’s research also explored the motivations that prompted the nonmedical use of prescription drugs. Pain-killers were most frequently used to “get high” as well as to relieve pain. Stimulants, on the other hand, were most frequently used to improve concentration, study habits and alertness. Medical users of prescription drugs, both friends and family members, divert their drugs to others. In the case of high school students, who have prescriptions for drugs for medical reasons, this diversion might involve a sale or a trade for another drug. Nick’s final presentation was a graphic

and heart-wrenching saga of his years as an addicted teenager. Nick described the feelings of elation and superiority that he felt when taking OxyContin as well as the growing awareness that his life was in danger if his drug use persisted unchecked. After several years of repeated failures in detox treatment centers and a near death experience caused by an overdose, Nick has been successfully treated by a combination of drug therapy using buprenorphine, which relieves him of his drug craving, and behavioral management techniques. The development of buprenorphine to assist in the treatment of drug addiction is one of NIDA’s drug development success stories.

All the speakers stressed that prescription medications are readily available in most high schools and on the streets, either free or for a price, and that the number of emergency room visits related to the abuse of pain-killers is increasing at a rapid rate in recent years. More education is needed to inform parents and adolescents about the dangers of sharing prescription medications with others so that these medications can be used safely and legally for their intended purposes. Prescription medications need to be stored in secure places and discarded when no longer required. Also, physicians and nurses must talk to their adolescent patients about their prescription drug use and the dangers of diverting drugs to others for nonmedical reasons.

Grants Available for Scientific Conferences, Proposals Invited

The Science Directorate is currently seeking proposals for research conferences in psychology. The purpose of this program is to promote the exchange of important new contributions and approaches in scientific psychology. Over 90 conference grants have been awarded to date. The next deadline for applications is **June 1, 2006**.

Grant money ranging from **\$500 to \$20,000** is available for the scientific conference. Proposals will be considered using such formats as “add-a-day” conferences (\$500-\$3,000 available), “stand alone” conferences (\$5,000-\$20,000 available), and festschrifts (\$5,000-\$20,000 available). APA is also open to innovative ways of holding conferences. The conference must be additionally supported by the host institution with direct funds, in-kind support, or a combination of the two. Please note that a detailed budget including institutional support is required for application.

14

Conference proposals must meet the following eligibility requirements:

- One of the primary organizers must be a member of APA.
- Only academic institutions accredited by a regional body may apply. Independent research institutions must provide evidence of affiliation with an accredited institution. Joint proposals from cooperating institutions are encouraged.
- Conferences may be held only in the United States, its possessions, or Canada.
- APA governance groups, APA Divisions and other related entities are not eligible for funding under this program.

Conference proceedings and presentation materials (including electronic presentations) must be submitted to APA three months after the date the conference is held. APA will hold the conference proceedings for three years. If a book has not been published by APA or another publisher within the three-year holding period, APA will place the conference proceedings in PsycEXTRA.

Seventy-five percent of funds will be distributed to grantees prior to the conferences, and the remaining twenty-five percent will be released following the conference and after the submission of a final financial report detailing conference expenditures equal to or exceeding Grantee's proposed total budget.

Conference review committee members are: Anita Davis, Michael Domjan, Irene Frieze, Kathleen McDermott, Kevin Murphy, and James W. Pennebaker.

For more information on review criteria, proposal contents, and budget guidelines, please refer to the APA website at <http://www.apa.org/science/confer2.html> or contact Deborah McCall, Science Program Manager, at (202) 218-3590 or dmccall@apa.org.

PROPOSAL DEADLINE: June 1, 2006

Please mail proposals to:

APA Science Directorate
750 First Street, NE

Attn: Scientific Conferences Proposals
Washington, DC 20002-4242

<http://www.apa.org/science/confer2.html>

continued from page 12...

