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PSYCHOLOGY AT MINNESOTA

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In corporate offices and in the deepest recesses of the brain, Minnesota’s psychologists are finding clues to human behavior.
DEAR ALUMNI AND FRIENDS OF MINNESOTA PSYCHOLOGY,

Welcome to this year’s issue of our psychology department magazine. As one of the strongest departments on campus, psychology continues to play an important role in the University’s aspiration to become one of the top three public universities in the world. This year we are recruiting faculty members nationally and internationally in the areas of clinical psychology, industrial/organizational psychology, multicultural psychology, and behavior genetics.

This issue of the magazine highlights several of our strong basic research programs. The cover story describes research in vision science. As you will read, vision science is an exciting interdisciplinary field that draws on cognitive science, neuroscience, computer science, optics, and ophthalmology. People are visual beings, and we can learn a great deal about the human mind and brain by studying vision.

This is an exciting year for politics. In September, the Republicans held their presidential nominating convention in St. Paul. And, of course, we will have a presidential election in November. The psychology and political science departments are proud sponsors of the University’s nationally respected Center for the Study of Political Psychology. In this issue, you will read about Gene Borgida’s research at the intersection of psychology, law, and politics, and about Chris Federico’s research on race and politics.

Our department is justly famous for its work on behavior genetics, including the influential work with twins done by Tom Bouchard and colleagues. In this issue, read about the ongoing research of Matt McGue (recently appointed a Regents Professor) and Bill Iacono. We are also proud of Irv Gottesman, a 1960 Ph.D. from our department and one of the father figures of behavior genetics, who has been honored with a recent major American Psychological Association (APA) award.

Our undergraduate program continues to flourish. During the past academic year, we introduced a new version of the senior project course (Psy. 3902). Majors now choose among three options — research lab, community engagement, or an individualized project. I wish you could have shared with me the excitement generated by the students who displayed their findings at two recent poster sessions. It’s clear that these projects are succeeding in linking course work in psychology with its applications in research and real-world human experience. Special thanks to Professor Tom Brothen, who has overseen the redesign of this course.

In 2006 our department received an APA Culture of Service Award. The citation pointed out that “the Department has a long history of commitment to service within the profession and to the public.” The department has used the accompanying cash award to initiate a program of
small grants for psychology undergraduate majors. The goal is to assist our students in activities linking their psychology studies with outreach and public engagement. In this issue, you will read about Maureen Kunkler, one of our 2008 APA Engagement Award winners.

Many of you who were psychology students will have benefited from the wise leadership of two committed educators, John Campbell and Holly Hatch-Surisook. I am pleased to tell you that John was honored for his contributions to graduate education with the all-University Director of Graduate Studies Award. Holly was honored for her contributions to our undergraduate program with the all-University John Tate Award for Excellence in Undergraduate Advising.

We look forward to hearing from you and to staying in touch. For more information about the department, have a look at our Web site at www.psych.umn.edu. You can contact the department by phone at 612-625-2818, or you can reach me by e-mail at legge@umn.edu.

Best wishes!

GORDON E. LEGGE, Ph.D.
PSYCHOLOGY DEPARTMENT CHAIR AND
DISTINGUISHED MCKNIGHT UNIVERSITY PROFESSOR

LOOKING DEEPER

Visionaries
University of Minnesota psychologists are the best in sight – finding answers to how we make sense of what we see.

Rational choice
Emotional choice
Examining voter behavior – why do we vote how we vote?

Nature and Nurture
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ENHANCING THE UNDERGRADUATE EXPERIENCE
HOW
THE MIND SHAPES WHAT WE SEE

VISIONARIES
University of Minnesota psychologists are the best in sight—finding answers to how we make sense of what we see

A student sits before a computer screen in Yuhong Jiang’s laboratory, watching different teams of players pass a basketball around. “Count the number of passes between white players,” she says. The players zip the ball around, and the student gamely does his best to keep track of the action. “Did you notice anything unusual?” asks Jiang afterward. When she replays the scene, the student suddenly sees a girl with an umbrella walk right through the basketball game. Why didn’t he see her before? His eyes did, but his attention was fixed on the ball.

The experiment is one of many by which Jiang, an Assistant Professor of Psychology, probes the human mind’s ability to manage visual information. She is a new face in the department’s formidable array of vision researchers, whose discoveries are lifting the curtain on how our eyes and brains work together to produce the miracle of vision.

The department began building its sterling reputation for vision research in 1968 with the arrival of Dwight Burkhardt (see sidebar). It has since expanded to include researchers in nearly every aspect of visual science and is considered one of the top departments nationwide in this area.

**The shifty human visual system**

Psychology faculty members take full advantage of University resources such as functional magnetic resonance imaging (fMRI) to study how various parts of the brain respond—or don’t respond—to visual inputs. This research yields insight into how the brain processes and interprets visual information.

A big discovery of the past few decades is the brain’s adaptability, or “plasticity,” and no one knows that better than Psychology Professor and department chair Gordon Legge. Visually impaired himself, he has undergone fMRI studies to learn how the condition affects neurons of the visual cortex. Located at the back of the head, that’s the first part of the cerebral cortex to receive visual information. But its function can be “reassigned” to other senses.

