



OBSERVER

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Congress Comes Through For Behavioral Science

Good news for psychological research funding, visibility, and NIH office

WASHINGTON, DC—Unless you've been on the proverbial desert island, you know that Congress has been occupied with health care reform, a crime bill, and numerous other mega-issues, the debate of which prevented them from taking much of their customary August recess.

That alone may have contributed to the "more-heat-than-light" nature of the speeches you saw on C-SPAN, since being forced to stay in Washington, a.k.a. the humidity capital of the universe, could only add to the existing congressional tendency to crankiness. Not to mention the baseball strike.

Well, one of the reasons you read the *Observer* is to get news from Washington that even C-SPAN doesn't give you, right? And once again, the news from Capitol Hill is great: This year we are seeing unprecedented statements of support for behavioral and social science by congress-

sional appropriators, and despite the generally tight federal budget for science, there is funding for new initiatives that will directly benefit psychology researchers. Of course, unlike other papers, we're not just reporting the news; we're making it happen. (There's a slogan in there somewhere....)

In all seriousness, in this *Observer* issue are three stories on important actions taken by the US Senate and House regarding behavioral science and the upcoming budget of the National Science Foundation (NSF) (page 3), the National Institute of Mental Health (NIMH) specifically (pages 4 and 5), and the National Institutes of Health (NIH) generally (page 6). Take a moment to bask in the glory with us, and remember that this was done by the same people who brought you the health care debate! Go figure...

Academy Releases Report on Boosting Human Performance

Latest of three reports of the National Academy of Sciences examines Evidence for claims of extraordinary training aides and techniques

WASHINGTON, DC—"Americans are always looking for an edge in performance" said Eric Eich, associate professor of psychology at the University of British Columbia.

"If a new technique seems promising, we take a stab at it. It's our pragmatic streak, our can-do attitude; we're always looking for an edge, especially for high-level performance, whether it's cognitive, motor or athletic.

"Meanwhile, there are a lot of techniques that we know do work. They do enhance human performance. They're not always easy, or quick-and-dirty, or sexy. And, in fact,

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What's New?

APS Turns Six, Still Growing

Marilynn Brewer
Ohio State University



Not too many five-year-olds would command the attention of several top federal agency chiefs, but just prior to its sixth birthday (on August 12), APS hosted the likes of Wendy Baldwin, Rex Cowdry, Enoch Gordis, and Alan Leshner—during the June APS Board meeting at the APS Convention in Washington (see the July/August *Observer*). Baldwin is Director of Extramural Research at the National Institutes of Health, Cowdry is Acting Director of the National Institute of Mental Health, Gordis is Director of the National Institute on Alcohol Abuse and Alcoholism, and Leshner is Director of the National Institute on Drug Abuse.

On the Map

The Board's opportunity to speak directly with these heads of the largest sources of federal funding for psychologist's research was informative for all, but we were particularly struck by just how significant an achievement it was to have drawn so many key people at one meeting. Admittedly we were in their own backyard, but this may be the most we have hosted yet! It is amazing to realize the speed with which APS has emerged on the national "public policy map" in Washington.

Closer to Home

And between visits from these Washington decision-makers, the APS Board reached a number of decisions of its own. Tackling a long list of business of direct interest to Society members, the Board, among other things:

- ◆ Welcomed its new **President-Elect**, Richard F. Thompson, and the **new Members-At-Large**, Lorraine Eyde and Bruce Overmier whose terms began officially at the end of the convention.
- ◆ Approved a brief **statement on ethics** that is in keeping with APS's interests in scientific and personal integrity but does not put the society in the position of acting as judge and jury.
- ◆ Reviewed and approved a change in the current APS policy on **poster submissions** for the convention. In keeping with policies of similar scientific societies, the Board decided that members should be entitled automatically to present posters at the annual meeting, adopting a **virtually open submissions policy** with a much less cumbersome review process. (See the enclosed "call for posters.") The convention review committee maintains authority to screen submissions for eligibility and appropriateness.
- ◆ Approved recommendations of the Fellows Committee regarding **new APS Fellows** (see call for nominations and list of Fellows approved in 1994 elsewhere in this issue).
- ◆ Approved a proposal by the Publications Committee for a **new journal on teaching psychological science**. The primary focus would be on teaching psychology to undergraduates and graduate students, but articles concerning the education of high school students and post doctoral fellows would also be within the journal's scope. Watch for more information in an upcoming *Observer*.

SEE BREWER ON PAGE 33

Human Capital Initiative Funded in FY 1995

APS-initiated effort to focus national resources on basic and applied research aimed at behaviorally based problems gains increasing attention

WASHINGTON, DC—It all started during a 1992 hearing on the the next year's budget for the National Science Foundation (NSF). Executive Director Alan Kraut finished delivering APS's formal statement which for the first time introduced the just-published national behavioral science research agenda called the Human Capital Initiative (HCI). APS was asking the Senate to encourage NSF to support it, knowing that Senate interest would be critical to getting the HCI on NSF's radar screen.

Presiding over these hearings was Senator Barbara Mikulski (D-MD), the powerful chair of the appropriations subcommittee that oversees NSF's budget. She listened intently, thumbed through a copy of the HCI, and praised both the content and the approach. Shortly after, at her doing, there appeared in the Senate's budget directions to NSF a provision directing the agency to "incorporate the initiative into its programs."

[For those unfamiliar with the Human Capital Initiative, it was developed under the auspices of APS by representatives of 70 psychological and behavioral organizations (see February 1992 *Observer*). The HCI ties behavioral science research to issues of national concern, and is intended to serve as a guide to Congress and government research agencies in setting priorities for federal support of behavioral science. Contact APS for more information and copies.]

NSF Takes Action

In the ensuing two years, the HCI has gained a significant amount of momentum, and APS has continued to work with Mikulski to press for increased NSF support of the HCI. Interestingly, the backdrop for this was that Mikulski was

shaking things up at NSF by insisting that the agency, whose mission traditionally has been focused on "curiosity-driven" basic research, should start to pay more attention to national concerns in setting its funding priorities. Sound familiar? We thought so, and we were able to make the case that the HCI takes exactly that kind of approach: basic science, but within national goals. In response to the Senate's directives, last year NSF set aside a small amount of money for the HCI, and earlier this year, NSF decided to write its own version of the HCI that involves psychology but broadens the initiative to include other behavioral and social science disciplines.

All this has been great news, but things are reaching a new level in fiscal year (FY) 1995. For one thing, the Senate has directed NSF to budget \$5 million *extra* for the HCI, with the proviso that such funds will not come from existing behavioral or social science research programs. Plus, the House side has spoken for the first time, with the appropriations subcommittee, led by Representative Louis Stokes (D-OH), weighing in with a strong statement supporting increased funding for the HCI at NSF. The Senate and House statements are reprinted here [see box at right].

As the *Observer* goes to press, the House and Senate are wrapping up a reconciliation of the differences between their versions of the bill that includes the Veterans Administration and the Department of Housing and Urban Development as well as the NSF budget. However, the unofficial word is that NSF will receive a remarkable 13.8% increase over the FY 94 budget, and that the \$5 million for the HCI will be preserved in the final budget. ♦

Congressional Appropriations Report: The Human Capital Initiative at NSF

Senate Statement

The [Senate Appropriations] Committee recommends the following changes to the [FY 95 National Science Foundation] budget:...+\$5,000,000 for research within the human capital initiative. This funding increase should not be offset by decreases in other areas within the social, behavioral and economic research subactivity. The Committee is pleased to receive the NSF report in which the Foundation stated that it planned to devote one-fifth of any new fiscal year 1994 funds appropriated for the social, behavioral and economic research subactivity. The impressive strategic plan that the Foundation has prepared for the human capital initiative provides a clear statement of national goals and articulates the most important barrier issues that research must address toward achieving those goals. [S. Rpt. 103-311, p. 137]

House Statement

The [House Appropriations] Committee was pleased to receive the NSF report to Congress on the "Human Capital Initiative" (HCI) in which the Foundation stated that it planned to devote a fifth of any new fiscal year 1994 funds appropriated for the Social, Behavioral and Economic Research subactivity, to research related to the human capital initiative. The Foundation, and the National Science Board, are encouraged to use the HCI to further expand its support for basic behavioral/psychological science—thus supporting basic science within national goals. The Committee urges the NSF to provide additional funds for the HCI in fiscal year 1995 to expand current knowledge of the underlying factors involved in behavioral-based problems. [H. Rpt. 103-555, p.81]

NIMH Behavioral Science Pushed by Both Sides Now

House and Senate call for implementation of recommendations of NIMH task force report on behavioral science

WASHINGTON, DC—Both sides of Capitol Hill are calling for increased emphasis on behavioral science at the National Institute of Mental Health (NIMH) in the FY 95 budget. The Appropriations Committees of the Senate and House of Representatives are pushing the Institute to implement the recommendations of a report that the congressional appropriators call a "blueprint" for expanding the Institute's basic behavioral science program.

To a substantial degree, it was APS's work with the House and Senate that resulted in these important expressions of support for the report, which was developed by a task force under the auspices of the NIMH advisory council. This is the second year in a row that the Senate Committee, led by Senator Tom Harkin (D-IA), has expressed strong interest in the report, and the first year that the House has made a statement. (The relevant excerpts from the congressional reports are reprinted in the box at right.)

The task force report describes the status of knowledge in various areas within behavioral science. It also includes an assessment of the current levels of NIMH support of behavioral science grants and researchers, which in general have been flat since the late 1970s. The task force concluded that the Institute needs to provide significant increases in support for investigator-initiated grants and training grants to fulfill its mission in behavioral science.

The report was developed through a multi-tiered process led by a Steering Committee whose co-chairs were (then) APS President Gordon Bower, and John Kihlstrom, recently named editor of *Psychological Science*. Others on the committee included NIMH council members James Jackson, APS Past-President James McGaugh, and Joseph Matarazzo. The Steering Committee oversaw the efforts of a task force of experts who looked at a broad range of

basic behavioral science in the context of NIMH's mission on mental health.

The task force recommendations are still undergoing review by the NIMH advisory council but are expected to be approved soon. A summary of the draft recommendations is provided in this issue [see page 5].

B/START in Demand

Also at NIMH, the new program to encourage young investigators in behavioral science, B/START (Behavioral Science Track Award for Rapid Transition), has been overwhelmed with applications, many times more than can be funded under the current budget. APS

worked with the Senate Appropriations Committee to develop the following language encouraging NIMH to provide more funding to meet the demand for B/START awards:

Young behavioral science investigators.

— *The Committee notes that NIMH has initiated the B/START program to increase the supply of young investigators in behavioral science. The Committee has in previous years expressed concern about the alarming decline in the number of new investigators in psychology and other behavioral sciences. The Committee understands that the current level of funding for B/START cannot support the overwhelming number of otherwise eligible applications NIMH has received for the program. Therefore, the Committee strongly urges NIMH to increase funding in FY 95 for B/START.* [S. Rpt. 103-553, p. 104] ♦

Congressional Appropriations Report: NIMH Behavioral Science Task Force Report

Senate Statement

Behavioral science research plan. — *The [Senate Appropriations] Committee has received the NIMH National Advisory Council's Report on "Basic Behavioral Science Research for Mental Health" that was requested in last year's appropriations. The Committee commends the NIMH Council on its comprehensive analysis of the broad range of basic behavioral research so critical to understanding mental health and mental illness. The Committee has long supported an increased emphasis at NIMH on basic behavioral science and believes the report should serve as a blueprint for achieving such an increase. The Committee views the report in the same mold as NIMH's other national plans for schizophrenia and neuroscience research. Therefore, the Committee strongly encourages NIMH to implement the report's recommendations as summarized both in the execu-*

tive summary and that section dealing with infrastructure issues. The Committee would like to receive by February 1, 1995, a plan from NIMH on how the Institute is achieving these recommendations, with a particular eye toward how the Institute is increasing its individual investigator (ROI) grants in the behavioral sciences. [S. Rpt. 103-318, p. 104]

House Statement

Behavioral research. — *The [House Appropriations] Committee commends the NIMH national advisory council for its report on basic behavioral science research. The Committee supports an increased emphasis on basic behavioral science and believes the plan represented by the report is an appropriate blueprint. The Committee would like to receive prior to the 1996 appropriation hearings a report on how the Institute is responding to these recommendations.* [H. Rpt. 103-553, p. 63]

Recommendations of the NIMH Task Force On Basic Behavioral Science

“Strengthening Basic Behavioral Science Research”

Following is a summary of the proposed recommendations of the National Institute of Mental Health (NIMH) task force on basic behavioral science. At press time, these recommendations remain under review and have not been officially accepted by the NIMH Advisory Council under whose auspices the task force conducted an assessment of the institute's behavioral science portfolio. We understand that the recommendations were approved by a wide majority of the Council but are being held up by one or two members who say that increasing behavioral science funding has to be “balanced against the other priorities of the NIMH” and “examined in terms of the already existing vast amount of behavioral research in the other NIH institutes.” We're trying hard not to view this as delaying for the sake of derailing, but it fits too neatly with NIH's history of resisting increases in behavioral science. So the recommendations still face an uphill battle, despite the growing congressional interest, and it may be that they ultimately are considerably scaled back from what is presented below. See the article on page 4 of this issue and watch future editions of the Observer for news on the outcome.

- 1) **Increase support for investigator-initiated research** from the current level of 15% of the approved applications, through incremental increases of \$25 million for each of the next three fiscal years, plus 10% annual increases thereafter. According to the task force's proposed recommendations, this “would permit funding of regular research awards, small grant awards, career awards, and the new Behavioral Science Track Award for Rapid Transition (B/START) to the 35th percentile. Applications in this percentile range typically have received evaluations of scientific merit in the Outstanding and Excellent categories.”
- 2) **Increase support for research training** which in terms of the number of full-time predoctoral and postdoctoral positions has remained unchanged since 1981 and is significantly lower than the average number of positions in 1976-80. The task force proposes funding increases that would support 10 new National Research Service Award (NRSA) institutional training programs per year plus 20 new individual NRSA fellows per year.
- 3) **Preserve expert review of basic behavioral science** by retaining the NIMH review structure (rather than having its applications reviewed by the central review system of the National Institutes of Health) and restoring some behavioral science review groups that had been dissolved due to a shortage in agency personnel.
- 4) **Encourage basic-clinical research collaborations** by establishing research centers—a new one each year over the next five years—“at which basic behavioral science researchers collaborate with clinical researchers who focus on defined psychological or medical disorders.” The task force suggests areas of possible focus for such centers: cognitive neuropsychology, language disorders, genetic disorders, developmental psychopathology, personality disorders, behavioral/cognitive therapy, or behavioral neuroimaging.
- 5) **Preserve and expand facilities for research on behavioral and social processes in animals**, with particular emphasis on supporting new regional facilities and strengthening the behavioral programs at existing regional facilities such as the NIH Regional Primate Research Centers.
- 6) **Strengthen the methodologies of basic behavioral science research**, through the development of new measurements that are valid across diverse populations; research on combining the perspectives of distinct methodological approaches; and adapting new technologies for use in assessing behavior.
- 7) **Establish multi-media database archives for basic behavioral science**, possibly in conjunction with other NIH institutes and agencies.
- 8) **Facilitate the support and conduct of longitudinal research** by developing a new grant mechanism to provide support for longer than five years so that a “lifespan perspective” can be obtained. This is particularly important in order to understand individual development as well as family and other interpersonal relationships. The task force recommends specifically that a National Study of Vulnerability and Resilience in Mental Health be conducted at 8 to 10 research sites at a cost of \$15 million.

