

# The Psychological Science Agenda



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## APA Convention Set for Boston

### TABLE OF CONTENTS

<b>APA Convention Set for Boston</b>	<b>1</b>
<i>Science Brief: Memory Attribution: Deliberating About Memories</i> by Ian Dobbins	<b>3</b>
<i>Executive Director's Column: The Power of Partnership</i>	<b>8</b>
<i>From the Science Student Council: Top Ten Tips for Graduate Students Who Want to Conduct a Meta-analysis</i>	<b>9</b>
<i>New Additions to the APA Science Staff! The APA Library &amp; Archives and What is CPWAR?</i>	<b>13</b>
<b>Bachrach Joins OBSSR</b>	<b>14</b>

**M**ake plans now to attend the APA Convention in historic Boston, Massachusetts, August 14 – 17!

The Board of Scientific Affairs, its committees, and the Science Directorate have strong traditions of organizing exceptional programming for the Convention. This certainly holds true for 2008, as noted in the programming listed below.

In addition to exciting invited addresses covering a broad range of topics in psychological science, there are a number of symposia, workshops, and other sessions that speak to practical issues (e.g., obtaining grants, IRB issues), social issues where psychology has something significant

to say (e.g., standardized tests), and areas where the discipline still has much to contribute (e.g., global climate change).

Graduate students will find Science programming especially attractive, as they witness their colleagues in another round of last year's successful "datablitz," where students present their research in an exciting, rapid-fire session; hone their grant writing skills in a session on locating funding; learn lessons vicariously from those already established in their field in a session called "What I Wish I Had Known;" and learn how to "give psychological science away" to friends, relatives, and even strangers in "Flaunt Your Science!"



APA Divisions have arranged rich programs that will appeal to the science community, and there are many plenary sessions to draw participants. Just a few of the many featured speakers at the Convention include Keynote speaker Malcolm Gladwell, David Barlow, Kelly Brownell, Catherine Lord, Pamela Trotman Reid, and Robert Sternberg. Distinguished psychologist Edward Zigler will receive the APA Award for Outstanding Lifetime Contributions to Psychology at the Opening Session.

Hotel rooms often are booked early for Boston Conventions, so visit [www.apa.org/convention](http://www.apa.org/convention) for information about registration, hotels, travel, as well as additional information about special programming.

Watch this space in early summer for more news about science programming at the Convention!

### **Distinguished Scientific Contribution Awards**

Michael Gazzaniga, University of California, Santa Barbara - *Human Brains Divided*

Janellen Huttenlocher, University of Chicago - *Some Comments on Language Development*

Hazel Markus, Stanford University - *Race, Ethnicity and Psychology*

### **Neal Miller Lecture**

Klaus A. Miczek, Tufts University  
- *Aversion and Pleasure: How do Social Stress Experiences Promote Neural Mechanisms for Drug Taking?*

### **Master Lectures**

Mark E. Bouton, University of Vermont - *Optimizing Extinction Learning*

Jose M. Cortina, George Mason University - *When Small Effect Size Tells a Big Story, and When Large Effect Sizes Don't*

Michele J. Gelfand, University of Maryland - *Culture and Social Situations: A Multilevel Analysis of Situational Constraint*

Connie Hammen, University of California, Los Angeles - *Adolescent Depression: Risk Factors and Consequences*

Linda Smith, Indiana University at Bloomington - *Weird Loops: From Object Recognition to Symbolic Play to Learning Nouns and Back*

### **Committee on Animal Research and Ethics Invited Address**

Gregory Miller, Harvard Medical School - *Monkey Genes Come in Human Flavors: Translational Models of Human Neuropsychiatric and Substance Abuse Disorders in Rhesus Monkeys*

### **Committee on Psychological Tests and Assessment Invited Symposium**

*Symposium: Standardized Testing: Prospects and Pitfalls*

### **Science Student Council**

*Symposium: "What I Wish I Had Known" – A Guide for Graduate Students (sponsored by the APA Membership Board)*

*Symposium: Psychological Science Graduate Superstars—Datablitz*

*Workshop: Show Me the Money: Grant Writing Basics for Graduate Students*

*Symposium: Flaunt Your Science! (sponsored by the APA Policy and Planning Board)*

### **Ad hoc Committee to Advance Responsible Research**

*Symposium: IRBs and Psychological Scientists: Working Together to Protect People and Advance Research*

### **Co-sponsored with Division 34:**

*Symposium: Psychology of Global Climate Change* ■

## **Announcing the 2008 APF/COGDOP Graduate Research Scholarships**

The American Psychological Foundation (APF) and the Council of Graduate Departments of Psychology (COGDOP) are jointly offering graduate research scholarships. Promising graduate students are invited to apply for the awards, including the \$3,000 Ruth G. and Joseph D. Matarazzo Scholarship, the \$2,000 Clarence J. Rosecrans Scholarship, and several \$1,000 scholarships.

The purpose of the scholarship program is to assist graduate students of psychology with research costs. Eligible students are those enrolled in a doctoral program or an interim masters program in a COGDOP member department. Students currently enrolled in terminal masters programs in COGDOP member departments are eligible for the award if they intend to enroll in a PhD program immediately after earning the masters degree. Students at any stage of graduate study are encouraged to apply, and several fellowships have been reserved for students who, at the time of application, are within the first two years of graduate study in psychology.

**Applications must be received by June 16, 2008.** Visit [www.apa.org/science/apf-cogdop.html](http://www.apa.org/science/apf-cogdop.html) for complete instructions and the application form.

## SCIENCE BRIEFS

# Memory Attribution: Deliberating About Memories

by Ian Dobbins



Ian Dobbins, currently an Associate Professor of Psychology at Washington University in Saint Louis, received his PhD in Psychology at The University of California, Davis under Dr. Neal E. A. Kroll. His laboratory studies the cognitive processes and neural mechanisms underlying how people both deliberately and automatically recover memories. His research particularly focuses on how regions within the prefrontal cortex contribute to the deliberate retrieval of memories and how regions in other parts of the brain may instead regulate more automatic expressions of memory. Tools used in the laboratory include behavioral experiments, decision modeling, and brain imaging with functional magnetic resonance imaging (fMRI).