“A portion of my visual cortex has been allocated to touch,” says Legge. “We can see that when I read Braille, a lot of my visual cortex is activated. In the totally blind, the visual cortex seems to be taken over by touch.”

And touch can be jealous of its new territory. “In some cases, ‘sight restoration’ surgery has not led to full restoration of visual function, possibly because touch won’t let the visual cortex go,” says Legge.

Apart from restorative surgery, some visual abilities can improve with effort. In his studies of how visual experience shapes vision in adults, Professor Stephen Engel has found that with practice, people can begin to see very faint lines or patterns that were previously invisible to them.

A burning question is whether the adult primary visual cortex can rewire itself and, if so, how. Finding out, says Engel, could lead to optimizing people’s ability to pick out everything from tumors in an X-ray to enemies in a military image.

CONTINUED ON PAGE 4
**Surmounting limits**

Back in Jiang’s office, a visitor watches red and green dots move randomly across the computer screen. The task is to follow the red dots, even after they suddenly turn green. Tracking one isn’t so hard, but tracking multiple dots is difficult.

It’s a test of working memory — the ability to remember visual information after it’s no longer in sight. People can improve their scores a little, but not much, says Jiang, and individuals vary widely in their working memory abilities.

“Why are some people better than others? Why can’t we make other people better with training? We’re looking for answers,” says Jiang. Some visual limitations can improve, however. A case in point is the reading skills of adults suffering from macular degeneration, a loss of vision in the central area of the visual field that leaves a person reliant on peripheral vision.

The trouble with relying on peripheral vision, says Legge, is that when normally sighted people look at a line of text, they can recognize eight to ten letters on each eye fixation; but in peripheral vision, the span drops to only two or three letters. As a result, reading speed drops.

“We’re working on visual training techniques that may enlarge the span and increase reading speed,” he says. “With repetitive practice, people can read faster.”

**Division of labor**

When we open our eyes, we usually see a seamless image. We get no hint that it took a great effort, but it did: numerous cells and groups of cells in our retinas and brains, all working on different tasks, ultimately combine to form a coherent whole. Our visual system is like a high-speed factory that puts out a new product—the world as we see it—several times a second.

Division of labor plays a role. To gain a complete picture of the world, our brains appear to contain separate, but physically intertwined, populations of neurons that respond to only one small aspect of our environment, such as vertical lines or motion from left to right. The brain then bases its interpretation of images largely on which neurons fire.

Also, the brain gains efficiency by being organized into “centers.” These are groups of neurons that act like many committees, each charged with processing a certain kind of visual information.

Faces, for example, get special treatment. “Many studies show that there is a specialized mechanism to deal with faces,” says Professor Sheng He, and it includes an area of the cerebral cortex whose main job seems to be face recognition. In fact, so fundamental is this skill that our brains can “read” emotional information from faces without our being aware of it.

He discovered this by showing images of faces displaying emotions—for example, fear—or neutral expressions to experimental subjects. Simultaneously, the subjects were distracted by “noise” in the rest of their visual fields and didn’t realize any image was in front of them. Specific areas in their brains showed different responses to fearful and neutral faces—a clear indication that emotional processing of images goes on below our mind’s “radar.”

Nor are faces the only objects that register subconsciously. Using the same technique, He has found that “invisible” images of people in erotic poses or of hand tools can also be subconsciously perceived. In the case of the tools, fMRI studies found heightened activity in the upper (dorsal) part of the cerebral cortex—an area that plays an important role in reaching and grasping—as the images were being presented.

Taken together, these studies reveal how evolution has given us the ability to pick out highly significant elements of the visual environment and alert emotional and action-oriented areas of our brains, all without our having to think about it. Thus we are primed to direct our attention to important objects like potential mates, weapons, or survival tools and can respond quickly.

**The secret lives of neurons**

If science is to find treatments for blindness, dyslexia, and other conditions, much more must be learned about how neurons function separately and together. A lot of work focuses on the part of the cerebral cortex—the brain’s intellectual powerhouse—that first receives visual information. It is called the primary visual cortex, or V1, and is located in the occipital lobe at the back of the head.

The primary visual cortex passes information to at least 30 or 40 other areas of the cortex, including areas associated with vision, conscious perception, movement, emotion, and reasoning. Knowledge of how V1 “decides” what to do is in its infancy.
Now fMRI allows researchers to watch how neurons in V1 and neighboring areas increase or decrease their activity as people perform various visual tasks. These observations yield clues to the sorts of “cues” the different neurons respond to, a first step in learning what roles they play in vision.

“How do neurons know what to respond to?” says Assistant Professor Cheryl Olman. Trained in physics, she is interested in the basic mechanisms of sight, starting with what incoming data from the eyes would look like without the filters of emotion and previous experience.

“For example, what are the cues that you’re looking at a distant mountain?” she says. “A computer might mistake it for a hill of beans. I want to know how we parse scenes and link the clues together to form an idea.”