Senate to NIH: Get Going on Behavior

NIH Office of Behavioral Science inches forward

WASHINGTON, DC—Frustrated by the unusually slow pace the National Institutes of Health (NIH) has taken to establish an Office of Behavioral and Social Science Research (OBSSR), Congress accused the agency of dragging its feet and demanded that NIH “take immediate steps to implement the OBSSR.” [See box below.] Creation of the OBSSR was mandated by Congress in legislation passed in May 1993.

Advocates for behavioral science have waged a multi-year campaign to raise the profile and increase funding for behavioral science at NIH. Often, Congress has joined in this effort, requiring NIH to start programs, issue reports, and generally devote more resources to behavioral science.

The most sweeping congressional directive to date occurred in early 1993, when Congress was considering legislation to reauthorize the NIH. While writing the NIH Revitalization Act—a three-year blueprint for programs and policies within NIH—the powerful chairmen of the House and Senate Committees that oversee NIH decided to create an Office of Behavioral and Social Science Research within the NIH Office of the Director. Congressman Henry Waxman (D-CA) and Senator Edward M. Kennedy (D-MA) envisioned the new OBSSR as providing a focal point for behavioral research within NIH.

The NIH Revitalization Act was signed into law in May 1993. The new law required NIH to create the OBSSR, hire a director and staff for the office, and issue a report to Congress detailing current funding of behavioral and social science and suggesting promising areas for further research. That report was required to be completed by February 1994. In separate legislation, Congress provided funding for the OBSSR for fiscal year 1994 to ensure that the office could be staffed and the report started immediately.

Despite the funding and requirements under the law, NIH took no action to

create the OBSSR in 1993. In fact, more than a year after the congressional mandate, the OBSSR remains without a director or staff, and the mandated report to Congress on the status and future of behavioral and social science research has not been written.

Noting this less-than-enthusiastic response on the part of NIH leadership, Senators on the powerful Appropriations Committee recently laid it on the line with NIH, saying they are “distressed to learn” that the OBSSR has not yet been established at NIH and ordering the NIH Director to “act quickly to establish the OBSSR.” The Appropriations Committee writes the legislation that funds NIH each year. Often, the committee requires that funds be spent on specific activities.

The Senate Appropriations Committee provided \$2 million for the OBSSR in fiscal year 1995, which begins October 1. The Senate Committee also demanded that NIH report back to the committee by February 1, 1995, on specific steps taken to establish the OBSSR, appoint a

director, and develop an operating plan for the office.

NIH has now established a search committee and advertised the OBSSR Director position. Applications for the position are being accepted until October 17, 1994. Candidates’ names will be forwarded to NIH Director Harold Varmus, who will choose the OBSSR Director.

The OBSSR, once established, will be located within the NIH Office of the Director. Similar offices have been established within that office to oversee women’s health research and minority health research. Like the OBSSR, these offices were suggested by Congress in response to a perceived need for a stronger focus by NIH on important health issues and constituencies.

In requiring the OBSSR to issue a report on NIH’s commitment to behavioral and social science and suggest promising areas for further research, Congress also required NIH to develop a standard definition of what does—and does not—constitute behavioral and social science research. Congress suggested that NIH meet with advocacy organizations such as APS to develop both the definition and the final report. ♦

Congressional Appropriations Report: The NIH Office of Behavioral and Social Science Research

Office of Behavioral and Social Science Research. — *The [Senate Appropriations] Committee is distressed to learn that the Office of Behavioral and Social Sciences Research [OBSSR] at NIH has not yet been established. It is now more than 1 year after its authorization, yet the office remains unstaffed and unfunded, and with a mandated report to Congress unwritten. It is the desire of the Committee that the NIH Director act quickly to establish the OBSSR. Examples of the areas that would be encompassed in any definition of behavioral research include—but are not limited to—research in health and behavior, personality research, social and developmental psychology, cognitive science, treatment effectiveness, psychopathology, and the biological bases of behavior. The Committee expects the NIH to take immediate steps to implement the OBSSR, including the initiation of a search for a director of the office. The Committee has provided \$2,000,000 for the office for fiscal year 1995. The Committee directs the NIH to report to the Committee by February 1, 1995, on specific steps to establish the OBSSR, appoint a director, and develop an operating plan for the office. [S. Rpt. 103-318, p. 112]*

National Conference on Research Synthesis

Social Science Informs Public Policy

APS-coordinated Washington meeting draws nation's top policymakers

WASHINGTON, DC—The disparate worlds of research and public policy were brought a little closer together this summer when 150 senior officials from 30 different federal agencies and Congress attended the National Conference on Research Synthesis in Washington.

The meeting, sponsored by the Russell Sage Foundation and organized by APS, featured presentations and panel discussions by experts in the field of research synthesis—a quantitative approach using systematic combining and comparing of results of several studies of a single topic.

Presenters talked about their experiences in using quantitative research synthesis techniques, such as meta-analysis, to evaluate studies in education funding, juvenile delinquency, health care, and welfare reform.

Conference Purpose

The conference had two main purposes: on the research side, it was to showcase recent advances in research synthesis; on the policy side, it aimed to encourage more support of synthesis projects in federal research agencies and greater use of synthesis results by public policymakers in Congress and agencies.

“We believe that strengthening the national commitment to scientific research synthesis is a vital part of improving the role that science and scientific evidence play in the policy formation process,” said Eric Wanner, president of the Russell Sage Foundation, in opening the meeting. In addition to APS, other co-sponsors were the American Evaluation Association, the American Sociological Association, the American Statistical Association, and the Society for Research in Child Development.

The conference capped a seven-year program by the Russell Sage Foundation which funded several research synthesis studies and has published three texts, including the recently released *Handbook*

of Research Synthesis. Wanner said the Foundation’s program was intended to advance the replacement of “traditional, narrative intuitive means of summarizing a research literature with systematic, rule governed, potentially repeatable processes for extracting generalizations from the research literature.”

“In short,” said Wanner, “it’s an effort to transform the art of reviewing a scientific research literature into something more akin to a science.”

Vive la Difference?

Several obstacles face science in the policy arena, and in large part it boils down to the differences in how legislators and researchers view information. This point was made by Eleanor Chelimsky, one of several keynote speakers. Chelimsky has been a central player in the research synthesis policy arena, as she is Assistant Comptroller General of the General Accounting Office (GAO), the congressional agency that evaluates federally funded programs. In this role, she has become one of Washington’s most experienced practitioners of research synthesis.

“Making no statement seems a lot better to a researcher than making a statement based on incomplete data,” said Chelimsky, “but in public policymaking, positive value is placed on making a decision, regardless of whether there is sufficient objective evidence to support that decision.”

“Legislators and researchers are separated by different goals, different standards of evidence, different tolerances of uncertainty,” she observed. “The researcher’s first goal—that of acquiring new knowledge—is far down the legislator’s priorities. And evidence, for the legislator, is merely incidental to a negotiation or a decision. For the researcher, on the other hand, evidence is the end in itself, and a researcher invokes



Richard Light emphasizes the importance of making systematic research synthesis a regular part of the public policy process.

Conference photos by Kristi K. Gasaway

certainly only when the evidence provides such certainty.”

Grilling Out

It appears that research synthesis is helpful in bridging these differences. Chelimsky pioneered the use of research synthesis techniques in program evaluation at GAO in 1980, with issue evaluations ranging from the decision-making underlying the funding of chemical weapons to the effects of drinking-age laws on teenage drunk driving. Chelimsky indicated that from the beginning, Congress has been supportive of the use of these research techniques.

“What remained to be seen, of course, was how the approach would stand up under conditions of severe political stress and strain. To date, we’ve found that even when subjected to intensive political grilling, the synthesis holds its own and may actually be a much more effective shield against partisan slings and arrows than a single study could ever be, no matter how well the study was done.”

Tidier Houses Needed

Another keynote address was delivered by Iain Chalmers, director of the Cochrane

Centre in England whose mission is to help identify effective health care practices through meta-analysis as well as other systematic review of clinical trial data. Chalmers criticized what he sees as the continuation of the haphazard ways that clinical research results are translated into health care treatments. He said research synthesis literally becomes a matter of life-and-death importance in health care, citing, among other evidence, a 1992 article in the *Journal of the American Medical Association (JAMA)* that revealed how "tens of thousands of premature deaths among myocardial infarction patients might have been prevented had authors of medical textbooks and review articles taken seriously the science of reviewing research."

"We in health care stand on the shoulders of the work of American social scientists and statisticians who have laid the foundation for research synthesis," said Chalmers, predicting that "during the century which begins a few years from now, funders, policymakers, and the public in general will increasingly require researchers to put their respective houses in order in this way, and keep them tidier than they have allowed them to become during the 20th century."

This vision is shared by Richard Light, a member of the advisory committee that steered the Russell Sage Foundation's research synthesis activities. "There has been quite a lot of theory developed over the past 20 years," said Light. "Now it's time to try to implement a lot of these

things more fully in practice. That's beginning to happen, but it is literally *just* beginning."

Light hopes that research synthesis meta-analysis will become a routine undertaking for graduate students just starting to develop their thesis, researchers who are contemplating doing a new study on an old topic, and public officials who commission policy analyses and program evaluations. In all cases, he said, they should be proceeding from as complete an awareness as possible of the state of knowledge on the particular topic of interest. "In an ideal world," said Light, "a new initiative to deal with something like juvenile delinquency wouldn't be launched until we figured out what all the past evidence added up to."

Light, who is director of the Seminar on Assessment at Harvard University, also thinks the current system of academic rewards discourages greater interest in conducting research synthesis. The current system rarely rewards people "who summarize other people's work," he said. "Usually the rewards go to the person who does the new study, collects new data, and reports new findings." To change this, Light advocates increased professional and collegiate recognition for academics who undertake research syntheses.

Money Talks, Vote-Counting Walks

Four case studies provided concrete examples of the use of research synthesis on policy questions. In a presentation titled "Does Money Matter?: The Relationship Between Resources and Education Outcomes," Larry V. Hedges described his efforts to contribute to the "public dialogue about the need for improvement in the American educational system," specifically, the debate over whether additional expenditures actually result in improvements in education.

Hedges, a professor of education and social sciences at the University of Chicago, was able to identify strong connections between per-pupil expenditures and positive student outcomes. His findings were contrary to the conclusions of earlier less sophisticated, but nonetheless influential, syntheses. He pointed out that previous reviewers used a method known as "vote-counting, which amounts to counting the number of individual studies that obtained statistically significant findings." The problem, explained Hedges, is that "when the effects ... are small, or research designs are crude, vote-counting is known to be quite insensitive as an inference procedure."

The difference between the earlier reviews and Hedges's study, which was "based on exactly the same set of studies, is a consequence of our use of more sophisticated and sensitive inference procedures," he said.

The value of his work in this area, according to Hedges, is that it helps settle the question of whether more resources are needed in our nation's school. "This, however, is not the end of the research agenda on the relation between resources and outcomes of schooling, but the beginning," said Hedges. "We need to alter our research focus from the question of 'does money matter' to questions of how to allocate resources most efficiently," he concluded.

Ending Welfare As We Know It

David S. Cordray, professor of public policy at Vanderbilt University, presented the results of a research synthesis on welfare reform conducted in collaboration with Robert T. Fischer. Their study was concerned with the question of whether job training is effective in getting people off welfare. They found substantial variation in the size and direction of effects produced by job training programs, but by conducting a research synthesis of the contradictory studies, they were able to determine that there are small but positive effects from training. Perhaps more important, Cordray and Fischer were able to identify how variations in training



Cora Marrett, director of the National Science Foundation's behavioral and social science directorate, leads a group discussion on federal agency policy; APS Executive Director Alan Kraut is to her right.

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models appear to account for the differences in effectiveness of programs.

"The bottom line," said Cordray, is that "the existing research suggests that on



Lana Skirboll of NIH and Elizabeth Devine of the Univ. of Wisconsin lead a group discussion on meta analysis.

average, welfare employment programs have resulted in significant and nontrivial economic impacts for participants." His synthesis revealed that variations in training models may account for much of the variation in effects, and it appears that matching clients to particular program strategies, plus increasing client participation rates, are two elementary methods for optimizing finite training resources and improving the self-sufficiency of welfare recipients within a broader reform package."

Reducing Hospital Stays, Juvenile Delinquency

Psychosocial and education preparation of surgical patients decreases various complications during recovery and reduces the length of hospital stays. That is the conclusion of a meta-analysis by Elizabeth C. Devine, associate professor in the School of Nursing at the University of Wisconsin-Milwaukee.

Devine reported that despite a substantial volume of research on the effects of psychological interventions with surgical patients, previous qualitative reviews were inadequate and inconclusive. Her project, which involved the quantitative review of 191 studies, indicated that even modest educational interventions—such as telling a patient what to expect during recovery or helping identify and alleviate the patient's

specific anxieties—produced beneficial effects that were "quite remarkable" and treatments that were more comprehensive had even larger effects on length of hospital stay.

Based on his meta-analysis of 400 studies, Mark W. Lipsey, professor of public policy at Vanderbilt, challenged the findings of earlier research reviews which said that programs for juvenile offenders were ineffective. Those reviews, said Lipsey, have been used to fuel the trend toward "increasingly punitive means" of dealing with young offenders such as transfer to adult court, boot camps, shock incarceration, or mandatory sentences.

"Systematic synthesis of the large body of research on the treatment of juvenile delinquency has revealed a sharper and more promising picture of what is known on this important and timely topic," said Lipsey. "While there is no magic bullet cure for antisocial behavior, rehabilitative approaches do work, and the best of them offer a potential too large to be neglected in our search for effective programs and policies." Among other things, Lipsey found that the more effective programs focused on changing overt behavior through structured training or behavior modification in interpersonal relations, self-control, school achievement, and specific job skills.