We have all experienced the slight social panic that occurs when we are unsure whether a quickly approaching person is known or unknown. Questions such as “Do I wave or is a brief smile a safer bet?” arise, and sometimes the memory status of the individual isn’t concluded until embarrassingly late. Such examples illustrate that memory judgments often involve complex and rushed decisions (Johnson, M.K., Hashtroudi, S., & Lindsay, D., 1993; Schacter D.L., Norman, K. A., & Koutstaal, W., 1998). For example, one’s willingness to wave, given a certain level of memory evidence, may depend upon the rapid weighing of numerous contextual factors. If one is at an occasion where there is a high likelihood of knowing most of the attendees, say a small close-knit conference, then minimal evidence may be deemed sufficient to initiate an effusive greeting. In contrast, contexts where one is likely to be a relative stranger may lead to greater caution when initiating greetings. The mechanisms that influence the mapping between memory evidence and actions or judgments are often

termed “decision criteria,” and to understand the significance of decision criteria it is useful to examine a simple model of recognition judgments termed Signal Detection Theory (SDT) (Figure 1).

Under SDT, recognition judgments are assumed to rely upon a unidimensional memory evidence value often referred to as memory strength or familiarity. During the discrimination of recently studied from novel items, it is assumed that prior study has increased the baseline evidence of the items yielding

two overlapping normal evidence distributions (Figure 1). The observer must parse this evidence into two discrete response options, “old” and “new,” and does so by establishing a fixed value or criterion ( $c$ ). Items generating greater memory evidence than the criterion are labeled old whereas those eliciting evidence values below the criterion are classified as new (Macmillan & Creelman, 1991). The criterion then, represents the subjects’ best guess as to how much evidence is likely, in that situation, for items that were studied. The distance between the distributions

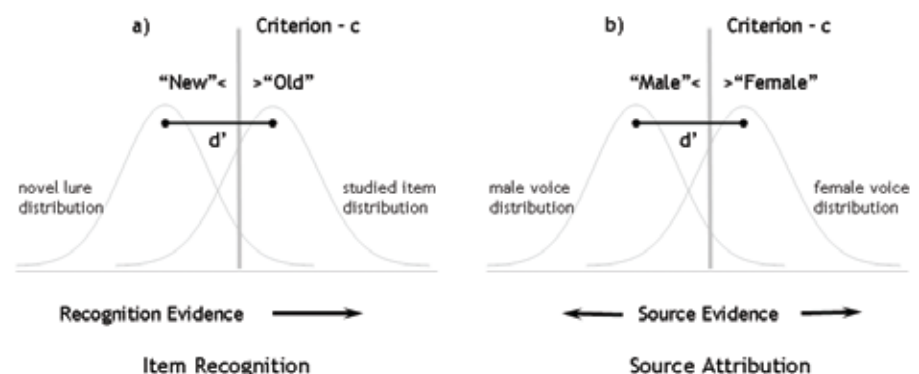


Figure 1. Signal Detection Theory (SDT) decision models of item recognition (panel a) and source memory judgment (panel b).

defines the resolution or accuracy of the observer and is termed  $d'$ . By way of analogy, consider how one would judge the gender of individuals if the only information provided were height. Males and females would be expected to differ on average but not categorically so, such that there would be overlapping distributions of height values. Here the observer would have to pick a value as a cutoff and the chosen location of that cutoff may be affected by factors such as whether the sample was being drawn from Scandinavia or East Asia, or whether one was judging pre-schoolers or adults.

The SDT decision model is likely an oversimplification of the way explicit memory judgments are rendered; nonetheless, the model illustrates the importance of considering decision criteria. Given two observers with different resolutions ( $d'$ ), it is not necessarily the case the observer with the higher resolution will be the most successful in rendering correct memory judgments. This is because an observer who is sensitive to situational factors (such as the event contexts mentioned above) may be able to strategically place the criterion in a manner that increases his or her success relative to an observer who is insensitive and does not adjust the criterion adaptively. In short, while resolution is important, so is criterion placement, and nature is presumably neutral as to how the correct or most rewarding judgments are reached. Surprisingly, although the SDT decision model has been applied to recognition memory since the mid 1960s (Parks, 1966), relatively little work has examined how or if subjects adaptively position decision criterion.

One relevant factor appears to be the subjects' expectations with regard to memory availability. For example, Dobbins & Kroll (2005) examined recognition judgments for studied photos drawn from the participants' local environment (e.g., the local coffee shop) versus similarly constructed photos drawn from the surroundings of a

different campus. Under self-paced recognition, subjects were less likely to incorrectly endorse unstudied items drawn from their local environment compared to those drawn from an unfamiliar environment. Critically, if only familiarity governed response tendencies, the opposite pattern should have emerged, namely, a higher intrusion rate for familiar lures drawn from the local environment. This suggested that subjects used a higher or more rigorous standard for photos that they anticipated would have yielded rich or robust recognition had they in fact just been studied. This strategy has been termed a memorability heuristic (Brown, J., Lewis, V.J., & Monk, A. F., 1977), and estimating the memorability of stimuli is presumably a controlled reasoning process. Supporting this interpretation, when subjects were forced to respond extremely rapidly, the pattern reversed (Dobbins & Kroll, 2005). That is, lures drawn from the local environment were now incorrectly endorsed at a higher rate than those chosen from an unknown location, suggesting subjects were unable to evaluate memorability in the limited time available, and were instead relying solely on item familiarity. Although the neural substrates supporting subjective memorability heuristics have not been directly investigated, neuropsychological casework (Curran *et al.*, 1997) and functional magnetic resonance imaging (fMRI) work on the inhibition of automatic learned responses (Dobbins, I.G., Schnyer, D.M., Verfaellie, M., & Schacter, D.L. 2004) suggest that dorsolateral prefrontal cortex (PFC) regions may be critical for exerting executive control during recognition.