Olman, working with Scott Sponheim, an Adjunct Assistant Professor, is also asking how the early stages of vision work for schizophrenic subjects. One question concerns how brain areas work together when a person tries to find patterns amid chaos—picking out a circle of dots within a sea of dots on a computer screen, for instance.

“Activity occurs in V1 neurons when people look at a simple pattern,” Olman says. But what about at the next step, when people recognize a pattern as being, say, egg-shaped or square? These are different stages of vision, and she wants to know whether the same neurons are involved in both.

Sometimes our visual environment throws us a curve, and that offers a great opportunity for learning how the primary visual cortex functions. Take, for example, the well-known moon illusion: a full moon looks bigger when it is rising or setting than it does when it’s high in the sky.

We misperceive the moon’s size because the brain takes into account depth, or perspective, when it is judging physical size, says Professor Daniel Kersten. Wherever the moon is, he explains, it appears the same size at the level of the retina. But when the moon is close to the horizon, our brains also get depth clues; that is, we interpret it as being farther away because it appears next to distant objects like mountains. And if it appears to be farther away, our brains interpret it as bigger.

Kersten has computer graphics of optical illusions that work the same way as the moon illusion. In experiments, he has recorded activity in the V1 area as subjects viewed the graphics and misjudged the sizes of objects.

“My colleagues and I thought that V1 would not be depth-sensitive because it’s too early [a stage in processing of visual information],” says Kersten. Yet subjects in the process of judging, and misjudging, objects showed more widespread activity in their V1 areas.

Therefore, sophisticated processing of visual information seems to begin as soon as objects are shaped or square? These are different stages of vision, and she wants to know whether the same neurons are involved in both.

CONTINUED ON PAGE 6

THE RETINA HAS BEEN likened to a satellite dish for the brain, but that metaphor vastly underrates this paper-thin tissue, which processes light signals with astonishing speed and precision.

When light strikes the retina, it is absorbed by the well-known cells called rods and cones. Cone cells were a focus of much research by University psychology professor Dwight Burkhardt, who pioneered studies of their function.

Cones detect color and work well in daytime, but are useless at night. Rods, on the other hand, are 1,000 times more sensitive to light and are responsible for night vision.

“Early on it was realized that nocturnal animals’ retinas were dominated by rods, and those of diurnal animals by cones,” says Burkhardt. “We [humans] are both.”

Only cones are found at the fovea of our eye—the part used for focusing our attention—whereas peripheral areas of the retina have both rods and cones. Therefore, says Burkhardt, at night we’re “functionally blind” in the foveal area and so must navigate on peripheral vision.

This phenomenon may be hard to notice in well-lit urban areas, but for ancient astronomers it was a different story. “When they wanted to see a dim star, they found they had to look away from it,” says Burkhardt.

Much of Burkhardt’s recent work has been on a key class of retinal cells called bipolars, which heighten the contrast we perceive between objects in the environment, be they stars against a dark sky or black ink on white paper.

“We’ve found that many bipolars are sensitive to small contrasts,” he says. “Most contrasts in the environment are small. Without [enhancement by bipolars], much of what we see would look like camouflage.”
as it reaches the primary visual cortex. But, says Kersten, V1 may only be helping higher centers in the brain interpret the information. There’s a lot of “crosstalk” between V1 and higher areas, and understanding this communication may open a window onto how the cerebral cortex works generally, and even onto what makes us intelligent.

Moving targets

Vision allows us to navigate our environment. For that to happen, eye movements and visual information have to be properly coupled to physical actions, and that’s where Paul Schrater, a Professor of both Psychology and Computer Science and Engineering, comes in.

Schrater studies the unconscious choices we make every time we reach for something or scan the scene before us, and he is developing theories of how people ought to blend vision and movement to derive the most benefit.

For example, one key to survival is a system of perception that can use information about intended actions—such as where your hand is going as you reach for something—to guide subsequent eye and hand movements, says Schrater. But this chain can break down; schizophrenics, for example, have difficulty coordinating eye movements and may have trouble grasping a cup or a pen. Thus, a theory of how healthy people perform such tasks may point to ways of helping those for whom they are hard.

How people decide what to pay attention to is also an active area of Schrater’s research.

“Once we understand which options people should spend time on, it points to how they should allocate their visual attention,” he says. “For example, moving your eyes is a decision about how informative various spots in the visual field are. How long you stay focused on one spot is important in driving. For instance, do you check the mirrors often enough?”

Knowledge of how visual perception translates to behaviors like keeping one’s eyes on the car ahead rather than checking the mirrors could help in diagnosing poor drivers’ specific attention problems, he says.

Beyond the practical implications of their work, vision researchers can’t help but have an even deeper effect: a sense of wonder at how the human eye and mind can make so much of so little.

“What keeps me going as a psychologist is the phenomenon that we can see a tree and immediately know it’s a tree,” says Olman. “It’s amazing how strong and tangible perception is, even with weak incoming data.”

BY DEANE MORRISON

MAPPING MOVEMENT

MOST OF US take it for granted that we can find our way around in buildings, even those we’ve never been in before. But not Gordon Legge, who studies spatial mobility for vision-impaired people and has a project to help them find their way around indoors.