Lone Rangers, Lessons Learned

In addition to the presentations of case studies, a significant portion of the conference was devoted to discussions among the attendees, whose experience with research synthesis ranged from the experienced practitioner to the completely uninitiated. During a session on "Putting Research Synthesis to Work: The Roles of Federal Agencies and Congress," session co-leader Cora Marrett, head of the behavioral and social science directorate of the National Science Foundation (NSF), commented that "there is never any problem in getting people to recommend public policies" but that too often their recommendations come from "individual preferences based on the most inadequate

kind of information you can imagine."

"What is inspiring," said Marrett, "is that today we are learning that we can move beyond those individual lone rangers who are always around to talk to Congress, to state legislators, and to agencies."

Thomas A. Louis, professor in the University of Minnesota School of Public Health, summarized what he described as the "lessons learned" from the Russell Sage Foundation research synthesis program. "I think one of the main points is that no single study, no matter how beautifully done, can have the breadth of a research synthesis," said Louis, who was on the Foundation's research synthesis



Frederick Mosteller, Harvard Univ., discusses the importance of strong primary research on which to base solid research syntheses.

advisory committee. The scope of a meta-analysis "can allow one to see the variability of results as a function of various circumstances, designs, populous study units, and other things," he continued.

"It is easy to perform a research synthesis poorly," said Louis, "and extremely difficult to do one well." But he concluded, the technical problems are being ameliorated by enormous advances in methodologies and he noted, there are many problems facing "the person reading an individual article and trying to assess its role in the sort of broad population of articles."

Proper Places in Policy

One of the authors of the JAMA article that Iain Chalmers mentioned was Frederick Mosteller, one of the nation's

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leading evaluation experts and a member of the Foundation's research synthesis advisory committee. Mosteller, who is a professor in the department of statistics at Harvard and director of the Technology Assessment Group in the Harvard School of Public Health, "batted clean-up" at the conference. He said one of the most important factors in the quality and usefulness of research synthesis has to do with the state of primary research in various fields. "You can't synthesize information not yet gathered," said Mosteller. For example, he said that great strides have been made in using meta-analysis in medicine and other fields where there exists a substantial amount of strong primary research. "But in some fields, such as education, we need many more studies if we're to have a good base for future policy," he said.

During the day, Mosteller spoke individually to many of those attending the conference, and there was a common theme in their comments. "The participants said that they had known little about research synthesis before they came, that they had learned a great deal, and that they had found synthesis to be rather different from what they had been led to expect." He found this to be especially encouraging, saying that such changes in attitudes "should help research synthesis find its proper places in policy work."

The conference also has caught the attention of at least one powerful member of Congress. See the remarks of Representative George E. Brown, Jr. (D-CA), chair of the House Science and Space Committee, reproduced in the box at right. Brown has long been a strong supporter of behavioral and social science research. S.B.

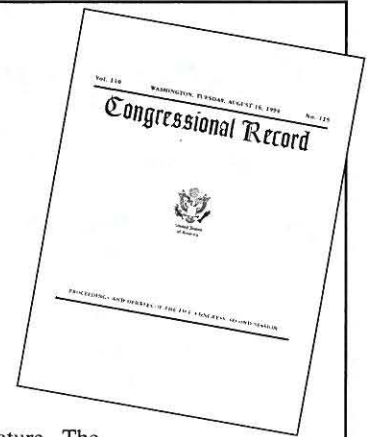
The Editor welcomes your letters to the Editor

Submit typewritten letters of up to 300 words in paper form and, if possible, on computer diskette: DOS (5.25" or 3.5" diskette) or Macintosh (3.5" diskette). Indicate which word processor you used or, ideally, save as an ASCII or text file.

From the *Congressional Record*, August 16, 1994

NATIONAL CONFERENCE ON RESEARCH SYNTHESIS

HON. GEORGE E. BROWN, JR.
OF CALIFORNIA
Chair, COMMITTEE ON SCIENCE AND SPACE
IN THE HOUSE OF REPRESENTATIVES
Tuesday, August 16, 1994



Mr. BROWN of California. Mr. Speaker, through my years in Congress, I have become convinced that many of our Nation's serious problems are social and behavioral in nature. The problems that most concern the public, and take most of our tax dollars, often have no technical solutions but rather human solutions which must be developed through working with the ability and attitudes of the people involved. Consequently, greater knowledge of behavioral and social sciences is a true necessity.

More work in these disciplines can give us important insights into the solutions to many of the social problems that have eroded American society. Progress in these sciences could make a great difference to those in Washington responsible for the public policies and programs that seek to create more opportunity and improve the human condition in America.

We cannot escape the fact that social and behavioral research is funded almost exclusively by the Federal Government. At the same time, this research is often costly because gathering data from large numbers of people is expensive. It goes without saying that we have to do everything possible to get the greatest return possible from funds invested in these areas.

Within the social and behavioral sciences, the developing field of research synthesis has particular potential. Through its focus on reworking original data already gathered and developed by multiple previous research efforts, research synthesis can often deliver more powerful and useful conclusions. By re-evaluating previously developed data in different ways—even from studies that appear to differ in their result—research synthesis can often bring clarity, strengthen findings, and provide new insights.

Policies affecting problems like job training, education, and criminal rehabilitation can benefit greatly from fresh perspectives on existing data. Research synthesis has also proven especially useful in health care where data gathered in the past can yield new insights with tremendous leverage on cost. For example, the effectiveness of aspirin in preventing certain heart conditions and the finding that modest behavioral steps in preparing a patient for surgery can significantly reduce the length of hospital stay were both discerned from already existing data that had been gathered and kept for different reasons.

A National Conference on Research Synthesis was held in Washington last June sponsored by the Russell Sage Foundation and organized by the American Psychological Society. This conference brought together more than 130 senior Federal officials concerned with improving public policy to learn about recent developments in research synthesis. I was especially pleased that the Office of Technology Assessment and the General Accounting Office participated. They should both be encouraged to explore the potential of this area of social science in view of the importance of their role in advising the Congress.

The conference featured the use of synthesis techniques to evaluate research in education, juvenile delinquency, health, and job training with presentations by Frederick Mosteller of Harvard University; Eric Wanner, president of the Russell Sage Foundation; Harris Cooper of the University of Missouri; David S. Cordray and Mark Lipsey of Vanderbilt University; Elizabeth Devine of the University of Wisconsin-Milwaukee; Larry Hedges of the University of Chicago; Richard Light of Harvard University; and Thomas Louis of the University of Minnesota. Eleanor Chelimsky, Assistant Comptroller General of the General Accounting Office, Iain Chalmers, director of the U.K. Cochrane Centre, and M.R.C. Greenwood, Associate Director of the Office of Science and Technology Policy, gave keynote presentations.

The conference was an outgrowth of a decade-long effort to further the field of research synthesis by the Russell Sage Foundation, which since the late 1940's has been dedicated to strengthening social science research as a means of improving social policies. The American Psychological Society, the American Sociological Association, the American Statistical Association, the American Evaluation Association, and the Society for Research in Child Development cosponsored the event.

The field of research synthesis offers new ways to increase our ability to solve some of the hardest, most challenging issues confronting the Nation today. I commend the Russell Sage Foundation and the cosponsoring organizations for their leadership in confronting the issues.

Washington, DC, happenings...

Federal policy, regulations, appointments...

Ruling on Animals in Research Is Struck Down

A 1993 ruling that would have required more rigid standards for the care and use of laboratory animals was overturned by the US Court of Appeals for the District of Columbia on July 22.

The 1993 ruling by District Judge Charles Richey had invalidated regulations previously adopted by the US Department of Agriculture (USDA) in 1991 for implementing the Animal Welfare Act. The "performance-based" regulations adopted by the USDA allowed each research facility to determine the appropriate environment and exercise program needed to ensure the physical and psychological well-being of laboratory animals. APS as well as most of the research community generally supported the 1991 guidelines.

Several "animal rights" organizations sued the USDA claiming the regulations were not strict enough. They asked for more detailed regulations that, among other things, required a specific time duration for exercising dogs and rigid engineering standards for primate cage size. Judge Richey agreed with the activists and ordered the USDA to rewrite the regulations. APS wrote to USDA Secretary Mike Espy and Health and Human Services Secretary Donna Shalala urging appeal of the decision and preservation of the existing standards. The Department of Justice eventually decided to appeal Richey's decision.

In reaching its unanimous decision to overturn the ruling, the appeals panel said that the organizations suing the USDA did not have legal standing to challenge the rules. This past May, the appeals panel also ruled that animal rights groups did not have legal standing to challenge USDA's decision not to include mice, rats, and birds used in research under the Animal Welfare Act. In each of their decisions, the panel stated that the groups involved in the lawsuits were unable to demonstrate that they had been directly harmed as a result of USDA's actions. The ruling, written by Circuit Court Judge Karen L. Henderson, is seen as an important victory for the research community.

President Clinton Appoints Judith Rodin To Committee of Advisors on Science And Technology

On August 3, President Clinton announced his appointments to the President's Committee of Advisors on Science and Technology (PCAST), a group comprised of experts from the private sector and that provides advise to the President on major [you guessed it!] science and technology issues. APS

Charter Fellow Judith Rodin was one of 18 top-level representatives from industry, academia, research institutions, and other nongovernmental organizations to be named to PCAST.

Clinton established PCAST by Executive Order in November 1993 to advise him directly, as well as to advise the Assistant to the President for Science and Technology, John (Jack) Gibbons, who co-chairs the committee with John Young, CEO of Hewlett-Packard. Such high-level representation of behavioral science expertise is a welcome event in Washington. Rodin joins the ranks of psychologist Herbert A. Simon who served as an advisor to John F. Kennedy.



Rodin

Rodin is President of the University of Pennsylvania (see January 1994 *Observer*). She received her PhD in social psychology in 1970 from Columbia University, and prior to assuming the University of Pennsylvania presidency, she was a professor of psychology and provost at Yale University.

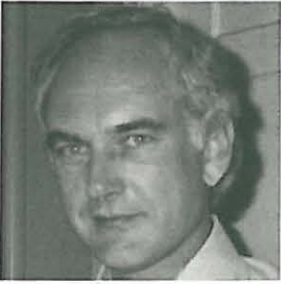
Science Policy: The View from the White House

The Clinton Administration recently issued a comprehensive vision of national goals for science that will guide the federal government's investments in scientific research and education. Vice President Al Gore unveiled the report, *Science in the National Interest*, in a ceremony attended by Alan Kraut, APS Executive Director, and Sarah Brookhart, APS Director of Government Relations.

The report takes a strategic approach, connecting science to national needs in health, the economy, national security, the environment, and "improved quality of life." One of the chief differences from the policies that have governed the federal investment in science since World War II is that the previous policies "suggested a competition between basic and applied research" while the current report stresses "the intimate relationships among and interdependence of basic research, applied research, and technology."

Of direct interest to psychology researchers is a section of the report on "The Human Dimension" which describes how behavioral scientists are developing methods to help people make better decisions in a variety of settings—from airplane cockpits to operating rooms—using "decision aids" based on signal detection theory.

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Eric Eich

often they're hard work. That's the catch," said Eich, a member of the National Research Council's (NRC) Committee on Techniques for the Enhancement of Human Performance.

Eich is one of eight APS members and fellows among the 11-member committee whose report, *Learning, Remembering, Believing: Enhancing Human Performance*, was published by the National Academy Press in August.*

Released officially on August 2, the 395-page book reports on the third phase of an NRC effort started almost a decade ago when the US Army needed scientifically based critical evaluations of "human technologies" that were being aggressively promoted by commercial concerns as enhancers of learning and performance. Because of its large economic and personnel investment in training, the military wanted to satisfy more than just its curiosity about these technologies. So, officials of the Army Research Institute (ARI) commissioned the study to assess the state of knowledge. [See the November 1991 *Observer* for an extensive summary of the NRC's second report (*In the Mind's Eye: Enhancing Human Performance*) of what ultimately will be a four-report series.]

Questions

Was there anything real and worthwhile, for example, in extrasensory perception or "hemispheric synchronization" or subliminal stimulation? What was the evidence on sleep learning, mental practice of motor skills, or group cohesion techniques? The Army had to decide which techniques to adopt, which to keep, which to discard—and it needed information on which to base such decisions.

The just-completed third phase of the study has been chaired

by APS Charter Fellow Robert Bjork who also took part in each of the previous phases. Initially, the Army wanted information about new human technologies to avoid large expenditures and efforts in areas that wouldn't pay off, Bjork said.

Although the overall program has been funded all along by ARI, the concerns it addresses are widely applicable to a broad range of settings and populations in school and both public and private organizations, ranging from nuclear power environments to air traffic control towers.



The NRC Committee on a site visit at the Army's National Training Center at Fort Irwin in the Mohave Desert.

Answers for Everyone

"I think everybody is concerned about these issues, from parents thinking about the education their kids are getting, to companies concerned whether they can learn and change in response to new challenges and constraints," Bjork said.

"On one hand we found that people are often too receptive to trying novel and attractive techniques for which there is no evidence of effectiveness but perhaps which are being promoted by a very convincing entrepreneur. People also often do not incorporate into their training programs the most tried and true principles derived from research," Bjork said.

The new study differs in many ways from its two earlier reports, particularly in picking up new directions in research and exploring promising aspects of emerging research fields. The 1987 and 1991 studies evaluated and sometimes debunked about 15 highly promoted "self-improvement" techniques and other programs and approaches that promised high performance. The second report, *In the Mind's Eye*, also focused on scientifically tried and supported ways by which people can acquire and maintain job-related skills needed to fulfill the missions of the Army and other organizations.

The current report covers topics in four broad areas: Learning and remembering, Learning and Performing in teams, mental and emotional states, and new techniques (e.g., thought suppression).

Members of the Committee on Techniques for the Enhancement of Human Performance

Robert A. Bjork (*chair*)
Univ. of California-Los Angeles

John F. Kihlstrom
Yale Univ.

Donald F. Dansereau
Texas Christian Univ.

Roberta Klatzky
Carnegie Mellon Univ.

Eric Eich
Univ. of British Columbia

Lynne M. Reder
Carnegie Mellon Univ.

Deborah L. Feltz
Michigan State Univ.

Daniel M. Wegner
Univ. of Virginia-Charlottesville

Larry L. Jacoby
McMaster Univ.

Robert B. Zajonc
Univ. of Michigan-Ann Arbor

David W. Johnson
Univ. of Minnesota

Daniel Druckman (*Study Director*)
National Research Council

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Techniques Examined

But *Learning, Remembering, Believing* evaluates several additional techniques proclaimed as performance enhancers, including **situated learning** and **REST (Restricted Environmental Stimulation)**, both of which received mixed or low ratings from the Committee, though they have strong backing in some academic circles. The new study also takes a second look at **meditation**, specifically at Transcendental Meditation, and at **sleep learning** and some of the other techniques that were treated in the earlier reports.