Subjective memorability heuristics reflect a type of metamemory or meta-awareness in which subjects adjust criteria based on what they know about the general operating characteristics of their own memory; for example, the knowledge that memory for personally distinctive materials, such as photos of their favorite coffee shop, should be vivid

or rich if recently encountered (at least when encountered in a laboratory) (Schwartz, B.L., Benjamin, A.S., & Bjork, R.A., 1997). Although sensitive to these individual probe characteristics, subjects often appear strikingly insensitive to general trends in the quality of memory evidence and their concurrent performance during testing. For example, if studied items become generally hard to detect during the second half of a test list, subjects do not spontaneously adjust the criterion downwards in an attempt to improve detection rates (Verde & Rotello, 2007). Such criterion rigidity appears to reflect an ambiguity inherent in the design of standard recognition tasks that do not provide performance feedback. More specifically, memory evidence may begin to routinely fall below one's criterion because the criterion is too stringent, or because one is simply encountering a large run of lures and the criterion is appropriate. To investigate subjects' ability to strategically adjust the criterion in the absence of changes to the memoranda, Han & Dobbins (in press) used a novel biasing feedback procedure in which subjects were correctly informed about successful responses (correct "old" and "new") responses, but were tacitly misinformed about incorrect responses of a given type. Whereas half the subjects were informed that incorrect endorsement of new items (false alarms) were in fact correct, the other half were informed that incorrect rejection of old items (misses) were in fact correct. Thus each group was given positive feedback in response to a particular type of memory error and correct negative feedback in response to another type of error. Two experiments demonstrated that this procedure led to prominent and durable shifts in the relative decision criterion across groups. Interestingly, subjects appeared to be largely unaware of the skewed or biased nature of the biased feedback manipulation. Follow-up research using these types of biased feedback manipulations further suggests that the effect may rely upon reinforcement learning mechanisms implicated

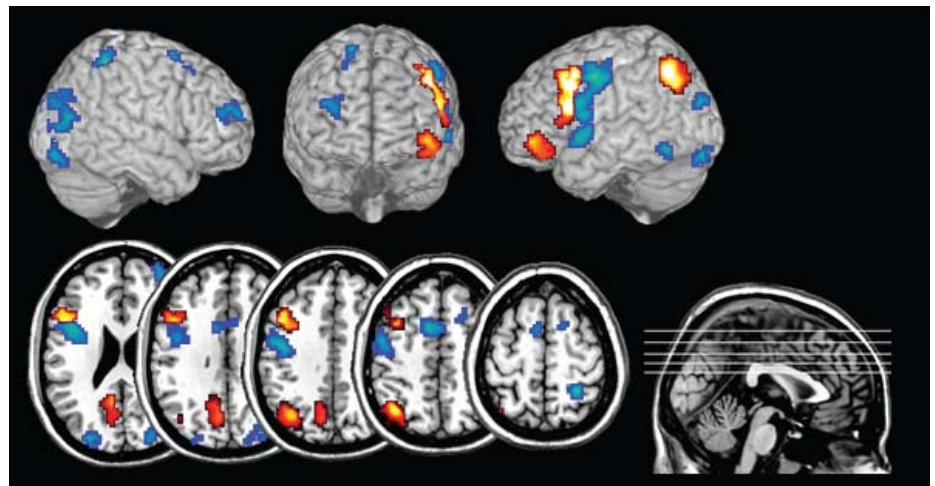
in the learning of novel categories, and that magnitude of the induced effect covaries with personality traits linked to reward-seeking outside the laboratory (Han & Dobbins, under review). Such data suggest the exciting possibility that explicit memory judgments may be influenced not only by conscious strategies and heuristics, but also by incrementally acquired response tendencies linked to reinforcement history and reward sensitivity (Wixted & Gaitan, 2002).

Although the simple SDT model shown in Figure 1a is most frequently applied to recognition data, it has also been argued to apply to more contextually specific memory discrimination tasks referred to as source memory (Figure 1b). In a source memory task subjects encounter items in two different study situations, for example, words read by a male or female presenter. Later, they are required to attribute the items to the particular prior sources, in this case the male or female presenter. The SDT model of source memory is formally identical to that for item recognition. Items are assumed to evoke normally distributed continuous evidence values favoring one or the other source and subjects parse the evidence axis into two discrete decisions using a criterion value. However, the formal equivalence of the recognition and source SDT models belies the fact that the two judgments likely depend on different decision processes or combinations of processes. For example, early neuropsychological evidence suggests that source memory judgments may be particularly dependent upon the integrity of prefrontal cortex (Janowsky, J.S., Shimamura, A. P., and Squire, L.R., 1989). This hypothesis has received considerable confirmation from fMRI studies of source memory demonstrating much greater recruitment of PFC regions during source memory compared to item recognition judgments (Dobbins, I. G., Foley, H., Schacter, D. L., & Wagner, A. D., 2002; Mitchell, K.J., Johnson, M. K., Raye, C. L., and Greene, E. J., 2004; Rugg, M.D.,

Fletcher, P.C., Chua, P. M., & Dolan, R..J., 1999), and this increased recruitment does not simply reflect the relative behavioral difficulty of the two tasks.

One factor thought to differentiate source memory from item recognition is the degree to which the former requires increased planning or contextual reinstatement (Norman & Bobrow, 1979). Whereas item recognition can be based on a sense of familiarity or novelty, source tasks typically require the active consideration of finer grained aspects of prior experiences and subjects must appreciate that not only may items potentially differ in terms of their old/new status, but that they may also differ in their ability to evoke contextual memories diagnostic of one versus the other source. Thus whereas judging items as old or new requires little in the way of considering specifics about ones' prior experiences, judging an item as from a particular source requires keeping in mind a template or description of the types of memory characteristics that will aid in identifying particular sources. Supporting this distinction, recent fMRI research suggests that source memory tasks impose greater processing demands early in the