Unlike streets, indoor passageways don’t have names, so even a GPS unit with speech output that worked in a building would have a hard time telling a blind person whether he or she was walking down the right corridor. So Legge, working with Advanced Medical Electronics, has developed a prototype technology to guide them.

“Imagine that every room sign had a bar code,” he says. “The user carries a ‘magic flashlight’ sending out an infrared beam. If the beam hits a bar code, a camera [attached to the person] gets a reflection, reads the code, and compares it to a digital map of the building.” The unit can then compute a route and convert the instructions to speech.

In Legge’s prototype, the technology is built into a flashlight housing and connected to a computer on a cart. In a few tests so far, low-vision people have successfully navigated indoors, he says.

Legge has a grant to shrink the device and says that in the future, such a system would probably utilize a cell phone to handle the computing. Bar codes would be placed not only by rooms, but near all kinds of landmarks, such as drinking fountains, benches, doors, elevators, and stairs.
The work in psychology suggests something very different, he says. “When we are asked why we evaluated a candidate the way we did, it’s not as if we zoom into the prefrontal cortex, grab the real reason, and cite that reason. What we are more likely to do is tap into a pool of culturally accepted explanations and spout them, even though our preferences are being driven by other factors.”

Research in political psychology does not suggest that “there is massive political
idiocy in the land," Borgida says. Quite the contrary, the research reveals the political person as a complex decision maker who deploys emotions, values, and cultural understanding along with reason at the voting booth.

In a soon-to-be released book, The Psychology of Democratic Citizenship, Borgida and his coeditor colleagues John Sullivan, Regents Professor of Political Science, and Christopher Federico, Associate Professor of Psychology and Political Science, and director of the University’s Center for the Study of Political Psychology, offer a look into that fascinating process.

You are in a restaurant, taking your fork to the salad, when the couple at the next table launch a rant about the presidential campaign. Everything they spout is contrary to your beliefs. Your fork expresses the irritation rising within you. The salad is the victim. Jab, jab, jab. Why is your blood boiling hotter than the soup the waiter is setting before you?

We know from classic studies that political partisanship is a powerful loyalty that often is a legacy handed from parents to children. New research suggests that partisan inclinations are situated in parts of the brain that have been linked to emotions.

“‘Insofar as those structures control our feelings and fears, it may shed some light on the passion we have for partisan politics because it’s coming from the same source as our fears and our anxieties and the way we process threat,’” Borgida says. Still, psychologists expect research to help explain why many people are passionate and steadfast in their partisan positions.

During this year’s primary election season, Democrats wrestled with tough trade-offs. If they leaned toward Senator Barack Obama, were they sexist? If they favored Senator Hillary Rodham Clinton, were they racist?

Very few would bluntly say that a woman couldn’t handle the duties of the Oval Office or that an African American had no place at the top of the ballot. The bias that sways votes is far more subtle, yet it is real. New studies show that voters’ decisions are powerfully affected by almost unconscious responses to a candidate’s skin color or gender.

“We may not think we harbor general antipathies toward women or African Americans,” Borgida says. “Yet when they are running for a political office that is the most powerful in the land, this hidden bias affects our perceptions of them, and our willingness to support them.”

One surprising finding is that subtle gender bias may be more stubborn than racial prejudice. There is no doubt that race had a mighty impact on Obama’s candidacy. The bias Clinton and other women candidates encounter is more hidden and subtle. That can make it more difficult to address, Borgida says.

Women seeking high office set up a psychological mismatch: Voters want to elect someone who is decisive, authoritative, and forceful — those qualities that run contrary to the softness and compassion expected of women.

Can people correct such hidden bias? Maybe, Borgida says.

Most people think of prejudice in blanket terms: Are you for women’s rights? Of course. They don’t necessarily look inside themselves for bias that could be activated in certain contexts and inhibited in others.

“It’s not easy because some of these ways of thinking are so deeply ingrained,” Borgida says.

Quick quiz:
A) Do you typically form opinions on almost everything?
B) Do you prefer to reserve judgment and remain neutral?

If you answered yes to A and no to B, you have what psychologists call a “need to evaluate.”

Federico is finding in studies of students and national survey data that your strong need helps you make more effective use of political knowledge.

For most of us, absorbing political information is like dining in a restaurant. We don’t begin from scratch to form our positions on issues and candidates. We choose from menus that “chefs” prepared for us. In our metaphorical political diner, the chefs are the elites: candidates, journalists, professional activists, and academics. For better or worse, those elites define the ideas that go into political choices and determine what it means to be a liberal, a conservative, or a middle-of-the-roader.

Voters may malign the elites, but they also need them because the nasty reality is that most citizens couldn’t pass a civics test. “They know there is a thing called a liberal and a thing

“Having knowledge isn’t enough to make people politically or ideologically engaged. They also have to approach the world with what you might call an evaluative eye. They have to care enough about the world to know what they like and what they dislike.”

— CHRISTOPHER FEDERICO
called a conservative,” Federico says. “They quite often identify themselves as one or the other. … However, only a minority of those people truly understand the content of liberalism or conservatism and the dimension that separates the two.”