the everyday world; (3) decision making and the development of methodological and technological tools and methods to improve how information is used and processed by the public; (4) projects that take advantage of available large data sets to focus on immediate problems or combine data from several projects. Almost all of the data from our largest longitudinal studies are rapidly and freely available equally to all investigators (www.nia.nih.gov/NR/rdonlyres/CF937DAA-D0A4-4AAC-BC2E-89AC055F56C2/7739/PubliclyAvailDatasetsSept2005.pdf). This is a treasure chest that has not been fully appreciated by psychologists, especially given the increasingly high quality cognitive and psychosocial measures. The new National Academy of Science report commissioned by BSR and just published, *When I'm 64* discusses directions in social, developmental, personality and cognitive psychology of aging and suggests new research directions. Agendas and summaries of our workshops can be found on our Institute website and provide a good way to keep abreast with the latest developments on areas such as neuroeconomics; social neuroscience; wellbeing; decision making; cognitive interventions; the social, physiological, and psychological predictors of resilience and vulnerability to late life diseases; the impact of age-related changes in social networks, etc. In areas that already have a good deal of research underway, especially ones that have substantial ongoing studies, we are going to have to look far more carefully at applications that are just minor variations on the existing studies rather major innovations. For that reason it has become far more important for prospective applicants to check with staff before submitting new applications. We are going to have to find ways to better manage areas such as behavioral interventions, caregiving and driving, to give just a few examples, where we are seeing applications that are somewhat redundant with studies already funded, and to do this without dampening the creativity and innovativeness of investigator initiated applications.

Wagster: In the past two years, some of the workshop foci for the Neuroscience and Neuropsychology of Aging (NNA) program have included cognitive reserve, molecular and cellular basis of cognitive aging, factors for cognitive vitality in the older adult, and basic and clinical research on estrogen and cognition and summaries of these also can be found on our website. The NIA is actively involved in the NIH Blueprint for Neuroscience Research (<http://neuroscienceblueprint.nih.gov>). Several training and tool development funding opportunities are available through the Blueprint including a contract opportunity, released March 13th, to develop a brief, but comprehensive, measurement tool for assessment of cognitive, emotional, sensory and motor function. The NIA also has been an integral part, along with NIMH and NINDS, in the trans-NIH initiative, The Cognitive and Emotional Health Project (<http://trans.nih.gov/cehp>). This is a resource-building and information-gathering effort to identify what currently is known about factors for maintaining cognitive and emotional health in the adult. NNA supports a portfolio of research that is structured vertically and ranges from molecules to behavior. We continue to support research on the interventions that together maintain behavioral health as we age. Translational research on normal cognitive aging and AD is emphasized with 2 program announcements with set asides (<http://grants.nih.gov/grants/guide/pa-files/PAS-05-022.html>; <http://grants.nih.gov/grants/guide/pa-files/PA-R-05-148.html>) and continuing opportunities for clinical trials (<http://grants.nih.gov/grants/guide/pa-files/PA-R-05-021.html>). Normal cognitive aging is part of the mandate of the AD centers, and samples and data are available for research projects (<http://www.alz.washington.edu>).

Are there training or retraining mechanisms in your Institute that psychologists should take more advantage of?

Wagster: At the NIH level, a new mechanism (K99/R00) is available that combines a fellowship component with

an independent research grant component, the latter which can be transported to one's first independent academic position (<http://grants.nih.gov/grants/guide/pa-files/PA-06-133.html>). We continue to support post-doctoral training of young investigators through the individual mentored post-doctoral fellowship awards (F32) and the institutional post-doctoral training grants (T32). NIA also supports mentored K awards to research psychologists and clinical psychologists interested in research who have recognized faculty positions (a chart of the Research Career Development Awards offered by NIA can be found at www.nia.nih.gov/GrantsAndTraining/TrainingSupport.htm#research). A variety of special funding opportunities are available to individuals from diverse backgrounds, including pre-doctoral dissertation awards (www.nia.nih.gov/GrantsAndTraining/SpecialPopulations.htm)

What can psychologists do to improve their chances of being funded?

Suzman: Take advantage of special training opportunities such as the RAND mini med school for social and behavioral scientists and their summer institute (www.rand.org/labor/aging/rsi/), and the NIA Summer Institute (www.nia.nih.gov/ResearchInformation/ConferencesAndMeetings/SummerInstitute.htm).

Wagster: Probably the single most important thing one can do is to talk with program staff at NIA before submitting an application. Staff can provide information and advice on how the topic fits with the NIA's interests, tips on what reviewers like to see in applications, what study sections might provide the best expertise to review the applicant's proposal, and what mechanisms may be most appropriate to use to apply for funding.

continued from page 6... 249-263.

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