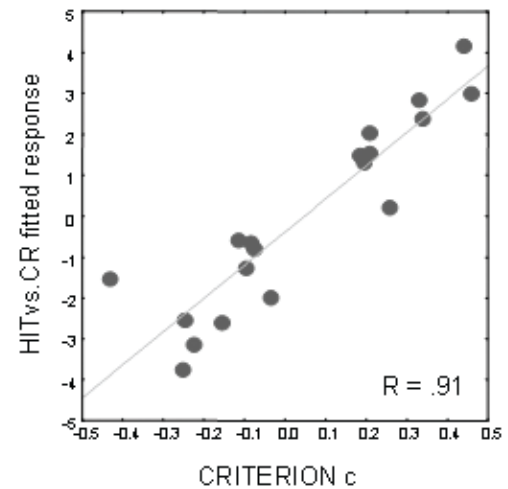
trial than item memory tasks. To examine this, Dobbins and Han (2006) presented subjects with memory triplets composed of one new item, and two old items encountered in two different prior sources (pictures previously rated for pleasantness or realism). On some trials subjects were tasked to select the item arising from a particular prior source (e.g., earlier pleasantness rating task) whereas on other trials they were instructed to select the new item. Critically, the memory queries preceded the appearance of the probe items by varying time periods. This enabled the isolation of the neural response to the question (cue activity) from that which occurred in response to the later arrival of the memoranda (cue + probe activity). A key finding was that in relation to item recognition questions, source memory questions led to the early recruitment of left PFC regions, even before the appearance of the actual memoranda. Prior research suggests that the left precentral gyrus and medial prefrontal regions implicated in this contrast are involved in verbal working memory maintenance. Thus the evidence suggests that source memory tasks place a greater working memory demand upon subjects early in the train of processing consistent with



**Figure 2.** Regions demonstrating greater activity for source memory trials compared to item recognition trials in Dobbins & Han (2006). Regions in blue demonstrated greater activity during the initial cue/question period, when the question indicated the upcoming task would require source attribution. Thus greater recruitment occurred even though memoranda were not yet visible, reflecting the planning of contextual retrieval. Many of these regions have been implicated in verbal working memory maintenance. Regions in orange demonstrated greater activity for source versus item memory trials as well, although this difference was not apparent until the memoranda were actually present suggesting these responses reflect processes involved in evaluating the memoranda or the memory content they evoke.

the hypothesis that subjects must bring to, and hold in mind a much more complex task characterization when attempting source attribution (Dobbins & Han, 2006).

Despite the tendency for source attribution tasks to recruit PFC to a greater degree than item recognition tasks, it is important not to over-simplify this characterization. Increasingly, fMRI research designs are using individual differences to facilitate the functional interpretation of regional activity. Although not often stressed, subjects differ considerably not only in estimates of recognition accuracy, but also in the relative placement of decision criteria. That is, whereas some subjects are inherently very cautious in their approach to recognition endorsements, others appear very lax (Dobbins, 2001). As part of a broader study examining item recognition and reinforcement, Han, Huettel and Dobbins (in preparation) conducted an initial fMRI scan in which observers engaged in simple old/new recognition judgments for serially presented words. As expected, scoring outside the scanner suggested considerable individual variability in criterion levels. When these criterion estimates were used to interrogate regions showing greater activation for old versus new items, left frontopolar cortex demonstrated a particularly strong relationship with criterion variability (Han, Huettel, & Dobbins et al., in prep). More specifically, this region demonstrated more activation for subjects who were more conservative or strict in their adopted criterion. Although there is considerable controversy regarding the function of frontopolar cortex, it may play a critical role in the integration or joint consideration of evidence of different types during reasoning. In the case of recognition, this characterization would suggest that observers who demonstrate conservative criteria consider multiple converging pieces of memory evidence before endorsing an item as old. This has the benefit of reducing incorrect endorsement of new items since these



**Figure 3.** A region of left frontopolar cortex that demonstrated sensitivity to individual differences in criterion placement. During recognition testing this region demonstrated greater fMRI activation for the correct identification of old items (hits) than new items (correct rejections – CR). Additionally, those subjects who were more conservative or strict when responding, as estimated by the SDT measure  $c$  (x – axis), demonstrated greater recruitment of this region. Thus recruitment of this region, known to participate in complex reasoning and planning, may be an indicator of cautious or thorough evaluation of memory content.

are unlikely to yield multiple spurious indicators of prior study, however, it comes at the cost of also reducing the number of old items that are detected.

Although the study of the decision mechanisms guiding memory judgments is in its early stages, several new and exciting possibilities have arisen from recent investigations. What has generally become clear is that memory judgments are complex acts, even when they are confined to judgments about individual stimuli. They appear to be mediated by a host of factors such as explicit strategies, reinforcement histories, personality, and the contextual specificity of the memory demand (e.g., source versus item recognition judgments). Furthermore, even simple recognition judgments can recruit regions of PFC implicated in complex reasoning abilities. While simple decision models such as SDT are extremely useful, they are perhaps best thought of as basic measurement tools or data summaries. For example, there is nothing inherent in the two models illustrated in Figure 1 that would lead one to predict that compared to item recognition, source queries would preferentially recruit PFC regions linked to working memory earlier in the trial (Dobbins & Han, 2006).

Similarly, the models are agnostic with respect to whether individual differences in conservative versus liberal responding should lead to different patterns of cortical activation, yet the data of Han, Huettel & Dobbins (in preparation) demonstrate that conservative individuals demonstrate increased recruitment of left frontopolar cortex (Figure 4), a region also recruited during higher order reasoning. Finally, the models in Figure 1 are not useful in explaining why certain manipulations of recognition test items influence the criterion position (Dobbins & Kroll, 2005) whereas others do not (Verde & Rotello, 2007), and work in this area is beginning to suggest that shifts in the measured criterion might result from fundamentally different mechanisms. For example, the shift that results from biased feedback may be fundamentally different from that which occurs in response to explicit warnings by the experimenter to avoid certain types of errors. Cataloguing and explaining these multiple and perhaps interactive mechanisms promises to be a fruitful area of research over the coming years and may shed light not only the impressive feats of human memory, but also its extreme vulnerability to neuro-degenerative diseases and psychological and physical trauma. ■

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## Quantitative Training for Underrepresented Groups August 11-13, 2008