Let’s assume that readers of this article, though, are among the well-informed minority. Your deep knowledge and clear-cut ideology make it easier for you to sort through the cacophony of political voices. You don’t have to sort issue by issue because your ideology gives you a network of interrelated positions on a wide range of choices. “It’s a shortcut,” Federico says.

“It means that I have answers at my disposal to many different questions,” Federico says. “It’s not just one question like ‘Should we raise taxes?’ or ‘Should abortion be legal?’”

Of course, there are true independents, well-informed voters who prefer to evaluate candidates issue by issue — say yes to gas-tax hikes and no to legalized abortion.

In any case, Federico finds that people with a strong need to evaluate make more effective use of their knowledge. “The big take-home message is that effective knowledge is contingent on having the desire to evaluate things,” he says. “Having knowledge isn’t enough to make people politically or ideologically engaged. They also have to approach the world with what you might call an evaluative eye. They have to care enough about the world to know what they like and what they dislike.”

Think back to the 2000 election. The Twin Towers marked New York City’s skyline. Saddam Hussein ruled Iraq. The Taliban controlled Afghanistan. In just eight years, war and terror have come to dominate our national psyche and our politics.

Most voters by now have a sense of where this year’s candidates stand on the conflicts in Iraq and Afghanistan. Less well known are the deep-seated mechanisms that guide voting choices when danger threatens.

Psychologists have studied the dynamics that bear on public confidence and trust in political leaders in times of crisis. One body of research

DAMLA ERGUN AND CORRIE HUNT are doing their best to make people anxious. That’s not a function of nasty dispositions. They do it to gain understanding of civic participation in stressful times.

Both are in the Ph.D. program in social psychology, and their groundbreaking studies of how emotions, particularly anxiety, influence political decisions earned them an opportunity to present their research in Paris this year at the annual meeting of the International Society for Political Psychology.

In experiments, Ergun and Hunt ask subjects to “think about a time you were anxious and write about that time as if you were living it.” Then they measure the participants’ emotional reactions and gauge how their attitudes were influenced. They also study anxiety-related data from national surveys.

A key question in their research is whether anxiety causes voters to cling to partisan preferences or to open up to alternative political choices. Being savvy about politics is an important dividing line emerging from the research. People who know little about politics and the issues appear more likely to shop around when they’re stressed out. “High-knowledge voters are more invested, and they have more resources,” Hunt says. “They can engage in defense mechanisms and counterarguments, so they can reduce their anxiety by actually clinging more to their party.”

A second major question addressed in their studies is how emotions enter into the complex mix of moral values and political attitudes. “We are interested in whether emotions interact with people’s moral foundations to predict attitude positions,” Ergun says.

They have questions yet to answer before candidates and civic groups can make use of the findings. What isn’t in doubt at this time of war and economic crisis is the significance of asking the questions.
involves terror management theory, inspired by the writings of Ernest Becker in the 1973 book *The Denial of Death*.

The theory is based on the dark idea that support for certain leaders comes in part from the need to allay fear of death. In experiments, psychologists have aroused the fear by assigning participants to tasks such as “Jot down what you think will happen to you as you physically die.” Then they exposed the participants to campaign statements reflecting different leadership styles. The style that wins favor in the face of fear is the charismatic leader who can engage others in visions of holding strong against danger and participating together in something great.

President George W. Bush apparently portrays some of those charismatic qualities. In the studies, support for him jumped after participants were reminded of the September 11, 2001, attacks on the United States.

Of course, sophisticated candidates use this knowledge to manipulate voters. A famous example is the “Daisy Girl” ad that Lyndon Johnson’s presidential campaign aired in 1964. As a girl plucked daisy petals, her count of the petals morphed into the countdown for a nuclear blast.

During his 2004 reelection race, Bush routinely roused audiences with claims that America was constantly under threat of attack.

A key question this year is whether fear of terrorism is giving way to worries over mortgage payments and fuel prices. That’s a different psychological dynamic, Borgida says.

Myriad other psychological factors follow voters into the voting booth. One of the most powerful is the most simple: order of names on a ballot. The polling place can make a difference too; chances for a school-funding referendum improve if a school is the polling place. A candidate’s face can frighten or reassure a voter because our minds make blink-like judgments in reaction to facial features.

As the campaigns heat up for the finish, we still should believe in the value of gearing up our brains for rational and deliberative evaluation of the candidates and the issues. What the psychologists are saying to us is that a parallel—arguably more powerful—process will take place deep inside us at the same time.

*By Sharon Schmickle*
There was a time when few scientists believed that genetics influenced human personality traits. Some of those who did—Britain’s Francis Galton, for example—sullied their first-rate science with their enthusiasm for the social engineering and eugenics movements of the late 19th century. In the post–World War II era, the association with Nazi experiments almost completely stymied legitimate research in the field.

Almost—but not quite. At the University of Minnesota, researchers not only have been studying behavioral genetics since the 1940s, but also have helped to revolutionize the field.

**The pioneer: Irving Gottesman**

In his last year at the Illinois Institute of Technology in the early 1950s, Irving Gottesman decided that “physics has no future.”