For the first time, the new report analyzes the body of research on techniques of **thought suppression, socially induced emotion** in relation to performance, and false **illusions of comprehension and competency**. It also evaluates the impact of situation-specific self-confidence on performance and looks at strategies for developing self-confidence.

A major section of the new report focuses on **development of teams, and cooperative learning**.

A closing section of the report suggests some answers to puzzling questions about why many organizations neglect or fail to use effective methods for training their personnel. Some company officials at more than two dozen site visits made by NRC subcommittee members said they did not take more serious approaches to training because "training is a slice out of profits." A member of the Los Angeles Police Department downplayed long-term investment in training by saying you should only do enough so that "the bridge falls down when the next mayor is in office."

Innate Fallacy

A major barrier to the design of effective training programs, the Committee said, is the "innate ability fallacy." This is the false belief that performance is primarily a function of innate abilities and that people are born to be a certain way with regard to performance. Instead, the Committee sees humanity as dynamic, learning persons who respond to effective programs of training and practice.

The Committee also criticized tendencies to construct the conditions of training to minimize errors so that both trainees and instructors will look their best. Instead, the process of making and correcting errors should not be shunned; it is an essential component of optimal training. Similarly, the Committee took a dim view of the exclusive use of tests as assessment devices, which largely negates their important role as learning devices. Furthermore, the Committee cautioned that performance evaluations given immediately as training ends will miss the main goal of training, which is to transfer learned skills to the settings in which trainees will work.

Behavioral Science Application

The NRC's broad, long-term undertaking—which now is entering its fourth phase [see box on page 17] this year with Jerome E. Singer as chair—is not like any other program, as it brings behavioral research literature to bear on specific, practical questions.

"What makes this committee unique," said Daniel Druckman, NRC Study Director, "is that we get a dozen or so people to start thinking together for a couple of years and to draw on the literature that they know—or discover in the process—and make that literature speak to the question of the effectiveness of the techniques for enhancing human performance. In most cases the techniques we've looked at have not been subject to that kind of scrutiny before."

Besides discussing the NRC Committee's work with Druckman, who also is professor of conflict resolution at George Mason University's Institute of Conflict Analysis and Resolution, the *Observer* interviewed several of the Committee members on the major techniques covered in this latest report. Their comments follow in the topical sections below.

Situated Learning

Proponents of situated learning say essentially that the only way to learn is by performing the process in its specific situation, and that advanced conceptual understanding does not help. Roberta Klatzky, professor and head of psychology at Carnegie-Mellon University, points out that the Committee takes the balanced view that concrete experience and conceptual learning are often both helpful and necessary.

"What we mean by conceptual learning will vary from task to task," Klatzky said, "but let's take the example of training someone to fly a plane. You can put that person in the cockpit and say, 'Look, pull this button and away we go!' Or, you can also teach that person something about the physical principles and concepts that underlie flying, about what factors must be controlled and what the plane does in response. That way they can more effectively make a 'mapping' to the buttons they will eventually learn to control, and they'll understand *why*," she said.

"But there is no easy formula for the right mix [of concrete and conceptual]," Klatzky said. "A task analysis is terribly important in determining any training program."

Committee member Lynne Reder says that the situated learning advocates believe that a person's knowledge will not generalize from one situation to another. Their claims challenge not only the fundamentals of cognitive psychology but also the simple belief that schools should try to teach basic skills, Reder says.

"Basic skills *do* generalize from one context to the next. For example, most kids learn to read and write in school, and these skills clearly generalize beyond the classroom. Math, too," Reder said. "Situated learning proponents also believe that abstract instruction is of no value. But, there is ample evidence that transfer is much better when instruction includes both concrete and abstract instruction," she said.

Situated learning proponents argue that "to understand performance, it is necessary to understand the social situation in which it occurs, including the way in which social interaction



Lynne Reder

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enters into performance," Reder explained. "I wouldn't disagree, but they therefore conclude that all training must include the social setting. We believe that it's often better to start with part-task training—training the specific skills separate from the social skills before going on to whole-task training. Whether you train with part-task first depends on how separable the pieces are," she said.



Donald Dansereau

"We say that training in the anticipated context is often better, all else being equal. But one cannot always anticipate future contexts of application. Therefore, optimal training involves practice using varied contexts and also includes abstract general instructions," Reder said.

"It's sometimes important to start with simulation training,...for lots of things that are too dangerous or costly

or time-consuming, or where it's too hard to find a situation.... But it has also been argued that too much fidelity is detrimental at the outset, that it's too complicated and you need to start with a

simpler version, slowly adding in a richer, more faithful simulation," Reder said.

Illusions of Competence

Bjork noted that a number of recent research findings suggest that false illusions of comprehension and competence are commonplace in standard programs of training.

"Trainees can confuse familiarity with understanding. They can confuse the ability to follow a procedure when executed by someone else with their own competence to perform that procedure. And they can confuse the ability to recall relevant knowledge under predictable conditions with ability to access that knowledge in other (unpredictable) conditions," Bjork explained. He said the Committee concluded it is as important to educate trainees about their own *subjective* experience as about their objective performance, so that they can gain a valid reading of their own skills and knowledge.



Daniel Wegner

Summary of Findings on

TOPICS AND TECHNIQUES STUDIED BY THE NRC COMMITTEE

Current (Third) Phase - 1994

- ◆ **Situated Learning.** Committee criticized this approach as too extreme but said contextual learning is very important and needs to be combined with learning principles and concepts, not focusing solely on one or the other.
- ◆ **Illusions of Competence, Comprehension, and Remembering.** Committee explored false memories and illusions of competence and the unreliability of subjective experience, which relies on an unconscious attribution or inference process.
- ◆ **Cooperative Learning.** Committee viewed this approach favorably. Working on problems in dyads or small groups has a positive impact on individual performance, though Committee cautioned that roles and activities must be carefully defined and scripted.
- ◆ **Team Building.** Teams have good effects on morale by building cohesion and identity, Committee found, but they don't seem to improve performance, especially in the long term. Effects are largely on emotion and motivation but do not translate into higher performance.
- ◆ **Interactive Games.** Again, they instill positive attitudes toward the learning experience, but evidence to date does not show better effects on learning than from other techniques.
- ◆ **Team Training.** There is some evidence of effectiveness for efforts to promote positive interdependence, individual

accountability for performance, the playing up of contributions by the members of the team, and team processing of performance in response to feedback.

- ◆ **Building Self-Confidence.** Various kinds of programs do affect perceptions of self-confidence in learners, and self-confidence does play an important role in performance, though it is not a simple matter. Perceived self-confidence involves both cognitive and motivational factors and is rooted in beliefs about what affects performance. Findings provide a basis for designing programs to improve perceptions of efficacy in order to improve performance.
- ◆ **Altering States of Consciousness.** Committee examined sleep learning a second time, lowering its earlier evaluation. Transcendental Meditation was found helpful in stress reduction, but no more so than some other meditation and stress reduction techniques. Hypnosis, examined by Committee for the first time, was found potentially helpful for pain reduction but not directly effective in boosting performance. Restricted environmental stimulation (REST) does not appear to live up to its ambitious claims; but being in solitude for a period without distractions may have salutary effects for the short period, Committee finds.
- ◆ **Socially Induced Affect.** By mimicking the facial or vocal expressions of another person, one may feel the emotions those expressions suggest. The Committee found evidence for such transmission of affect, but there was less evidence to date of its impact on performance.
- ◆ **Thought Suppression.** Committee found evidence that intentional efforts to forget intrusive thoughts are largely ineffective, and suppressing thoughts tends to increase the strength of emotion attached to them.

Thought Suppression

Committee member Daniel Wegner, said the somewhat limited research on thought suppression seems to show that as a technique for mental control it is ineffective. In fact, it even appears to produce effects contrary to those sought (e.g., eliminating an obsessive thought) by "sensitizing ourselves to unwanted thoughts by the very act of suppression." Some current research suggests that "unwanted thoughts are often avoided most successfully by approaching them," Wegner said. "Giving people a chance to think or talk about their unwanted thought, time to spend approaching their worries, seems to be an effective technique. At this point we are not in a position to say these are invariably the best alternatives, but caution about using thought suppression is something that people might want to be careful about," Wegner said.

Asked how conscious thought suppression relates to Freudian psychoanalytic theory, he said there may be some indications that deliberate suppression involves risks similar to those Freud found in unconscious repression (i.e., increased emotional power of the avoided thoughts).

The other suppression technique examined was "directed forgetting," where one tries to unlearn obsolete patterns (e.g., such as how one used the controls of one's former car) that interfere with new contexts (e.g., a new car's controls). Needed is research on how to facilitate the forgetting of unneeded information without the negative consequences of thought suppression.

Cooperative Learning

Cooperative learning involves small groups of peers, usually of equal status. The concern is for what the individual learns in a cooperative situation compared to what he or she learns alone. Committee member Donald Dansereau said cooperative learning seems to work with a wide variety of tasks and topics—mathematics, and social science, for example. There are enough solid studies that have used random assignment to groups that suggest that it does seem effective, Dansereau said, and that is essentially the Committee's conclusion.

The effect sizes are at the moderate level, with increases (of about a third to a half of a standard deviation) in achievement gained from cooperative over individual study. Some peripheral gains derive from cooperative learning, however, Dansereau said. For example, if the activity is well scripted—almost like a play script with roles and defined activities while cooperating—there seems to be some transfer to new activities, Dansereau said.

One of the most important findings, Dansereau believes, is that individuals "in cooperative contexts learn something that can be applied to private studying contexts, because learning and processing new information is a rather private activity. It is not like learning a new skill in racquetball, for example, by watching somebody play, and then trying to emulate. Rather, in thinking and learning, there usually is nothing obvious to emulate, but the cooperative situation makes the learning process more public, and participants begin to assimilate how others have tackled problems."

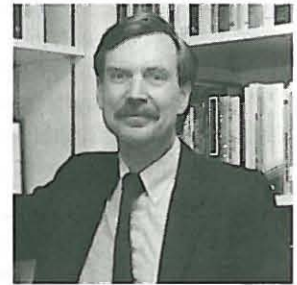
Learning and Performing in Teams

The Committee found many benefits in team *training* but

team *building* efforts do not seem to enhance performance, Druckman noted. The four general approaches to team building—goal setting, interpersonal relations, role clarification, and problem solving—may boost morale and enhance group cohesion. But the increased morale and cohesion of teams within a larger organization may have detrimental effects on the organization itself, since relations with members of other groups may weaken, and intra-organizational conflicts between groups may increase.

Altering States of Consciousness

Hypnosis. "By and large, direct hypnotic suggestions for enhanced performance have no effect on muscular strength and endurance, sensory thresholds, learning and memory retrieval," said Committee member John Kihlstrom. "Hypnotized people may *believe* they are doing better, and this belief may have positive motivational properties, but actual performance enhancements appear to be an illusion," he said. "However, hypnosis is an effective technique for the control of pain. And to the extent that a person's pain diminishes his or her motivation to perform optimally, hypnosis may have an indirect impact on performance."



John Kihlstrom

Restricted Environments. REST, or restricted environmental stimulation—reminiscent of sensory deprivation research of the 1950s—can be conducted in two ways. One is called chamber rest. In a dark, soundproof room the subject lays down typically for one day, with no auditory stimulation. The other approach uses a tank or a flotation raft on which one floats on a

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Committee Enters Fourth Phase Organizational Performance

The fourth phase of the NRC enhanced performance study, *Enhancing Organizational Performance*, got under way in June with a 14-member committee chaired by Jerome E. Singer of the Uniformed Services University of the Health Sciences. Daniel Druckman remains as Study Director. Its members include APS Fellow Robert Kahn of the University of Michigan's Institute for Social Research, and APS Charter Member W. Warner Burke of Columbia University, as well as sociologists, organizational behavior specialists from business schools, and political scientists.

The Committee's concerns include the impact of organizational restructuring and redesign on performance, organizational cultures and the implications of their folkways and accepted wisdom for performance, inter-organizational relations, changing conceptions of leadership, and peacekeeping and conflict management. The report is estimated to be released about 1997.

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supersaturated liquid in total darkness for one hour, typically. In either case, the experience generally elicits pleasant sensations.

Whether the technique can be used for therapeutic purposes began to be an issue in the 1980s. There are claims, not dealt with by the Committee, that REST treatment is useful for stress management and perhaps for certain addictive behaviors. The NRC Committee did attempt to evaluate the effects of REST on cognitive processes like learning, memory, decision-making, and problem solving. A newer literature studied by the Committee is concerned with athletic performance and skills. There is some evidence of the performance-enhancing effects of REST and there are a few formal studies, but not enough for firm conclusions, about the effects, if any, and their underlying mechanisms,

the Committee stated.

Eich said, that "among other things, there is no data now, even assuming the effects are real, about how long the effects last. If I float today, is it going to help my tennis game next week? More importantly, *why* should REST be helpful? There are no compelling theories," Eich said.

Meditation. In examining Transcendental Meditation (TM), Kihlstrom said the Committee focused on three meta-analyses of physiological effects, anxiety, and self-actualization. "We concluded that although those meta-analyses do give evidence for positive effects, it turns out to be very difficult to tease apart the factors involved. The whole TM package is so different from the control conditions to which it has been compared that it is not clear TM itself really has the specific effects that are claimed for it."

Summary of Findings on

TOPICS AND TECHNIQUES STUDIED
BY THE NRC COMMITTEE

First Phase - 1987

- ◆ **SALTT.** Suggestive Accelerated Learning and Teaching Techniques include some music and relaxation techniques. The NRC Committee found that SALTT contains some ingredients that could help students learn better, but it's difficult to know which elements are most important.
- ◆ **Neurolinguistic Programming.** Purports to teach one to influence others more effectively by mimicking their eye-movements and noting the way they use words, modeling after expert therapists. The Committee liked the way it was developed but found that the evidence did not support claimed effectiveness.
- ◆ **Hemisphere Synchronization.** Tones are emitted in ears to synchronize the two hemispheres of the brain and thus make one think creatively. Committee found no evidence for bifurcation of the hemispheres that needed any such correction.
- ◆ **Extrasensory Perception.** Committee disputed claims made for its existence.
- ◆ **Sleep Learning.** Committee found it might be useful to reinforce previously learned language material and to prime future learning was found possibly effective. It suggested another look, but the third Committee found less evidence of effectiveness.
- ◆ **Stress Reduction.** Committee said good things about much of it but gave a mixed message on biofeedback, which it found good for fine motor coordination in violin playing, for example, but not particularly effective in reducing stress over the long term.
- ◆ **Mental Practice of Motor Skills.** The Committee rated this technique highly. It does incrementally increase performance, especially when combined with physical practice.

- ◆ **Group Cohesion.** Committee noted dysfunctions of cohesive units in terms of reducing initiative and creativity, and loosening bonds with other units in the organization. But it increases morale and motivation.