The 5th annual Quantitative Training for Underrepresented Groups (QTUG) conference will be held August 11-13, 2008 at the Northeastern University campus in Boston, Massachusetts. The conference is largely supported by the National Science Foundation Grant No. 0720063, with additional support from the American Psychological Association (APA). The three QTUG conference days (August 11-13) will expose participants to exciting work presented by outstanding scientists, with several opportunities to interact with these potential mentors. Some time will be devoted to instruction, oriented primarily toward showcasing relevant quantitative methods and research. Participants will have some opportunities to present their own work for review and suggestions. Training is designed for individuals from underrepresented groups who are junior or senior undergraduate students or graduate students. Selected participants will be offered some funding support. Applications should be made online at the Application link of the QTUG web site: <http://qtug.smep.googlepages.com/> and submitted on or before May 2, 2008, along with a two-page resume submitted to [qtug.smep@gmail.com](mailto:qtug.smep@gmail.com). For further information send email to [qtug.smep@gmail.com](mailto:qtug.smep@gmail.com). Decisions are expected in May/June.

# EXECUTIVE DIRECTOR'S COLUMN

STEVEN BRECKLER, EXECUTIVE DIRECTOR FOR SCIENCE

## The Power of Partnership

The APA Science Directorate takes great pride in the work of its Government Relations Office (GRO). No other professional association in the world provides the breadth or depth of advocacy on behalf of psychological science.

The Science GRO ([www.apa.org/ppo/science](http://www.apa.org/ppo/science)) is represented by a staff ([www.apa.org/ppo/staff.html#Science](http://www.apa.org/ppo/staff.html#Science)) of six highly experienced professionals. Among them, they cover most of the federal agencies from which psychologists get funding: NIH, NSF, NASA, DOD, Education, DHS, and others. They know their business, and they do it extremely well. I encourage everyone to set up a subscription to the monthly newsletter, SPIN (Science Policy Insider News) ([www.apa.org/ppo/spin](http://www.apa.org/ppo/spin)). Month after month, you can read about their efforts on your behalf.

One secret to their success is recognizing the power of partnership. The Science GRO staff are perfectly capable of working on their own, but they get much farther by working with others. Indeed, it is a deliberate strategy for effective advocacy.

When it comes to federal advocacy, we share common interests and goals with many other organizations. And nearly all of those organizations (including



APA) recognize the value of working together. Scientific advocacy is about achieving desired outcomes. It is not about taking credit for those outcomes. The strategy of partnership means that we invest just as much in our relationships with other organizations as we do in ourselves.

That's why the APA belongs to the Federation of Behavioral, Psychological, and Cognitive Sciences ([www.thefederationonline.org](http://www.thefederationonline.org)). It allows partnership with such groups as the Cognitive Science Society, the Human Factors and Ergonomics Society, the Society for Industrial and Organizational Psychology, the Society for Personality and Social Psychology, the Society for Mathematical Psychology, and 16 others.

It is also why the APA belongs to the Consortium of Social Science Associations ([www.cossa.org/index.shtml](http://www.cossa.org/index.shtml)). It brings us into partnership with the American Sociological Association, the American Economic Association, the Society for Research in Child Development, and dozens of others. There is indeed strength in numbers, and we all recognize the folly of going it alone.

Many of our partnerships are organized around more narrowly defined goals. Thus, APA belongs to the Friends of NIDA ([www.thefriendsofnida.org](http://www.thefriendsofnida.org)), the Friends of NICHD ([www.apa.org/ppo/friendsofnichd.html](http://www.apa.org/ppo/friendsofnichd.html)), the Friends of the VA ([www.friendsofva.org](http://www.friendsofva.org)), and the Coalition for National Science Funding ([www.cnsfweb.org](http://www.cnsfweb.org)). Not only do the Science GRO staff participate in each of these coalitions, they play leadership roles in them.

Effective scientific advocacy requires significant resources, and it depends on effective partnerships. Organizations the size of APA can afford to support their own large, professional staffs of advocacy experts. Yet it is the wise organization that invests its resources in working with others. The members of APA should take pride in knowing that we follow the course of partnership. ■

### Funding Announcement for Weight Control Research with Young Adults

The National Heart, Lung, and Blood Institute has issued a funding opportunity announcement for clinical research on behavioral and environmental approaches to weight control in young adults (ages 18-35) at high risk for weight gain. Using the cooperative agreement (U01) mechanism, funded projects are to be conducted in two phases: an initial phase aimed at refining the proposed intervention and research methods, and a second phase consisting of a randomized controlled trial. The application deadline is October 10, 2008. The full announcement can be found at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-08-007.html>.

# From the Science Student Council

The Science Student Council is a group of nine graduate students who spend a couple of weekends a year with the Science staff, advising on programs and activities that would benefit graduate students in psychological science. In this column, the students will present useful information that other graduate students need to know! Visit the Science Student Council page ([www.apa.org/science/apasscweb.html](http://www.apa.org/science/apasscweb.html)) to learn more about the activities of the SSC.

## Top Ten Tips for Graduate Students Who Want to Conduct a Meta-analysis

By Marcella H. Boynton, University of Connecticut

Regardless of your discipline within psychology, the literature in your area is most likely enormous. As a consequence, there are simply too many papers, often with disparate findings, to draw any real conclusions about the topic of interest. Meta-analysis is a way to resolve this issue through the systematic collection and analysis of research studies on a particular topic.

Although meta-analysis is becoming evermore popular, it can be difficult to undertake without the guidance of an experienced meta-analyst. However, if one is motivated and has a good statistics background, even a novice can perform a meta-analysis. Several advantages to conducting a meta-analysis early in your career include familiarizing yourself with an area in which you probably hope to conduct primary-level research, developing an advanced statistical skill, and creating a manuscript that can be submitted for publication. Further, because meta-analysis is a synthesis of data that has already been collected, it is not necessary to obtain external funding or recruit participants. All you need to conduct a meta-analysis is use of one or more comprehensive literature search engines (e.g., Web of Science, PsycINFO, PubMed), access to a basic statistics program such as SPSS or

SAS at your disposal, and a good idea for a meta-analysis topic.