His predictive powers may have been flawed, but Gottesman’s decision to give up on physics was probably one of the best things that ever happened to the field of behavioral genetics.

As an undergraduate—in spite of his physics major—Gottesman had been fascinated with abnormal psychology and the works of Freud. He applied to the graduate program in psychology at the University of Minnesota and began one of the most fruitful careers in the history of modern psychology.

At the time, the University was virtually alone in its support for genetic and biological research in psychology. When Gottesman did his first study with twins, “it was a classic way to determine if genetics had any influence on human traits,” he says. “I was fully prepared to find that there was no influence.”

CONTINUED ON PAGE 12

For decades, Minnesota researchers have led the way in twin studies and behavioral genetics.
Instead he found that certain personality traits in adolescents were, in fact, under strong genetic control. But even after Gottesman received his Ph.D. and moved on to begin his groundbreaking studies on the heritability of schizophrenia among twins, the medical and mental health establishment remained skeptical. “The vast majority of American psychiatrists at the time believed that the nature versus nurture battle had been won—by nurture,” he says.

That attitude began to change after Gottesman was invited back to the University in 1966 to launch the Program in Behavioral Genetics. Over the years, researchers in the program began to offer incontrovertible evidence for the first law of behavioral genetics: every trait is heritable.

In retirement, after teaching at the University of Virginia, Gottesman came back to Minnesota, where he now holds a dual appointment in the psychology and psychiatry departments. He has little use for the whole notion of a battle between nature and nurture. “At Minnesota,” he says, “the attitude has been that it should never have been a battle … but a wide-open search for the causes for human behavior.”

**Learning from twins: Thomas Bouchard**

If Gottesman laid the groundwork for studying twins to identify the underpinnings of traits, Thomas Bouchard pushed it to new frontiers. Indeed, when the history of behavioral genetics in the late 20th century is written, no name will loom more prominently than Bouchard’s.

Now semiretired from his post as head of the Minnesota Center for Twin and Adoption Research, Bouchard was trained as a social psychologist and had limited exposure to behavior genetics when he came to the University. Here he met the pioneering Gottesman, who became his mentor.

Studying twins is “the most simple and direct way to answer the nature versus nurture question,” says Bouchard. “It’s straightforward and easily understandable. With monozygotic twins raised apart, Mother Nature has given us a powerful experiment in society. It’s not a pure experiment, but it’s a reasonable approximation.”

The actual research began with the “Jim twins.” Bouchard had read a newspaper story about a pair of adult identical twins who displayed uncannily similar behavior patterns and lifestyle choices despite their having been raised apart. He called the reporter to find out more.

“More publicity followed,” Bouchard says. “Other twins wrote to us. Twins have an intuitive understanding of the project. I was also lucky because the working environment at the University of Minnesota was so great.”

Starting in 1979, Bouchard located 139 pairs of twins who had been raised separately. Because identical twins share all their genetic material, Bouchard says, it is the perfect population in which to study the heritability of physical, mental, and psychological traits. By carefully measuring correlations between the twins, he could determine precisely the varying roles played by heredity and environment. Bouchard later refined his results by studying a group of fraternal twins raised separately.

The findings produced by the Minnesota Study of Twins Reared Apart have been influential in establishing the genetic basis for human behavior. The data gathered in the study, which lasted until 2000, continue to be a rich resource for researchers in the field.

In the beginning, says Bouchard, he believed that “social attitudes were all caused by environment. It never dawned on me that we would discover that 50 percent of their causes were genetic.”

His research has shown that the heritability of many traits in identical twins is substantial, but not total, and that twins raised together were no more and no less like each other than twins raised apart. So
where do the differences in identical twins come from?

“Why aren’t the twins who grew up together more like each other than the twins who were raised apart? That was so surprising. It’s a real puzzle … but it’s an environmental question that will have to be answered by the students to come. That’s what science does, after all,” he says.

Twins and beyond

We now know that the influence of genetics on human personality and behavior is “an empirical reality,” says Regents Professor of Psychology Matt McGue. “We’ve convinced the field of the importance of genetics. Now we want to show how genetics and environment work together.”

McGue cites research on adolescents to illustrate the connections between the two. He has found that kids who engage in risky behaviors before the age of 15 “are at the highest risk for mental health problems in later life,” he says. “Why does this correlation exist? Risky genotypes. They’ve inherited genes that make it more difficult to inhibit their behavior.”

But the young risk takers are also living in a specific environment.

“If kids are engaging in these behaviors,” McGue continues, “that affects their experiences in adolescence. They become less connected to home and school, and more affiliated with deviant peers.”

With his colleagues William Iacono and the late David Lykken, McGue established the Minnesota Twin Family Study in 1988 to explore the complex interplay of genetics and environment. Where Thomas Bouchard had studied twins raised apart, McGue and his colleagues focused on twins raised in the same environment. Over the years they’ve put together a rich database of the physical and psychological characteristics of as many as 90 percent of the twins born in Minnesota.