Second Phase - 1991

(See November 1991 *Observer*)

- ◆ **Modeling Experts.** Watching experts perform and imitating them is not particularly good for novices but can be effective at some point later in development, Committee found.
- ◆ **Myers-Briggs Type Indicator.** Committee took strong position against typing people as if they fit into a box and never change, rather than treating them as dynamic, learning people. At best, Myers-Briggs gives a picture of an individual at a given point in time. It should not be used to assemble teams or pick people for jobs.
- ◆ **Subliminal Learning Tapes.** Committee found no useful function for learning or performance enhancement.
- ◆ **Kundalini Yoga.** Committee noted that it can reduce stress, as measured by blood pressure and other physiological indicators, but it is no better than other relaxation techniques for this. Committee found no evidence of anything intrinsic that produces higher states of being and corresponding salutary effects over the long term, as claimed.
- ◆ **Non-verbal Cues to Lying and Deception.** Committee found literature quite promising about ways of looking at non-verbal cues to detect deception.
- ◆ **Mental Practice in Sports.** Committee examined mental practice again and was again quite positive.
- ◆ **Team Performance and Decision-Making.** Committee found a number of techniques (e.g., Delphi, nominal group) have been used, though few have been evaluated systematically. Research on real groups has helped understand individual groups, but is not generalizable. Because of logistical difficulties, the military is best suited to study the requisite large number of comparable groups and subjects.

Bjork said the question asked was: Were there features unique to TM that made it better than other programs of progressive relaxation or other meditative techniques? The Committee did not address the broader question of whether someone's life might be straightened out or whether they would find a greater sense of peace, he said.

Sleep Learning. With respect to sleep learning, Kihlstrom pointed out that the Committee in an earlier phase had discovered that while there was no evidence of its effectiveness for explicit memory, there was some reason to think that implicit memory might be possible from material presented during sleep.

"However, when we looked at studies addressing this issue and concluded that there is no implicit memory for sleep learning just as there is no explicit memory for sleep learning. The bottom line is that sleep learning is neither an effective nor an efficient way of enhancing learning," Kihlstrom said.

Self-Confidence

Perceptions of self-confidence affect performance, and trainers can help boost students' confidence in themselves and improve their performance, the NRC Committee found. Self-confidence is a fairly strong predictor of how students and trainees approach a task, and it remains a strong element, even after they have learned the task, according to Committee Member Deborah Feltz. Self-confidence in this sense is very specific to the situation or task, she said. For example, a baseball player may have greater confidence in his fielding than his batting. One's self-confidence can be accurate, inflated or deflated by various degrees, by comparison with task performance.

Strategies to cultivate self-confidence are specific to the task or domain, Feltz said. "You use different strategies to cultivate self-confidence with phobics trying to overcome a phobia than you use with athletes in muscular endurance tasks, for example," she said.

Summing up the findings regarding what works to produce enhanced performance, Feltz replied, "Hard work—not just trying to become competent by some easy method (e.g., by taking a pill or sleeping on a book rather than reading through it). You really just can't beat determination and *practice, practice, practice*. And not being afraid to make mistakes. In terms of self-confidence, training must involve helping people not become discouraged by mistakes." **D.K.**



Deborah Feltz

* *Learning, Remembering, Believing: Enhancing Human Performance* is available for \$39.95 plus shipping (\$4 for the first copy and \$.50 for each additional copy) from the National Academy Press, 2101 Constitution Ave., NW, Washington, DC 20418, Tel.: 202-334-3313 or order by phone toll free at 1-800-624-624 from outside the Washington, DC area.]

What Works, What Doesn't

"TRIED AND TRUE" AND NEW APPROACHES: MAJOR FINDINGS

Debunking new "human technologies" that don't deliver on their inflated promises is only part of the mission of the **NRC Committee on Techniques for Enhancement of Human Performance**.

The NRC study's main purpose is a highly positive one: to promote the use of what Committee Chair Bjork sometimes calls "tried and true" approaches and techniques, for which there is strong scientific evidence of effectiveness. Among them:

- ◆ Concrete experience and teaching of abstract principles are *both* important in acquiring skills. Learning need not be situated in the performance context to be effective.
- ◆ Regular challenges should reveal to learners the actual extent of their understanding of the task or material they are learning. Gaps between *feelings* of knowing and *actual* comprehension can be wide and perilous.
- ◆ The importance of aptitude and innate ability tends to be inappropriately overestimated, and the importance of training, practice, and experience tends to be underestimated by many organizations. Training plays a large role in performance.
- ◆ Cooperative learning fosters individual learning and social interactions, both of which lead to enhanced performance, at least from evidence with children. More research with complex adult learning tasks is needed.
- ◆ Team building that boosts morale and enhances team cohesion may increase inter-team conflict and negatively affect overall organizational performance. Such negatives can be reduced by timing team-building interventions to transition periods in teams' life cycles.
- ◆ Training in teams offers many benefits. Effectiveness can be improved within each of the key four phases: Inputs (resources and tasks), process (what to focus on), mediators (how to structure the training) and outcomes (what to assess at the end).
- ◆ Task-specific self-confidence plays an important role in performance, and perceived self-confidence can be manipulated to enhance performance.
- ◆ Socially induced affect—the way one person's expressed feeling can influence another's—has interesting implications for performance but needs further research.
- ◆ Thought suppression—a special research effort should focus on how to forget old, unneeded information that interferes with performing new tasks while avoiding the adverse effects of thought suppression.

Department Profile

Wesleyan Celebrates 100 Years of Psychology

Department of Psychology to commemorate the occasion in October

MIDDLETOWN, CT—An annual appropriation of \$150 is what it took in 1894 to establish the psychology laboratory at Wesleyan University. Housed within the department of philosophy, the new department in the first year purchased a dynamometer, and esthesiometer, a Hipp Chronoscope, a model of the brain for class demonstrations, and a set of weights for the demonstration of Weber's law.

To commemorate this 100th anniversary, Wesleyan will celebrate on October 21 and 22, 1994, the founding of one of the earliest psychological laboratories in the United States.

At Wesleyan, as at many other colleges and universities, psychology began as a part of the philosophy department, and only later became a separate department. This differentiation was facilitated at Wesleyan by the rapid emergence of a strong program in experimental psychology in the early years of the laboratory.

Rational to Experimental - The Early Days

The lab was established by Reverend Andrew C. Armstrong, Professor of Philosophy. After having studied philosophy and psychology with James McCosh, the president of Princeton University, Armstrong came to Wesleyan in 1888. McCosh was of the Scottish school of rational psychology, a 'common sense' approach that was roundly criticized by proponents of the emerging school of German experimentalism that was mainly concerned with measurable physiological phenomena. Armstrong did not consider himself an experimentalist—his empirical psychological research was limited to doing interviews and surveys—but he recognized the importance of the experimental approach, and he set up the laboratory so that he could perform demonstrations for the students.

Armstrong taught both philosophy and psychology until 1898; his students included Charles H. Judd and Edward Lee Thorndike. Judd became a professor at Wesleyan and then went on to found the School of Education at the University of Chicago. Thorndike spent his career as professor of psychology at Columbia University and is remembered for his work on a wide variety of topics, including education, testing, and animal learning. His son, Robert L. Thorndike, and his grandson, Robert M. Thorndike, also studied at Wesleyan. R.L. Thorndike was Professor of Psychology at Columbia, and R.M. Thorndike is currently Professor of Psychology at Western Washington University.



Raymond Dodge with his teaching and research instruments, ca. 1910.

Distinguished Psychologists

In 1898 Raymond Dodge, another future distinguished psychologist, came to Wesleyan and assumed the teaching of psychology from Armstrong. Dodge remained associated with Wesleyan for 26 years. Dodge was trained in philosophy and psychology by Benno Erdmann in Germany and was a superb experimentalist, as well as inventor and builder of equipment. He is known for his tachistoscope and his eye movement camera, in particular.

A Split

In 1904, Dodge became the first full professor of psychology at Wesleyan, and in 1912, he became the chair of the newly created Department of Psychology, split from the Department of Philosophy. It was at this time that Walter R. Miles, a friend of Dodge and the inventor of the pursuit apparatus, spent a year teaching at Wesleyan. Under Dodge, the laboratory facilities expanded greatly and were moved from their original quarters in the basement of the president's office, to Judd Hall, which had been built to accommodate natural sciences research some 24 years before the psychology laboratory was begun. In 1924, Dodge moved to Yale University where he was involved in the establishment of the Institute of Human Relations.

Achievement Motivation

David C. McClelland graduated from Wesleyan in 1938, and did his well-known work on achievement motivation there in the 1940s and 1950s, before moving to Harvard. He was head of the psychology department in 1946, when the 50th anniversary of the psychology lab was celebrated (two years late, because of the war). At this year's centennial celebration, McClelland will deliver the keynote address, "Scientific Psychology as a Social Enterprise."

A Hundred Years Later

Today, there are 13 faculty members in the Department of Psychology at Wesleyan. As was true of its goals in the earliest days, the faculty remains both research-oriented and committed to excellence in teaching. The Department is organized around six focal areas of psychology: cognitive, developmental,

SEE WESLEYAN ON PAGE 27

APS Invites New Fellows

Fellow Status Criteria

(effective 7/1/92)

The basic criterion considered for Fellow status in the American Psychological Society is that of sustained outstanding contributions to the science of psychology. Candidates will generally be considered after ten years of outstanding postdoctoral contribution, though exceptional cases of candidates with fewer years will be considered.

NOMINATIONS

Individual APS members may make nominations any time during the year. Nominators must supply the following documents to the APS Membership Committee.

- (1) A letter of nomination specifying why the candidate is judged to have made sustained outstanding contributions. Self-nomination is appropriate.
- (2) The candidate's current curriculum vita.
- (3) Letters of support from three outstanding contributors to the field of scientific psychology familiar with the nominee's work, one of whom **must** be an APS Fellow.

REVIEW AND APPROVAL OF NOMINATIONS

The APS Membership Committee has appointed a Fellows Subcommittee consisting of a Chair and four other APS Fellows (representing diverse specialty areas) to consider the nominees for whom letters and vitae have been received. The Subcommittee's voting on Fellow status may be made during a meeting at an annual convention, on a conference call, or by mail ballot. The Chair of the Membership Committee will coordinate all evaluations, recommendations, and voting. The APS Board of Directors will be notified of nominees approved for Fellow status.

FELLOWSHIP APPLICATION

I would like to nominate _____ (please print or type) for APS Fellow status. In support of this nomination I have enclosed the following documents:

- ◆ Letter of nomination
- ◆ Curriculum vita of nominee
- ◆ Supporting letters from three colleagues, at least one of whom is an APS Fellow

Sincerely,

 _____ (signature)
 _____ (printed name)
 _____ (address)

 _____ (telephone)

Return to:

APS Membership Committee
 American Psychological Society
 1010 Vermont Avenue, NW, Suite 1100
 Washington, DC 20005-4907
 ATTN: Sharon Hantman



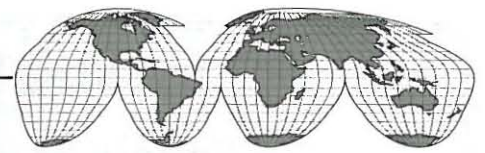
AMERICAN
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 SOCIETY

APS Approves New Fellows

APS's venerable cadre of Fellows received its newest group of distinguished members this June when the APS Board approved 44 APS members to become Fellows of the Society. Chaired by Lois Bloom, the Fellows Subcommittee selected these new Fellows on the basis of noteworthy attainment in scientific psychology. Fellow status denotes exceptional contribution to the advancement of psychology as a science. This brings the total number of Fellows to about 2,370. Below is a list of the new Fellows along with their affiliations.

Ronald Baenninger, *Temple Univ.*
 Barbara Basden, *California State Univ.-Fresno*
 Maggie Bruck, *McGill Univ.*
 Ana Marie Cauce, *Univ. of Washington-Seattle*
 K. Allison Clarke-Stewart, *Univ. of Calif.-Irvine*
 Terry Connolly, *Univ. of Arizona*
 William D. Crano, *Univ. of Arizona*
 Donald D. Dorfman, *Univ. of Iowa*
 Donelson E. Dulany, *Univ. of Illinois-Urbana-Champaign*
 Judith Dunn, *Pennsylvania State Univ.*
 Robert F. Fagot, *Univ. of Oregon*
 Susan Folkman, *Univ. of Calif.-San Francisco*
 Jennifer J. Freyd, *Univ. of Oregon-Eugene*
 David Funder, *Univ. of California-Riverside*
 Michael Gabriel, *Univ. of Illinois-Urbana-Champaign*
 Bennet G. Galef, *McMaster Univ.*
 Susan A. Gelman, *Univ. of Michigan-Ann Arbor*
 Frederick X. Gibbons, *Iowa State Univ.*
 Brian A. Gladue, *North Dakota State Univ.*
 Susan J. Goldin-Meadow, *Univ. of Chicago*
 Jacqueline Goodnow, *Macquarie Univ., Australia*
 Norma Graham, *Columbia Univ.*
 William M. Grove, *Univ. of Minnesota*
 Megan R. Gunnar, *Univ. of Minnesota*
 Louise Hainline, *CUNY-Brooklyn College*
 Kathryn Ann Hirsh-Pasek, *Temple Univ.*
 Keith J. Holyoak, *Univ. of Calif.-Los Angeles*
 Frederick Kitterle, *Stephen F. Austin State Univ.*
 Martha K. McClintock, *Univ. of Chicago*
 David M. Messick, *Northwestern Univ.*
 Deborah G. Kemler Nelson, *Swarthmore College*
 Sharon A. Nelson-LeGall, *Univ. of Pittsburgh*
 Louis A. Penner, *Univ. of South Florida*
 Howard C. Rachlin, *SUNY-Stony Brook*
 William Revelle, *Northwestern Univ.*
 Lance J. Rips, *Northwestern Univ.*
 Nancy L. Segal, *California State Univ.-Fullerton*
 Eldar B. Shafir, *Princeton Univ.*
 Linda S. Siegel, *Ontario Institute for Studies in Education*
 Fritz Strack, *Univ. of Trier, Germany*
 Paula A. Tallal, *Rutgers Univ.*
 Barbara G. Tversky, *Stanford Univ.*
 James S. Uleman, *New York Univ.*
 John I. Yellott, *Univ. of California-Irvine*

International Psychology



Preserving Psychological History on Tenerife

Canary Island is home to early Köhler primate lab now endangered by commercial development

In October of 1912, the Albert Samson Foundation of Berlin approved funding for a station for the study of the physiology and psychology of anthropoid apes, to be established on Tenerife, one of the Canary Islands.