For those of you interested in conducting a meta-analysis, here are ten tips for how to get started:

1. *Take a course on meta-analysis, whether it is in your department or elsewhere.*

Having a support system of classmates and an instructor while you work on your meta-analysis can be an invaluable resource.

2. *Purchase, borrow, or download a couple of good references for how to conduct a meta-analysis.* Statistics can be tough to grasp solely through books or journal articles. In the case of meta-analysis, however, there are several highly accessible texts to help you understand the ins and outs of the process (see listing of some useful resources at the end of this article).

3. *Build collaborations with other researchers in your area.* Part of your professional development includes forging collaborative relationships. If you have an idea about a meta-analysis you'd like to conduct, think about approaching a colleague to work on the project with you. Undergraduate research assistants, who can often receive course credit for participating in research activities, can also help

with the literature search and coding of articles, which are often the most time-consuming parts of the process.

4. *Pick a manageable topic.* It is vitally important that you select a research literature that is manageable in size and scope. For example, conducting a meta-analysis on the Big Five Personality traits is far too general; however, you could conduct a meta-analysis looking at whether there is a gender difference on the dimension of extraversion.

5. *Be comprehensive and systematic in your literature search.* The purpose of a meta-analysis is to cover all of the available studies for your topic. This includes not only published research, but also dissertations, studies in non-English language journals, and unpublished studies.

6. *Keep detailed records of everything that you do.* Precise record-keeping is an absolute necessity in meta-analysis. You need to assiduously track your literature search, which includes recording the date of the search, search engine used, search terms employed, which articles were found, and which articles were excluded. These records will be invaluable when you write the method section of your paper.

7. *Design a clear and concise coding form.* A coding form is used to record the relevant statistics of interest, as well as information on any of the potential moderator variables for each study included in the final database. Keep your coding form focused strictly on the variables you plan to test.

8. *Create a timeline that gives you plenty of time to conduct the meta-analysis.* Depending on the size and scope of your project (as well as whether you have collaborators) you will probably need a *minimum* of several months to complete it. Setting specific due dates will help you stay on track.

9. *Don't be afraid to contact a meta-analysis expert if you get stuck.* If you run into a snag, don't hesitate to e-mail someone who has published a meta-analysis using methods similar to those you wish to employ. Most people are flattered that you read their paper and happy to give helpful advice.

10. *Tell a good story.* A meta-analysis needs to tell an interesting and useful story about your phenomena of interest. Review the debates within the literature and offer a clear and compelling analysis of the available data. Finally, write a story that makes your reader glad to have picked up your paper in the first place. ■

### Useful Meta-analysis Guides

Cooper, H., & Hedges, L. V. (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation.

Hunter, J.E. & Schmidt, F.L. (1990). *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*, Newbury Park, CA: SAGE Publications.

Johnson, B.T. & Boynton, M.H. (2008). Cumulating Evidence about the Social Animal: Meta-analysis in Social-Personality Psychology, *Personality & Social Psychology Compass*, 2, 1-25.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage Publications, Inc.

### Useful Meta-Analysis Software

Biostat Corporation (2005). *Comprehensive Meta-analysis Version 2*, Englewood NJ: Author.

Johnson, B. T. (1993). *DSTAT 1.10: Software for the meta-analytic review of research literatures*. Hillsdale, NJ: Erlbaum

Wilson, D. B. (2006). SPSS, STATA, & SAS macros for performing meta-analytic analyses. Retrieved August 9, 2007 from <http://mason.gmu.edu/~dwilsonb/ma.html>

## Minority Fellowship Program Schedules Summer Institute

The Minority Fellowship Program of the American Psychological Association is hosting its Sixth Annual Psychology Summer Institute (PSI), July 20-26, 2008 in Washington, DC.

PSI provides educational, professional development, and mentoring experiences to advanced doctoral students of psychology and psychologists who are in the early stage of their careers. Participants are guided through mentoring, networking, seminars, and workshops toward developing grant proposals, postdoctoral fellowships, dissertations, treatment programs, publications, or program evaluation projects. All projects must focus on issues affecting ethnic minority communities.

If you are an advanced doctoral student or are within the first five years of your career...

If you have a concept or project that you want to develop (research, services, or policy)...

If you want to receive one-on-one mentoring from psychologists in the field...

If you want to network with some of the brightest psychologists and advanced doctoral students in the country...

If you want the inside scoop on grant writing, publishing, data analysis, innovative treatment models, cultural competence, getting tenure, and a lot more...

If you want to meet and hear from top federal officials about getting their money...

If you want to receive a travel fellowship to cover all reasonable expenses...

Then this is the summer institute for you!

Application deadline: May 16, 2008 (11:59 pm Eastern Time). For more information and to apply online, visit our web site at [www.apa.org/mfp](http://www.apa.org/mfp). Contact Kyra Kissam ([kkissam@apa.org](mailto:kkissam@apa.org)) if you have questions.

# APA Cosponsors Briefing on IoM Report, “Cancer Care for the Whole Patient”

By Pat Kobor

Congressional staff and members of the health advocacy community gathered on March 31, 2008, for a briefing on “Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs.” APA and thirteen other behavioral science or health organizations cosponsored the Capitol Hill briefing on the recent Institute of Medicine (IoM) report.

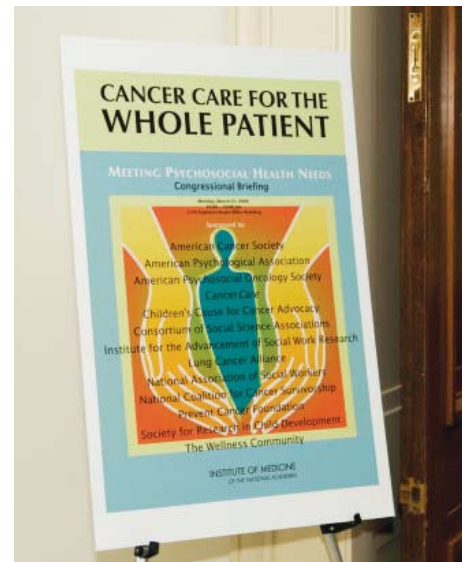
Ten and a half million people in the USA are living with a current or past diagnosis of cancer, and 41% of all Americans can expect to be diagnosed with cancer at some point in their lives, according to the IoM report.