Twins are at the heart of McGue’s work, but they are not his only interest. In collaboration with Danish colleagues, he has drawn on Danish national birth records for an intriguing study of nonagenarians. While most study projects focus on youth, the subjects in the Danish 1905 Study—so-called because of the birth year of the participants—were 92 or 93 when research began in 1998. McGue hopes that this work will highlight factors “that contribute to successful aging … and increase public awareness of successful aging strategies.”

Indeed, his findings underscore the intertwined influences of genetics and environment. “The older you get,” says McGue, “the less important genetics seem to be. Roughly 25 percent of how long someone lives is associated with genetic factors. The rest is how you live.”

Iacono and McGue anticipate their field’s next frontier: the unraveling of the specific DNA codes that control genetic predispositions to human characteristics. Maybe as soon as the next decade, says Iacono, “we will be able to access hundreds of relevant genes and determine their effects on human behavior … . The biggest surprise to me is the incredibly rapid progress made with the human genome. It will revolutionize the field.”

BY JUDY WOODWARD
AHA!

How three psychology professors are inspiring their students

Clockwise from top: PROFESSORS MARTI HOPE GONZALES, CHAD MARSOLEK, AND TRACI MANN ARE JUST THREE PROFESSORS IN THE DEPARTMENT KNOWN FOR THEIR ENGAGING AND COMPELLING TEACHING STYLES.
In a huge lecture hall, it can be easy for students to fade into the crowd while professors rhapsodize about abstract academics. But that scenario is no fun for anyone—teachers or students. And passive listening rarely leads to a lifelong love of learning. Instead, psychology professors at the University find entertaining and unusual ways to engage their students, whether they are teaching a class of 20 or 200. Meet three professors who are inspiring students to learn—and enjoying themselves in the process.

MARTI HOPE GONZALES

Early in the semester, Marti Hope Gonzales shows an episode of The Twilight Zone to her Introduction to Social Psychology class. In the show, called “The Monsters Are Due on Maple Street,” residents of a typical American town become convinced that some of their own are aliens from outer space. Determined to figure out who the monsters are, neighbors start ganging up on each other, even though none of them are actually aliens. “All of a sudden, the schemas they use color their interpretation of innocent behaviors, like looking at the sky when they can’t sleep,” says Gonzales.

Social psychologists study human behavior, including human shortcomings. So, after showing the episode, Gonzales asks her students to write a short paper about why they think the residents of Maple Street abandoned good sense and acted so irrationally. At first, the students resist, unsure of their answers. When she shows the episode again at the end of the semester, she notices a major shift in their knowledge and their confidence. “Hands go up,” she says. “People begin talking like social psychologists. It’s rewarding for me and for them to see how many scientific concepts they have made their own.”

Equally rewarding is giving her students tools to better understand themselves and the world around them, says Gonzales, who has been teaching at the University for 21 years. One way she does that is to have students participate in illuminating experiments. In one class exercise, for example, students are paired, given fictional information about the personalities of their partners, then asked to interview each other. Unintentionally, students end up asking questions to elicit the answers they expect. When they are told to determine whether their partners are extroverts, for example, they might say, “Tell me about the last party you went to.” Even introverts will sound like extroverts when they are talking about parties.

“They hear me talk about the biases people hold and the consequences of being less than rational,” Gonzales says. “They think, ‘Other people might do that but I’m special.’ After I put them in the role of participants in experiments, they realize, ‘My God, I do behave like those other participants do.’”

Gonzales makes sure boredom is never an option, even in her largest classes. She walks around the room, makes eye contact, encourages students to talk, and repeats what they say. “Kind of like Oprah,” she says. And she throws herself into her lessons—literally. One time, she fell flat on her face while she was pacing around a lecture hall filled with hundreds of students. After the laughter died down, she explained how psychologists have learned that mistakes make competent people seem more human and appealing. “I work to make everything fodder for learning,” she says, “even when I mess up.”

TRACI MANN

At some point every semester, Traci Mann stresses her students out—on purpose. “I walk into class, make them all shut up, and tell them we’re having a pop quiz,” says Mann, a health psychologist who came to
“The rewards you get from research come months or sometimes years after the work was done. The rewards you get from teaching immediately follow your work.” — CHAD MARSOLEK

Chad Marsolek wants to know how the mind works. In his lab, the cognitive neuroscientist studies how our emotions and social interactions influence what we see, remember, and learn. It’s complicated stuff that combines abstract philosophical theory with high-tech brain scans. That scientific rigor is what drives Marsolek, who has been conducting research at the University for 12 years, but he also loves sharing his passion for discovery with his students. Their insights, he says, make him better at what he does. “It’s great to hear their takes on difficult material,” he says. “They sometimes come up with things I haven’t thought of.”

Marsolek especially enjoys teaching graduate seminars. Every week in these small groups of advanced students, he distributes a collection of recent journal articles that touch on a single topic. Each study, for example, might involve a part of the brain that scientists don’t yet understand very well. As the students draw connections between articles, “aha” moments accumulate, Marsolek says. Excitement is collective. And inspiration follows. “After the best seminars,” he says, “students come away with ideas about experiments they want to do next.”