Ultimate control over the activities of the Albert Samson Foundation was vested in none other than Kaiser Wilhelm himself, and the Foundation sought and received the advice of some of the most prestigious German scientists. Although a young doctoral candidate named Eugen L. Teuber was chosen to establish the station, he was replaced in 1913 by a Docent from the University of Frankfurt named Wolfgang Köhler.

Köhler and another new PhD, Kurt Koffka, were at this time working with Max Wertheimer on the phi phenomenon (the stroboscopic illusion of continuous motion between stationary lights), laying the foundations of Gestalt psychology, but Köhler accepted the position nonetheless. World War I soon erupted after Köhler arrived in Tenerife, lengthening his stay there to seven years.

Novel Lab's Influence

The station was the very first of its kind, and Köhler's work there assisted in propelling him to fame. Even today, photos of Köhler's apes obtaining bananas by stacking boxes, reaching out with sticks, and generally displaying those marks of intelligence that Köhler christened "insight," are ubiquitous in introductory psychology texts.

The lab's influence stretched elsewhere as well. Robert Yerkes, who founded his Orange Park, Florida, primate research center in 1916, had visited Köhler's research station and patterned his own laboratory after it. The Tenerife research also led to the publication of the famous

book *The Mentality of Apes*, and Köhler wrote his major treatise on the principles of Gestalt psychology in 1920, the year he returned to Berlin. Two years later, at the University of Berlin, he was appointed not only professor of psychology but head of the department as well, taking over the position from Carl Stumpf, with whom Köhler had taken his PhD just 13 years earlier. Köhler left Germany in 1934 and went to Swarthmore College.

Banana Plantation

For most of his time on Tenerife, Köhler lived at Casa Amarilla, on the banana plantation of La Costa, situated on a cliff overlooking the harbor of Puerto de la Cruz. La Costa is now owned by Anthony Yeoward of Great Britain, who has cleared out the banana trees, and is in the process of developing the land. Several large apartment buildings have already been built there, according to Austin Baillon, a British historian who lives on Tenerife.

Preservation Effort

As it became evident that Casa Amarilla was in danger of being obliterated, a number of historians and scientists decided it might be worth saving for its historical value. Led by Professor H.S. Robert Glaser of Justis Liebig University in Giessen, Germany, this group includes Baillon, Ronald Ley of SUNY-Buffalo, and Manuel Mas and Jose Luis Garcia Perez of the University of La Laguna.



Efforts to preserve Casa Amarilla are being spearheaded by a group of some 50 scientists and historians, and local citizens in the Canary Islands are also supportive.

In all, some 50 scientists from 15 countries have signed a petition to preserve Casa Amarilla, and there is much support for this among the island's citizens. And, ultimately, the Cabildo (Island Council) declared Casa Amarilla a historic site on March 25, 1994, forbidding its destruction. Unfortunately, neither the occupant of the house nor Anthony Yeoward in Britain were sent official notice of this action, and in May, the roof was removed from the building. "What the devil they did it for, heaven only knows," says Baillon, "but by doing so, they did the best they could for the cause of preserving the place, because it hit the headlines." The police are now keeping an eye on the house, and the town has threatened to expropriate the property if the roof is not restored.

Meanwhile, town and university officials, as well as members of the international psychological community, are trying to establish Casa Amarilla as a conference center. If possible, they intend

CONTINUED ON NEXT PAGE

to rebuild the ape compound as it was in 1913-1917, and perhaps to keep some apes there.

Spying

There is another peculiar and fascinating aspect to the story, detailed by Ley in his book, *A Whisper of Espionage*; namely, Köhler may have been a part of a group of Germans on Tenerife who reported on the comings and goings of British shipping during the war. Furthermore, Ley suggests that when La Costa was bought by the Yeoward family in

The plantation has a marvelous view, it's a grand location for development. It's just a matter of a pure business arrangement.

RONALD LEY
SUNY-BUFFALO

1918, and Köhler was forced to move out, it was done in order to disrupt Köhler's spying. Although Spain was officially neutral, it leaned toward Germany, and Spain had failed to respond vigorously to British complaints about German espionage activity on the island.

Not that Köhler was trained as a spy, says Ley, but "The strategy of the German government was to put people in strategic places, people who could be trusted, who could be useful in the event that they were called upon to serve." Ley has uncovered convincing circumstantial evidence that Köhler, as a patriotic German citizen, may well have been called upon to spy. We asked Baillon if there was a chance that there remains today any hard feelings about this that might affect the efforts to

preserve Casa Amarilla. "Oh, no, I don't think so at all," he answered. Ley concurs, "It's not relevant. The plantation has a marvelous view, it's a grand location for development. It's just a matter of a pure business arrangement."

And there things sit, waiting for some final conclusion. Glaser, Ley, Baillon, and the other preservationists are looking for additional support from psychologists around the world and for a way to con-

vince Yeoward to sell or donate the property. And the Cabildo of Tenerife is looking for a way to set up a conference center. It would be a fitting memorial to a great scientist, and it would be a great place to have a meeting... **Paul M. Rowe**

Paul M. Rowe is a free-lance science writer based in Washington, DC.

Personnel Psychology

**Take a
look at...**

Personnel Psychology

Contents of the September, 1994, issue:

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 Race as a Factor in Job Placement: Serendipitous Findings of "Ethnic Drift." *J Lefkowitz, City University of New York*
 Antecedents of Involuntary Turnover due to a Reduction in Force. *MR Barrick, MK Mount, and JP Strauss, University of Iowa*
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Ethically Risky Situations Between Students And Professors Outside the Classroom

Patricia Keith-Spiegel
Ball State University

The classroom is only one of the places where students learn from professors. Office hours, school-sponsored educational and social events, professional meetings, the coffee lounge, and even hallways provide opportunities to educate students. Professors advise, supervise, mentor, encourage, and collaborate with students. Most of these activities occur outside of the classroom.

Psychology teachers who are readily available to students should be praised for their dedication. They usually deserve it. Graduate students, especially, may enter into very friendly relationships with their professors, often involving interactions in a variety of situations. Ethically risky situations lurk close by, however, because multiple roles in the context of unequal power create a potential for exploitation. When the formalities of the classroom are not operative and decorum is relaxed, both students and faculty may begin to blur boundaries. This may create misunderstandings and ill-fated consequences for both students

and faculty. New faculty, emerging from close roles and relationships with their professors, may be especially vulnerable to boundary blunders with their own undergraduate students.

While there has been a fair amount of discussion in the literature of both predictably harmful behaviors and clear-cut policy violations, my colleagues and I became intrigued with the lack of published literature about the ethically risky and grey areas involved in teaching students, especially undergraduates. In response, we created a casebook from which most of the examples in this column are derived (Keith-Spiegel, Wittig, Perkins, Balogh & Whitley, 1993).

Outside Influences on Grades

Teachers are gatekeepers with power to label students as "bright," "mediocre," or "dumb." Although it is assumed that grades reflect actual academic performance, we found that 60% of a national sample of 482 teaching psychologists admitted, on an anonymous survey, that how much they liked (or disliked) students influenced their grading, at least on occasion.

Subjective evaluations are often based on observations and interactions occurring

outside of the classroom. For example, students who give positive feedback on lectures, drop by for pleasant chats, or express an interest in our research may receive an enhanced "score" in the subjectivity zone between actual academic performance and the assigned mark. Students who show disrespect or who are insensitive may be affected in the opposite direction. We are all human, but we are also called upon to issue grades based on objectively derived criteria. This may require deliberate vigilance, perhaps even including mechanisms that blind us to student identities during the grading process.

Reference Letters

A frequent situation where subjective evaluations play a legitimate role is reference letters. Often, observations upon which these judgments are based occur outside the classroom. While in the men's room, a professor overheard one of his best students referring to him as a "pompous dweeb." When that student later asked for a letter, the professor refused. We may quibble about whether the professor was overly sensitive to an otherwise deserving (and possibly unusually perceptive) student. Yet, in the

final analysis, professors are not *required* to write anyone a letter. But, because letters may be pivotal factors in students' lives, we have an ethical obligation to inform students of the subjective information we may choose to, or be *requested* to, divulge and any idiosyncratic criteria we may employ when evaluating a student's interpersonal style or character.

Research Assistance for Academic Credit

On many campuses financial support for student assistants is low or has disappeared altogether. The requirement for professors to produce scholarly work for the purposes of promotion and tenure, however, has remained constant or increased.

Giving students academic credit for research assistance is an increasingly popular practice. As long as students are learning to do research, are carefully supervised, and receive credit in proportion to their contributions, a mutually advantageous partnership can be created. Ethical issues arise if the professor takes credit for students' work, is not properly attributing credit to students, is sloppy in supervision and therefore generating possibly invalid data, or assigns only tedious tasks that result in minimal learning.

Mentoring to a Fault (Paternalism)

A professor spends considerable time, by personal choice, counseling and encouraging the best students in the department into the graduate programs and careers he thinks are in their best interest. But students have complained that the professor becomes upset, even to the point of withholding support, if his advice is challenged or ignored.

Students may sometimes see us as parental figures, but we may fail to realize that these feelings can be reciprocated and the result can be extremely inappropriate. If strong feelings emerge when advising a student, or if coercive tactics are being used (e.g., holding a letter hostage unless certain decisions are made), it is time for a "boundary check."

"Excessive" Mentoring (Dependence)

A gifted senior, with very high grades and GRE scores, is encouraged by her professor to remain as a non-degree student for another year rather than go directly to graduate school. He explained that they could continue their research program and that he could write her a stronger letter. This situation strongly suggests that the professor has developed a dependency on the student and is exploiting her naivete.

An extra year can be beneficial, but this is typically because some deficit hampers the student's chances of moving forward, such as a too-low GPA or lack of research experience. Losing good students to graduate programs or professional employment elsewhere goes with the territory of a teaching career and should be one of our goals.

Office Hour Availability

When students often found "No Office Hours Today" on their professor's door and complained about it, the professor replied that he had other things to do and often no one came by anyway. Aside from the fact that this may be in violation of the university's policy, erratic office hour patterns deprive students of important learning opportunities. This professor's attitude also communicates that students are less important than everything else he does. (The occasional missed office hour is part of life, but advance warning should be given whenever possible.)

Inconvenient office hours raise similar issues. A professor who holds them from 6 to 7AM and 5 to 6PM and who defends the practice by declaring, "If students *really* want to see me they can figure out how to get there" suggests insensitivity. Although the professor may be within her rights to hold office hours at odd times, her underlying motivation insinuates a preference to avoid students.

Counseling Students on Nonacademic Matters

A teary-eyed student asks for advice about her unwanted pregnancy. After asking a few questions, the professor recommends an abortion. When do

professors cross the line in terms of advice? We are encouraged to counsel about professional development and career options, and personal circumstances are often intimately involved.

Interacting with student advice seekers is a common experience for teaching psychologists. However, the kinds of issues that would be suitable for consideration in psychotherapy are not, in most instances, appropriate for advising sessions. We might listen for a while, but referral to the counseling center or some other resource is highly recommended.

Holding Classes or Other Activities Off-Campus

Class meetings held in professors' homes and field trips to interesting places greatly enhance learning. But there can be a darker side, usually more legal than ethical, to using off-campus learning sites. A professor held a seminar meeting in her own home, a gesture that included enticing refreshments. Upon leaving, a student slipped on a soda drink spill and broke his ankle. He sued for negligence. That this meeting was a *required* experience was made an issue with the court. University policy and perhaps legal counsel should be consulted before planning off-campus events.

Shared Interests After Hours

Our teaching ethics group at Ball State wrestled with the scenario of professors and their students who enjoyed doing the same thing after hours in the same place, which, in small college towns could be the *only* place. Such settings might include the tennis court, golf range, aerobics class, gym, church, and so on.

When large groups are together, focusing on something else (e.g., a temple service), no ethical problems would normally arise. However, in one-on-one settings the preferable arrangement is to avoid teaming up with one's own students on any regular basis, especially if the students are under-

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Institute of Mental Health. Otto-Salaj comes to the college from the AIDS Resource Center of Wisconsin, Inc., in Milwaukee, where she served as research and evaluation coordinator in the department of prevention services. She also lectured in psychology at the University of Wisconsin Center-Washington County in West Bend from 1991-1992. She completed her PhD and MA degrees at Temple University, where among other awards, she received the Bolton Dissertation Grant.

APS Charter Fellow **Sandra Scarr**, a leading developmental psychologist, has been elected chair of the Board of Directors of



KinderCare Learning Centers, Inc., the nation's largest child care company. Scarr succeeds Ken Miller, who has served as chair of the company for five years and resigned in order to concentrate on his new position as Vice Chairman of CS First Boston. Miller remains on the KinderCare board.

Scarr is co-editor of APS's *Current Directions in Psychological Science* and is

Commonwealth Professor of Psychology at the University of Virginia-Charlottesville. From 1977 to 1983, she was Professor of Psychology at Yale University and from 1973 to 1977, Professor of Child Psychology at the University of Minnesota. Her research on behavioral genetics, intelligence, and child development has been published in more than 200 articles and four books on intelligence, child care, and family issues.

Among other honors, Scarr has been elected a Fellow of the American Academy of Arts and Sciences, and the American Association for the Advancement of Science. She has also served on the Board of KinderCare since 1990, where she has been a member of the Audit Committee and Co-Chair of the Visions (Strategic Planning) Committee. Scarr also serves on the Steering Committee on Prevention Research for the National Institute of Mental Health, and has consulted with dozens of organizations to improve early education, child care, and family relations.

KinderCare is the largest provider of proprietary child care in the United States. The Company operates 1,132 child care centers in 38 states under the banners of KinderCare Learning Centers, KinderCare At Work, and Kid's Choice. The company, a \$500 million-per-year corporation traded publicly on NASDAQ, was founded in 1969 and is headquartered in Montgomery, Alabama.

People News Welcomed . . .

The Editor invites submissions of announcements of noteworthy promotions, appointments, and the like for possible publication in the **People** news section of future *Observer* issues. Send suggestions to: *APS Observer*, 1010 Vermont Ave., NW, # 1100, Washington, DC 20005-4907

Richard A. Weinberg was named the Emma M. Birkmaier Professor in Educational Leadership for 1994-1997. This endowed professorship allows him to pursue his interests in policy and the interface of child development with practice and policy. Weinberg is an APS Charter Fellow and is Professor and Director of the Institute of Child Development at the University of Minnesota. Weinberg also is an APS Member-At-Large on the Board of Directors.