The report makes the case that it is not possible to deliver good-quality cancer care without addressing patients’ psychosocial health needs. All patients with cancer and their families should expect and receive cancer care that ensures the provision of appropriate psychosocial health services. The National Institutes of Health (NIH) asked the IoM to study the delivery of psychosocial services to cancer patients and their families and identify

ways to improve it. This report recommends ten actions that oncology providers, health policy makers, educators, health insurers, health plans, quality oversight organizations, researchers and research sponsors, and consumer advocates should undertake to ensure that this standard is met.

Briefing speakers included psychologists Robert Croyle, Director of the National Cancer Institute’s Division of Cancer Control and Population Sciences, and Jessie Gruman, President of the Center for the Advancement of Health and author of *“AfterShock: What to Do When the Doctor Gives You -- or Someone You Love -- a Devastating Diagnosis;”* Elizabeth Clark, Executive Director of the National Association of Social Workers, completed the panel.

Croyle explained why the National Cancer Institute and NIH’s Office of Behavioral and Social Sciences Research had commissioned the report from the Institute of Medicine. NCI supports research on health communication, and hopes to use the



report to guide additional research, especially on ways to improve communication between patients and providers.

Gruman, a member of the IoM panel that produced the report, said that doctors are so focused on eradicating cancer that they sometimes ignore the shock and other emotions that can hinder treatment. Even the best cancer treatment can fail if doctors don’t pay attention to the psychological and social needs of patients. Gruman, a three-time cancer survivor, spoke from data as well as personal experience.

Clark discussed the need to build capacity, both in the private sector and among health professionals, to make more comprehensive cancer care available in areas of the country outside of major university cancer centers. She also discussed the need for people with cancer to get help advocating for better treatment. Clark developed *The Cancer Survival Toolbox*, a self-advocacy training program for persons with cancer. ■



Betsy Clark, Robert Croyle, and Jessie Gruman, were featured speakers at a Capitol Hill briefing, cosponsored by APA, about a recent Institute of Medicine report: “Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs.”

## 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 100 conference grants have been awarded to date. **The next deadline for applications is June 1, 2008.**

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.

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: Oscar Barbarin, Anita Davis, Michael Domjan, 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 [www.apa.org/science/confer2.html](http://www.apa.org/science/confer2.html) or contact Stephanie Cox at (202) 336-5918 or [scox@apa.org](mailto:scox@apa.org).

### **PROPOSAL DEADLINE: June 1, 2008**

Please mail proposals to:  
APA Science Directorate  
Attn: Scientific Conferences Proposals  
750 First Street, NE  
Washington, DC 20002-4242

## New Additions to the APA Science Staff!

We are pleased to announce that, earlier this year, both the APA Library and Archives and the Center for Psychology Workforce Analysis and Research (CPWAR) have moved to within the purview of the Science Directorate. What does this mean? For readers of Psychological Science Agenda this means that occasional articles from these offices will appear in the newsletter so be sure to look for them in the future.

## The APA Library & Archives

The A.W. Melton Library & Archives is now part of the Science Directorate family. How does the new team contribute to APA's mission of psychological science?

The APA library is a place where research begins for APA staff, committees, and task forces. Even when a patron comes from another institution with its own information center, the APA librarians are often asked to do a literature search. Information professionals know that commonly used search engines such as Google and Yahoo sacrifice quality for quantity, tending to cover less than 17% of internet resources. Librarians are able to conduct precise searches to produce comprehensive lists of highly relevant books, web publications, and peer-reviewed articles.

The library answers numerous inquiries from APA members and non-members, from psychologists around

the world, from students and the media, and from the general public. Not surprisingly, these inquiries are varied, ranging from the date APA was founded, to our position on capital punishment. Many questions relate to archival materials - unique documents, photographs and publications that often can't be found anywhere else.

Currently, the library staff is working on the APA Digital Archives Project, the aim of which is to digitize as much material as possible and to make it accessible online. Initially, the digitized resources are being made available to APA staff, who also have electronic access to the library catalog, research databases, journals, guides, and other interesting and useful online materials. It is a heavily used resource by central office staff. For the public, the library also maintains a website of special interest to historians of psychology and the APA - [www.apa.org/archives](http://www.apa.org/archives).

APA staff use the library to look up information in the reference collection or to borrow books. Although the collection is limited in size, it is a very fine collection of works specifically in psychology. APA staff often makes recommendations for items to expand the collection.

Thanks to a generous donation from Dr. Lee Gurel, the library is equipped with the most up-to-date computers. One can frequently see APA members, graduate students or visiting scientists searching PsycNet and our other online databases.

The library does not embody the stereotype of a book warehouse, a quiet and austere place with dusty shelves. The Arthur W. Melton Library & Archives is a modern information center, up-to-date and able to provide useful services and resources for the APA staff and the psychological community. ■

## What is CPWAR?

By William Pate

The Center for Psychology Workforce Analysis and Research (CPWAR) collects, analyses, and disseminates information relevant to psychology's workforce and education system. This office recently became part of the Science Directorate.

The CPWAR staff routinely conducts national surveys of recent doctorate recipients, graduate departments of

psychology, and those in the workforce to provide information to students, professionals, and the public regarding graduate school debt, starting and eventual salaries of psychologists, and characteristics of those in various work settings.

Beyond our primary data efforts, we also obtain data from and collaborate with national agencies (NSF, Department of Education, Bureau

of Labor Statistics, Commission of Professionals in Science and Technology, etc.) to provide the latest reliable national level data at regional and national conferences, publications, and our website. We also work closely and often partner with other psychology related organizations and entities (APPIC, NCSPP, COGDOP).