APS Members Recently Promoted

Linda M. Collins, *Pennsylvania State Univ.*, to Professor of Human Development and Family Studies and to Director of the Center for Developmental and Health Research Methodology

Jeanne D. Day, *Univ. of Notre Dame*, to Full Professor

Francis Flynn, *Univ of Wyoming*, to Full Professor

Mitchell Sherman, *Univ. of Wisconsin-Stout*, to Full Professor

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behavioral neuroscience, personality and psychopathology, social, and women's studies. The current faculty includes the following (school from which PhD was earned follows each name):

David B. Adams, *Yale*
 Catherine T. Best, *Univ. of Michigan*
 Nathan Brody, *Univ. of Michigan*
 Marisa Carrasco, *Princeton*
 Melanie Killen, *Univ. of California-Berkeley*
 Jill G. Morawski, *Carleton Univ.*
 Scott Plous, *Stanford*
 Karl Scheibe, *Univ. of California-Berkeley*
 John G. Seamon, *Univ. of Massachusetts-Amherst*
 Harry M. Sinnamon, *Univ. of Rochester*
 Robert S. Steele, *Harvard*
 Ruth Striegel-Moore, *Univ. of South Carolina*
 Maria Wong, *Univ. of Chicago*

For more information about the centennial celebration, contact either Karl Scheibe or Jill Morawski (Tel.: 203-347-9411). **Paul M. Rowe**

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graduates in the major, the activity is competitive, or if other students are somehow disadvantaged by the arrangement. More insidious possibilities also exist. What if a cut-throat-on-the-court professor constantly loses tennis matches to a student in his statistics class? Will some form of retaliation against the student appear during the grading/evaluation process?

Professors Who Like to Be With Students

Some professors enjoy students' company and can frequently be found chatting with them about nonacademic matters. Colleagues may be concerned that professors who spend a great deal of purely social time with students are crossing a boundary between professor and chum.

If professors who can be found socializing frequently with students on campus are fulfilling other academic duties and are usually available to all students that come by (as opposed to a favored in-group), no ethical issues necessarily pertain. However, if a professor has no other independent social life, this is not healthy for the professor, and it presents potential ethically precarious situations for the unwitting students upon whom such a professor is emotionally dependent.

Gossip

On Friday afternoons, some students and faculty hit the village spots or relax in campus lounge areas and strike up idle conversations. Two topics of mutual interest are other students and other faculty. Students may remark that a professor is a poor lecturer, flirts with other students, or gives unfair exams. Or students may begin to talk about peers and reveal private matters that professors probably do not want to know but that could affect their perceptions. "John plagiarized his term paper for Dr. Racimora's class last year." Or, "Jenny smokes dope on the weekends." It becomes the professor's responsibility to monitor what is going on, draw boundaries, and change the direction of the conversation when appropriate.

Attending Students' Events

"Can you come to my party next Saturday night?" is not an unusual invitation, particularly to younger faculty. Sometimes the occasion is a milestone or rite of passage (wedding, graduation, senior recital, etc.). There is probably nothing inherently unethical about attending student events, unless this association in some way leads to an advantage—or the *appearance* of an advantage—for some students as opposed to others. This, however, can be very tricky. If a professor attends one student's extracurricular event, another student could be disappointed if a similar invitation is refused.

Faculty members are far less exposed if the students-oriented events they attend are university sponsored and/or other colleagues are present. Standards of good taste, decorum, and reasonable sobriety should be maintained.

Students at Conventions

Student attendance at professional meetings facilitates their professional development. But, beware. Conventions are often

set in a grand hotel, and liquor is typically readily available. In one case, a professor and several students had drinks at the social hour and began joking about the department "back home." The professor divulged inside information about the strife currently raging within the faculty. By morning, the professor was filled with regret. Yet, despite begging the students to keep quiet, the stories quickly circulated.

Summary

Exemplary professors care about their students' achievement and their academic development as much as they do about their own work and advancement. They interact with their students outside of the classroom, and are reasonably available for assistance in understanding the subject matter as well as for advising. Ironically, in the process of being helpful and available to students, more complicated roles are created and these require vigilance and sensitivity to avoid risks of exploitation or misunderstanding.

References and Recommended Readings

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Patricia Keith-Spiegel is the Reed D. Voran Honors Distinguished Professor of Social and Behavioral Sciences at Ball State University. Her books include *Ethics in Psychology: Standards and Cases* (1985) and *Children, Ethics and the Law* (1991) with coauthor Gerald P. Koocher.

Relocating?

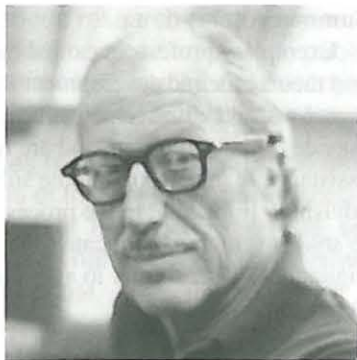
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Obituaries

Measurement Pioneer Allen L. Edwards (1914-1994)

Allen L. Edwards, a former professor of psychology at the University of Washington, who was a major contributor to the field of psychological measurement, died on July 17 at the Harborview Medical Center in Seattle. He was 80. His death was caused by complications resulting from a fall.



Professor Edwards was a Charter Fellow of the American Psychological Society and had served as President of the Western Psychological Association (1955-56) and President of the Psychonomic Society (1964-65). He also served on the editorial boards of a number of professional journals. Edwards had served the American Psychological Association (APA) in a variety of roles. He was Secretary-Treasurer of the Division of Personality and Social Psychology (1949-52), President of the Division of Evaluation and Measurement (1959-60), chairman of the Convention Committee (1966-67), and served on five other APA committees during his academic career. He was a Fellow of the American Statistical Association and of the American Association for the Advancement of Science, and was a member of Phi Beta Kappa.

Allen Edwards graduated with honors from Central YMCA College in Chicago, and received his PhD from Northwestern University in 1940. His early research had to do with public opinion, political attitudes, and techniques of attitude scale construction, and he contributed his expertise to the War Department and the Office of War Information from 1941 to 1943.

After a brief period as an assistant professor at the University of Maryland, Edwards joined the faculty of the University of Washington in 1944. He remained affiliated with the University, first as an associate professor, and later as a professor, and professor *emeritus*, until his death. Edwards is the author of many books in the areas of statistical analysis, linear regression and correlation, multiple regression, experimental design, and attitude and personality scale construction, as well as scores of journal articles on these and related topics.

In the field of personality assessment Edwards is probably best known for his research on what he called the social desirability variable. Edwards viewed socialization as a process of teaching children to do those things that society considers desirable and not to do those things considered undesirable. Edwards regarded the tendency to give socially desirable responses as a trait capable of being elicited by any personality item. He showed, as summa-

Assessment/Training Authority Howard H. McFann (1923-1994)

Howard McFann, an international authority on military performance assessment and training, died at age 70 on June 9, 1994, at his home in Carmel Valley, California. He was born August 16, 1923, in Montpelier, Ohio, and grew up in Gary, Indiana. He had lived in Carmel and Carmel Valley for 30 years.



During World War II, Howard served in the Army Air Corps and flew numerous combat missions. Taking advantage of the GI Bill, he earned a BA in Psychology from Indiana University, a MA in Psychology from Oberlin College, and a PhD in Experimental Psychology from State University of Iowa in 1952. After graduation, he remained at Iowa for a year teaching and conducting research in adult learning and skill acquisition.

Howard's long term and continuous involvement with military manpower, personnel and training issues began in 1952 when he joined the Human Resources Research Organization (HumRRO). Over the next 25 years he advanced from Research Associate to Senior Vice-President and Western Director of HumRRO. In 1978, he founded MGA where he continued to manage and participate in personnel research for DoD, Air Force, and Army, and for Business and Industry.

Howard conducted and directed major research in psychological stress, and individual and collective training. His psychological stress work involved two major research programs: one identified effective and ineffective combat performers and designed alternate actions to alleviate the negative impact of stress on combat performance; the second studied effects of sensory deprivation and social isolation on individual performance. This psychological stress research resulted in changes in Army selection practices. Howard's training research encompassed the development, test and implementation of new programs of instruction. One program was on basic marksmanship and initial infantry squad tactics and techniques of fire (TRAINFIRE I & II). Also he directed training research of Project One Hundred Thousand when the Army brought into the service individuals who previously would not have been eligible because of low ASVAB-AFQT scores. These research programs formed the major framework for development of the Army volunteer program. Howard subsequently lead the effort to design, develop, test and implement this volunteer Army program. Through this program, performance-based training and

SEE EDWARDS ON PAGE 32

SEE MCFANN ON PAGE 32

Career Development Innovator Donald E. Super (1910-1994)

Donald E. Super, Professor Emeritus of Psychology and Education at Teachers College-Columbia University and a James McKeen Cattell Fellow of APS, died on June 21 in Savannah, Georgia, after a short illness. Though his interests and achievements ranged widely through applied psychology, he was best known for his contributions to vocational psychology and to the specialty of counseling psychology. His colleagues credit him with almost single-handedly transforming the field of vocational guidance to its current emphasis on career development.



Super was born on July 10, 1910, in Honolulu, where his father was general secretary of the Hawaii YMCA. At the age of six, he moved with his parents to Montclair, New Jersey. Shortly after World War I, he went to Poland where his father was director of the Polish YMCA. His secondary education took place in France and he earned his PhD at Columbia under the guidance of Harry Dexter Kitson. He served as an assistant professor at Clark University from 1938 to 1942 and then joined the Army Air Corps as an aviation psychologist in Personnel Research Unit #2, under the direction of (then) Col. Laurence F. Shaffer.

After the war, Super joined the faculty at Teachers College along with Shaffer and Robert L. Thorndike and created a doctoral program in professional psychology just as professional psychology was beginning to take shape. Before his retirement in 1975 he was professor of psychology, chairman of the Department of Psychology, and director of the Division of Psychology. His influence on hundreds of students and dozens of colleagues was facilitative and profound. Professor Super's interest in career development grew from his early work as a counselor of unemployed adults during the Great Depression and from later association with Columbia colleague Eli Ginzberg.

One of his important studies was a 25-year longitudinal analysis of the career-related behavior of 100 eighth- and ninth-grade boys (Super, 1985). The findings formed the basis of his theory of career development which remains one of the two most influential theories extant. His books included *The Dynamics of Vocational Adjustment*, published in 1942; *Appraising Vocational Fitness*, published in 1949 and 1962; *The Psychology of Careers and Scientific Careers* and *Vocational Development Theory*, both published in 1957; and several monographs based

on the longitudinal work that came to be known as "The Career Pattern Study."

The international flavor of his childhood and his youth persisted throughout his life and led to his authorship of *La Psychologie des Interests*, *Career Development in Britain*, and *Values and Careers in International Perspective*, and to his directorship of the Work Importance Study which was conducted in 12 countries. He held major leadership positions in the International Association of Applied Psychology and the International Association for Education and Vocational Guidance.

In addition to his contributions to career development and Counseling Psychology, Super was also among the pioneers in computer-assisted career guidance, computer-generated test interpretation, and measurement of career readiness. Throughout his active professional life he enjoyed many honors and significant salutes to his leadership. He was an early president of the American Personnel and Guidance Association (now the American Counseling Association), the division of Counseling Psychology of the American Psychological Association (APA). In addition to the APS Cattell honor, he was also a recipient of APA's Distinguished Scientific Contribution Award and many awards from counseling organizations. However, the honors he seemed to cherish most were the honorary doctorates from the University of Lisbon and from his alma mater, Oxford.

Donald Super was a great psychologist, a dogged researcher, an inspiring teacher and a delightful colleague. Withal, a sense of modest perspective dominated his views of his achievements. He once told me—as part of discussing the brilliance of another colleague—"I am not very good at identifying what the horizons of our field are going to be, but I am damned good at knowing when I am on one!" And he was almost always on one.

He is survived by two sons, Rob and Charles. Charles is also a professor of psychology.

ROGER A. MYERS
TEACHERS COLLEGE
COLUMBIA UNIVERSITY

Super, D.E. (1985). Coming of age in Middletown: Careers in the making. *American Psychologist*, 40, 405-414.

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rized in his 1957 monograph *The Social Desirability Variable in Personality Assessment and Research*, that if asked to describe themselves, people tend to admit to socially desirable patterns of behavior and to deny those that are regarded as socially undesirable.

Edward's work profoundly affected the subsequent course of personality research by raising questions about the ultimate meaning of scores on personality inventories where social desirability was so highly correlated with item endorsement. Research on social desirability led to the idea that personality inventories might be made more meaningful by using items with relatively neutral social desirability values. The *Edwards Personality Inventory* (EPI), developed according to this strategy, has been widely used in research and counseling.

Professor Edwards retired from teaching in 1984 but published a revised version of the EPI in 1990 and continued to contribute articles and commentaries to professional journals through the early 1990s. Edwards is survived by two sons, David, a professor of psychology and Charter APS Member at Emory University, Anthony of Seattle, and one grandchild.

DAVID A. EDWARDS
DEPARTMENT OF PSYCHOLOGY
EMORY UNIVERSITY

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testing were introduced; functional literacy training and instructional and management strategies to handle individual differences were incorporated; and Skill Qualification Testing evolved. For this effort, Howard received the Distinguished Civilian Service Award from the Secretary of the Army in 1973.

In 1986, Howard became Chief of the Presidio of Monterey Army Research Institute Field Unit where he was responsible for three major R&D activities: Unit Performance Measurement methodology, Combined Arms Collective Training, and archiving and developing operations data bases from Army Combat Training Centers. This research determined the relationship between combat unit training and preparation for combat and unit performance preparedness. A major focus involved the effects home station practices and procedures have on combat unit performance at the National Training Center. A second thrust developed measures of performance of battalions, companies and platoons. Emphasis was on quantifying the relationship between use of resources and unit performance in quasi-combat situations. The National Training Center data base was used to obtain lesson learned information to be fed back into Army schools and operational units on doctrine, organization, training, material, and leadership issues. This included interservice (Army/Air Force) combined training and measures of performance. In addition, a focus was on design of electronic instruments for data collection and management (Army/Marine). Sponsors included Army agencies and FM&P, DoD. For this work, Howard received the Commander's Award for Civilian Service in 1991.

Howard retired two months before his death, having spent the last year before retirement setting up the Defense Institute for Training Resources Analysis, a unit designed to help the military maintain its readiness to perform not only war missions but also humanitarian missions, despite drastic cutbacks in military resources. According to a colleague, prior to his death, paperwork had been initiated for the Department of Defense to honor Howard with its highest civilian award, the Distinguished Service Award.

Howard participated on Army and DoD committees and study groups whose work formed the basis for major changes in military training and management including reorganization of TRADOC schools, adoption of One Station Training and One Station Unit Training. He was Technical Director in support of a DoD study to examine training and training management throughout the Defense Department (CETRM). He was a member of the Committee of the Performance of Military Personnel of the National Research Council and National Academy of Science. He consulted with various government agencies to include DoD, Army, Navy, Air Force, Department of Labor, National Institutes of Education, Department of Education, and National Research Council.

With over fifty publications and numerous presentations to national and international professional workshops and meetings, Howard worked passionately to further research in the applica-

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CONTINUED ON NEXT PAGE

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tion of innovative psychological techniques and principles to performance measurement and training. Most recently, he had addressed the NATO Exploratory Group L Workshop on the determination of unit performance capability at the National Training Center and validation of collective training practices, and the Society for Chaos Theory in Psychology on "Chaos" in Desert Warfare Training. In addition to his publications and presentations, Howard was active in several professional organizations. He was a Charter Member and Fellow of the American Psychological Society; Fellow of the American Psychological Association; Fellow and Past President of the Military Division and Fellow of Experimental Division of the American Psychological Association; Charter Member of the Psychonomic Society, Fellow of Sigma Xi; and a certified Psychologist in California.

Energetic, a perfectionist and accomplishment-driven, Howard was the consummate example to those he directed, mentored, befriended, and loved. Having played a key role in developing criterion referenced testing, Howard applied these principles to no one more ardently than himself. He was an avid tennis player and competitor who enjoyed the game and especially the victories. At age 69, he started weight training so he could press 170 lbs. on his 70th birthday. By setting specific goals and measurement standards and working with a trainer, Howard not only reached but surpassed his goal to celebrate his 70th pressing 225 lbs!

Howard was active in the Carmel Valley community he loved, regularly volunteering his services as a licensed psychologist to counsel troubled pre-teens through young adults referred to him by local schools and agencies. A warm and personable individual, Howard became a close friend and mentor to those with whom he worked. He always had time to discuss research ideas, ask probing questions, listen to business or personal problems, share his own successes and failures, tell an interesting story, or be a friend. He proudly shared his enthusiasm and love for his own family; in fact, his colleagues came to know each member of his family through personal references and vignettes.

Howard was never satisfied with conducting psychological research as usual. He continually pressed the boundaries and embraced innovations. To continue fostering innovations and advancements in applied psychology, an educational fund has been established in Howard's memory. Contributions may be made to the Howard H. McFann Memorial Fund, c/o Joanne Marshall-Mies, Swan Research, Inc., 665 Bay Green Drive, Arnold, MD 21012, Tel.: 301-858-7113.

Howard is survived by his wife, Adele; three daughters, Cathy McFann-Pollay, Terry Thelen and Wendy McFann-Phillips; a son, Tim; four brothers; a sister; and four grandchildren. In the words of his eldest grandson, "Howard is extinct. I miss him." Yes, Howard was a rare individual who had a profound effect on his fellow travelers and on his profession. We are deeply saddened by his death and miss him too.

JOANNE MARSHALL-MIES
SWAN RESEARCH, INC.
ARNOLD, MD

BREWER FROM PAGE 2

- ◆ Approved support in 1995 for the formation of a **coalition of clinical science training programs**, per the recommendations of the Indiana Conference on Clinical Science in the 21st Century (see July/August *Observer*). The coalition would be the first step toward forming an Academy of Clinical Science in Psychology whose members will meet standards for doctoral programs that include strong emphasis on scientific research training. Emphasizing the importance of supporting academic clinicians, the Board believes it must continue in its role as a facilitator in efforts to examine accreditation issues as they affect science.

During the day-and-a-half meeting, the Board also learned that there are now **nearly 1,000 Liaison Contacts**, individuals in academic departments who voluntarily help with membership recruitment and other APS efforts. Liaison Contacts present at the June convention in Washington were treated to a special breakfast meeting. In addition, the APS **Student Caucus** President Dianna Newbern brought the Board up to date on student activities including the travel award, student research competition, and membership recruitment and retention efforts.

Public Education

In the continuing effort to "give psychology away in the public interest" APS has worked closely with the **Smithsonian Institution** (see full-page display in this issue) to provide expertise in the development of a seven-part lecture series on behavioral genetics (titled **The Influences of Nature and Nurture**), scheduled to start in late October. Consequently, APS members are entitled to a significant tuition discount for the Campus on the Mall course. Some 2,000 APS members and students reside in the Washington, DC-area and will appreciate this "backyard" opportunity to learn more about genetics and behavior. The Smithsonian courses are quite popular with Washington's educated lay public and the Nature/Nurture course was already drawing in several registrants in early August. Included among the speakers are: Robert Cairns (Univ. of North Carolina), Irving Gottesman (Univ. of Virginia), Jerome Kagan (Harvard), Gerald McClearn (Penn State), Robert Plomin (Penn State), David Reiss (George Washington Univ.), and Sandra Scarr (Univ. of Virginia).

The Board will next meet December 3-5 in San Francisco, the site of our 1996 convention. ◆

The Student Notebook

Deanne Heinisch - Editor

Central Michigan University Wins Outstanding Chapter Award

On behalf of the Executive Council, congratulations are extended to the students at Central Michigan University (CMU) for their outstanding accomplishments and activities this past academic year. This is the second consecutive year that the CMU chapter has received the "Outstanding Chapter Award."

The CMU chapter continues to be very involved in recruitment activities. At the start of the school year, the chapter sponsored a "Welcoming Party" for all new graduate students in the Psychology Department to provide an opportunity for them to get to know each other and also to generate interest in APSSC. The students also actively recruited undergraduate students and encouraged them to participate in events throughout the year.

The chapter also increased their efforts to encourage grant-funded research in a variety of ways. First, they monitored several on-line services and documents and compiled a list of grants offered throughout the nation. They were then posted on a clipboard next to the APSSC bulletin board located in the Psychology Department. Notifications of both research opportunities and other funding opportunities were also posted on PSYCOM, the department's mainframe communication system. Students were also urged to apply for research grants and presentation grants offered through the University. Five of their members received either one or both of such awards during the academic year.

To further develop interest in psychological research, the caucus members held six social/program meetings which were primarily aimed at facilitating the professional development of students. One meeting focused on how to get papers accepted at conferences and how to prepare for conferences. At another meeting, two students from Brazil spoke about psychological science in their country. The caucus also arranged for three students from Bowling Green State University to travel to CMU to speak about their programs. Finally, seven students employed on a grant funded by the National Institute of Mental Health discussed several component studies related to the measurement of posttraumatic stress disorder and warzone trauma associated with the Vietnam War.

As always, the chapter has maintained their reputation for outstanding research activities. At this year's APS convention, eight papers were presented by caucus members. Students also presented papers at a number of professional conferences and several had their papers accepted for publication in a variety of professional journals. Finally, four caucus members were recipients of a CMU "Outstanding Thesis Award" for their work on their masters theses.

The students at CMU also put forth considerable effort to increase their fundraising profits to help pay for their trip to this year's APS convention in Washington, DC. Their fundraisers included a soda can collection, a textbook resale, and a submarine sandwich sale. The chapter also sponsored a GRE book sale and mock exam for undergraduates planning to attend graduate school. Finally, the chapter received a grant from the university which helped fund their travel to the convention.

Another notable activity the students worked on was the development and distribution of a local APSSC newsletter which provided both faculty and students with information on new journals, upcoming conventions, submission deadlines, and other APSSC activities.

Again, the students at CMU are to be commended for their efforts in facilitating the advancement of psychological science at their university and for setting a standard for others.

Meet Your 1994-1995 Executive Council...

In the last Student Notebook you met several members newly elected to the APSSC Executive Council. Here now is information on the remaining Council members. Feel free to contact any one of them to introduce yourself or discuss an issue of interest to the Caucus.

Past President

Dianna Newbern

Dianna will receive her doctoral degree from Texas Christian University next year in social cognition. Her research interests involve investigating the cognitive outcomes of interactions in groups. She would like to receive a research or teaching position when she earns her degree but also enjoys doing applied work. Dianna first became involved with APSSC her first year of graduate school because she wanted to increase her general awareness of behavioral science activities at the national level. Looking back on her involvement as president of the national chapter, she feels her experiences have helped her develop and grow professionally. This year, her role in APSSC will primarily be that of a mentor to new Executive Council members.

Student Notebook Editor

Deanne Heinisch

Deanne will receive her doctoral degree from Central Michigan University next year in industrial and organizational psychology. Her research interests include studying the effects of personality on perceptions of occupational stressors and strains. After earning her degree she plans on doing applied work in personnel psychology. She first became involved in APSSC at the local level during her first year of graduate school and served as the president of her local chapter last year. She got involved at the national level because she feels her involvement will enable her to meet students who will become her peers and co-workers in the future. Her major goal for the upcoming year is to use the Student Notebook as a vehicle to increase student awareness and participation in the national chapter.

Special Officers and Committee Members

Minority Affairs Committee

Lynnyone Cotton

Lynnyone is starting her second year of doctoral study at Howard University in developmental psychology after receiving her masters degree in 1993. Her primary interest is in program evaluation with the goal of developing programs for African-American use. She is a newcomer to APSSC, having attended her first APSSC meeting at the recent APS convention. She became involved with the Caucus because she would like to represent other minority students who are involved in APSSC and hopes that in the long-run her efforts will have an impact on society as a whole.

Mentorship Committee

Matt Monte

Matt is currently starting his fourth year of doctoral study in industrial and organizational psychology at Central Michigan University. His research interests include work group behavior and diversity issues in the work place. He first became involved in APSSC at the local level in the fall of 1992 and is serving as president of his local chapter this year. He became involved in APSSC because of its focus on research and because it provides an opportunity to interact with students in other areas of psychology. This year he would like to see the membership in APSSC expand—especially in underrepresented groups. He also plans to revise the mentorship program and increase the number of students who are involved in it (see next page).

Interview With New APSSC President—Steve Fiore

To provide an opportunity for students to become familiar with their new president, the APSSC editorial committee arranged an informal interview with Stephen Fiore who was elected President of the APSSC at the June APS Convention for 1994-1995. Before becoming APSSC President, Fiore served as Student Notebook Editor during 1993-1994. He has just completed his second year of graduate school at the University of Pittsburgh, and his research interests lie in spatial memory.

Q: How far along are you in your graduate education?

I have recently completed my masters degree at the University of Pittsburgh and will be working on my comprehensive exams sometime next spring.

Q: What are your current research interests?

My masters research involved the investigation of the relation between language and spatial memory. However, my current research interests are in the area of insight problem solving and it's relation to non-verbal cognition.

Q: Why did you become involved in APSSC?

I first became involved with APSSC because of my experiences with other college organizations. I was involved in a few local organizations when I was an undergraduate and I wanted the same experiences to extend to my graduate studies.

Q: When did you become an active member of APSSC?

I first became an active member of APSSC at the 1992 APS Convention in San Diego. I was presenting an undergraduate research project and couldn't afford the trip so I applied for (and received) an APSSC travel award. Needless to say, it was quite helpful. Last year I also served as the Student Notebook editor for the national chapter.

Q: What are your goals this year as APSSC President?

As president of APSSC, I hope to continue with projects which were in the works at the end of last year. My main interest right now is in getting the Chapter Bylaws revisions approved. The revisions were printed in the last issue of the Student Notebook and we are waiting to hear from students regarding their approval and comments. I also want to work on revising the mentorship program (see next page).

Among my major goals for the upcoming year is to manage the caucus such that it's members are aware of the programs sponsored by APSSC and can take advantage of as many as possible. I would also like to work with other students to develop new programs which would benefit students. Finally, I would also like to increase the number of local APSSC chapters and increase participation in the research competition. ♦

APSSC Officers ♦ 1994-1995

All of the members of the Executive Council welcome students and others who wish to contact them about concerns particular to their own offices.

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Organizational Profile

Council on Undergraduate Research (Psychology Division)

Origins and Purpose

The Council on Undergraduate Research (CUR) has been an open membership organization since 1989. Its purpose is to foster undergraduate research opportunities in the sciences for both the student and faculty members at predominantly undergraduate institutions. The Psychology Division is a new addition to CUR which seeks to promote the long tradition of student research already established in our field.

Membership

Membership is open to any interested faculty member or administrator. Dues are \$45 per year. Current membership across CUR is about 2,700, and members join one of seven divisions: Biology, Chemistry, Geology, Math and Computer Sciences, Physics/Astronomy, Psychology, or At-Large (includes administrators). Psychology had about 80 members last year (its first year of operation), but we are looking to grow considerably in the current year.

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

OFFICERS

CUR President —Mary Allen, Wellesley College
CUR National Executive Officer —John Stevens, Univ. of North Carolina-Asheville
Psychology Division Chair —Andrea Halpern, Bucknell Univ.
Psychology Division Secretary —Paula Waddill, Murray State Univ.

Psychology Division Councilors

Daniel Burns, <i>Union College</i>	Mark Kopta, <i>Univ. of Evansville</i>
Nancy Dess, <i>Occidental College</i>	Pamela Laughon, <i>Univ. of North Carolina-Asheville</i>
Gilles Einstein, <i>Furman Univ.</i>	
David Elmes, <i>Washington and Lee College</i>	Helga Noice, <i>Augustana College</i>
Duane Jackson, <i>Morehouse College</i>	Julio Ramirez, <i>Davidson College</i>
Colleen Kelley, <i>Macalester College</i>	Holly Straub, <i>Univ. of South Dakota</i>

BACKGROUND

A closed membership organization prior to 1989, CUR began to enroll members who, in turn, elect councilors from within the membership. Some psychologists had been members of the At-Large division since that time, but in 1992 a group of psychologists decided to explore the possibility of a separate division. At the 1993 Annual Meeting at Pomona College, about 10 psychologists successfully petitioned for formation of a new division.

Among the activities and accomplishments of CUR are the publication of directories in the various subfields that document the research activities of undergraduates and mentors at primarily undergraduate institutions. Funding agencies, graduate schools, and institutional research personnel find these directories to be a valuable source of information and publicity. Psychology is in the initial phases of compiling its directory. CUR also keeps a national database (National Information Center for Undergraduate Research) to document trends in undergraduate research, publishes a quarterly journal (*CUR Quarterly*) and newsletter (*CUR Notes*), and maintains a consulting service, a speaker's bureau, and an electronic bulletin board for dissemination of information to mentors of undergraduate researchers.

CUR is also active at the national level, advocating for undergraduate research at public and private funding agencies. For instance, CUR was influential in securing passage of National Science Foundation programs that target undergraduate institutions, such as RUI, ILI, REU, and the AREA program at the National Institutes of Health. A summer grant program currently awards about 40 stipends a year to undergraduates.

Finally, in addition to the annual business meeting attended by councilors, CUR hosts a biennial National Conference to examine critical issues affecting science education at primarily undergraduate institutions. This year's conference at Bates College attracted approximately 800 participants who attended a wide variety of workshops and heard lectures from distinguished public officials and scientists. Numerous funding agencies sent representatives who were very helpful in providing information to attendees. The 1996 conference is tentatively scheduled for North Carolina Central University.

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