For more information, please visit our website at <http://research.apa.org>. ■

## Bachrach Joins OBSSR

Christine A. Bachrach has been appointed Acting Associate Director for Behavioral and Social Sciences Research, NIH, and Acting Director, Office of Behavioral and Social Sciences Research. Following David Abrams' departure from NIH, Dr. Bachrach began serving in this position on April 7, 2008.

Bachrach has worked in the Demographic and Behavioral Sciences Branch in NICHD's Center for Population Research since 1988, first as a statistician/demographer and since June 1992 as chief of the branch. She came to the NIH and NICHD from the CDC's National Center for Health Statistics. She was a long-time member of the NIH Behavioral

and Social Sciences Research Coordinating Committee and a founder and co-chair of the NICHD Consortium for Behavioral and Social



Christine Bachrach

Sciences Research. Other activities at NIH have included oversight of the National Longitudinal Study of Adolescent Health (Add Health), co-chairing the 2000 NIH Conference, "Toward Higher Levels of Analysis: Progress and Promise in Research on Social and Cultural Dimensions of Health," and co-chairing the Social Environment Working Group of the National Children's Study.

Christine Bachrach received her PhD in Population Dynamics from John Hopkins University, School of Hygiene and Public Health. Her own research has examined a variety of topics related to the family, including fertility, contraceptive use, sexual behavior, cohabitation, and adoption. ■

### Application Deadlines Approach for APA Advanced Training Institutes

Applications are still being accepted for four of this summer's APA Advanced Training Institutes (ATIs). These intensive training programs expose advanced graduate students, post-doctoral fellows, new and established faculty, and other researchers to state-of-the-art research methods and emerging technologies. More information about these programs can be found at: [www.apa.org/science/ati.html](http://www.apa.org/science/ati.html)

We encourage you to consider these programs for yourself and to forward this announcement widely to colleagues and students who may be interested.

#### **Using Large-Scale Databases: NICHD Study of Early Child Care and Youth Development**

August 4-8, Univ. of North Carolina, Applications due by April 15

#### **Research Methods with Diverse Racial & Ethnic Groups**

June 23-27, Michigan State Univ., Applications due by April 18

#### **Geographic Information Systems for Behavioral Research**

July 16-18, Univ. of California, Santa Barbara, Applications due by April 30

#### **Non-Linear Methods for Psychological Science**

June 9-13, Univ. of Cincinnati, Applications being accepted until seats are filled

Tuition for all ATIs is substantially lower than marketplace prices because of a subsidy from APA's Science Directorate. Applications are available at [www.apa.org/science/ati.html](http://www.apa.org/science/ati.html) and must be submitted electronically through each program's website. For more information, contact the APA Science Directorate via email ([ati@apa.org](mailto:ati@apa.org)) or telephone (202) 336-6000.

## National Heart Lung & Blood Institute Requests Information on Translating Basic Behavioral Research

The NHLBI is seeking comments from the scientific community regarding topic areas and research findings in the basic behavioral and social sciences that have potential for informing the development of innovative interventions to reduce obesity and improve obesity-related behaviors.

The Request for Information (NIH Guide Notice NOT-HL-08-114) can be found at <http://grants.nih.gov/grants/guide/notice-files/NOT-HL-08-114.html>. The information obtained from responses to this RFI will aid the development of an upcoming Funding Opportunity Announcement in this area and will inform the development of future programmatic activities in the area of health behavior change.

APA encourages psychologists to read the full announcement and take a few moments to provide feedback via the RFI website. Please note that the closing date for responding to this RFI is Monday, April 28, 2008. After that date, the web link <http://apps.nhlbi.nih.gov/survey/BBSS> will be closed.

Behaviors such as smoking, sedentary lifestyles, adverse diets, and non-adherence to medical and behavioral treatments are major contributors to morbidity and mortality. The most sophisticated advances in disease prevention and treatment are dependent on individual behaviors; for example, individuals must recognize, correctly interpret and act on symptoms of a disease in order to receive treatment; and patients must participate in all aspects of care in order to derive its benefits. In particular, the rapid rise in obesity over the past 2 1/2 decades threatens to reverse recent gains in life expectancy. While adopting and maintaining healthful dietary habits and a physically active lifestyle remain fundamental to preventing and treating obesity, even successful behavior change interventions are limited in their capacity to induce long-term behavioral changes in most people.

The intent of the upcoming RFA is to promote an intervention development process for the behavioral sciences to achieve greater effectiveness for obesity-related behavior change strategies.

In order to stimulate the translation of basic behavioral sciences findings to guide behavioral intervention development, the NHLBI intends to issue a FOA in the fall of 2008 to fund 6 - 8 Research Centers of Excellence for Behavioral Intervention Development. These Centers, to be funded in collaboration with existing interdisciplinary, translational research programs, are intended to support interdisciplinary project teams that include basic and applied biological, clinical, behavioral and social scientists.

Questions about this request for information may be directed to:

Susan M. Czajkowski, Ph.D. of the NHLBI, (301) 435-0406 or [czajkows@mail.nih.gov](mailto:czajkows@mail.nih.gov).

## PSYCHOLOGICAL SCIENCE AGENDA

*Psychological Science Agenda* is published monthly by APA's Science Directorate. Dedicated to promoting and serving scientific psychology, *Psychological Science Agenda* provides news about national scientific policy developments, examines policy issues affecting and affected by the behavioral research community, and highlights the advocacy efforts of the Science Directorate on behalf of research and academic psychologists. *Psychological Science Agenda* also features news of APA's governance and program initiatives relating to scientific and academic psychology, and provides valuable, timely information about funding opportunities for research psychologists.

*Psychological Science Agenda* is distributed free to 30,000 psychologists, members of Congress and their staffs, key officials in federal agencies that fund behavioral research and use its findings, institutional libraries, and science writers in the national media.

To obtain a subscription to *Psychological Science Agenda*, contact the Science Directorate: American Psychological Association, Science Directorate, 750 First Street, NE, Washington, DC 20002-4242. Phone: (202) 336-6000. Fax: (202) 336-5953. TDD: (202) 336-6123. Email: [science@apa.org](mailto:science@apa.org).

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