For the first time last year, Marsolek also taught a freshman seminar. He struggled at first to get into the mind-set of students who were only recently in high school. Making subject matter personal is just one way that Mann inspires her students to learn. And the joke isn’t always on them. In Los Angeles, where Mann lived before moving to Minnesota, she pursued a hobby as a stand-up comic, often making herself the butt of her own jokes. She carries that spirit into the classroom, where students appreciate her personal anecdotes, especially when they make her look bad. “I always tell the most embarrassing stories about myself,” Mann says. “The more embarrassing to me, the more they love it.”

By engaging her students on a personal level, Mann hopes to send them off with more than just academic lessons. “I don’t expect any of my students to be researchers in health psychology, but I do expect them to go on and be the kind of people who want to be healthy and happy,” she says. “Hopefully those are things they can learn about in class.”

“Miserable” is putting it mildly. The students grow furious. Their palms sweat. Their hearts pound. Some try to get up and leave. Once Mann is sure they hate her, she tells them there’s no quiz. Then she leads a conversation about the connection between stress and health—one of her research specialties. By that point, everyone has something to share, including Mann, who has strapped a blood pressure cuff on her arm during the exercise to gauge her own stress levels. “I literally worry about it the whole day every time I do it,” Mann says. “But it does cover the entire topic.”

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Exchanging stories, she has found, is a great way to make learning mutual. In her freshman seminar last year, for example, she and the students bonded about being new to the University. They also shared a sense of discovery about the seminar’s topic—the psychology of eating and body image. Even though Mann has been conducting research on that very subject for more than a decade, she was as surprised as the students were to learn how much women in our culture engage in “fat talk.” For a whole week, the class had to avoid making negative comments about their bodies or what they ate. Mann participated, too. “It was even hard for me,” she says. “And I’m an adult who doesn’t have body image issues in this stage of my life.”

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CHAD MARSOLEK

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For the first time last year, Marsolek also taught a freshman seminar. He struggled at first to get into the mind-set of students who were only recently in high school. Once the class got going, though, he was impressed with their questions. A few students in particular seemed especially interested, and he encouraged their curiosity. “I simply opened the door,” he says, “and asked if they wanted to try doing some work in my lab.” For credit, two undergraduates are working with him as research assistants.

If nothing else, Marsolek wants to share his love of research with his younger students, who don’t often realize that psychology is a real science, not just a way to help people. “We can do experiments that allow us to draw solid conclusions about how memory works,” he says. “It’s interesting to take that kind of work and apply it in therapy and other ways. But generating basic scientific knowledge about something as ephemeral as the human mind can also be really interesting in and of itself.”

Over the years, Marsolek has discovered another benefit of teaching. “The rewards you get from research come months or sometimes years after the work was done,” he says. “The rewards you get from teaching immediately follow your work.”

BY EMILY SOHN
When Maureen Kunkler holds up the package of M&M’s, the 40 people in this group eye her quizzically.

Kunkler, a psychology senior, proceeds to call attention to the way the M&M’s are assigned gender on the packaging and highlights how hypersexualized the stereotypical female green M&M’s are. This session is part of what’s called the Green M&M Project, which educates audiences on the negative messages society conjures up about men’s and women’s roles and “how to be an ally against racism, sexism, and persecution of all those who are objectified, stereotyped, and discriminated against,” says Kunkler.

Presenting the Green M&M Project is part of her job as a violence prevention educator for the Aurora Center, a campus organization that educates and serves victims of intimate partner violence.

“The Aurora Center is really about equality,” Kunkler says. “A lot of what we teach is about showing the inequality in our culture and how to create small changes to make things better for the oppressed.”

Commitment to equality—in terms of race, age, ethnicity, religious affiliation, and sexual orientation—is a passion for Kunkler, a Madison, Wisconsin, native. It’s a commitment that has guided her during her years as an undergraduate in psychology at the University, including her decision to do volunteer research with Psychology Professor Paul Sackett on stereotype threat. She was so fascinated by the theory—which says that when oppressed groups view stereotypes of themselves, they become more likely to fulfill the stereotype—that she researched and wrote her senior thesis on the concept.

“There’s still a lot of inequality in society today, and finding out the cause of it moves us one step closer to a solution,” Kunkler says. “It’s one way of trying to make things more equal.”

Kunkler’s dual commitment to academic rigor (she earned a perfect 4.0 grade point average last spring) and public service led to her becoming one of just two psychology undergraduates this year to receive an American Psychological Association Engagement award. The department presents this award to outstanding psychology undergraduates who have shown a commitment to service within the profession and to the public. Recipients are awarded a grant of $500.

Kunkler has high praise for the people who guided her through her University undergraduate years, including Holly Hatch-Surisook, the psychology department’s undergraduate adviser (who won the 2007–08 John Tate Award for Excellence in Undergraduate Advising), and Korinne Cikanek, who taught Practice in Counseling, offered through the College of Education and Human Development.

With nine credits (which Kunkler is taking online this fall) left to graduate, she is gearing up for graduate school applications. The University of Minnesota is her top choice.

Kunkler chose the University because it is an “academically successful school,” she says, and she has nothing but praise for her undergraduate experience. She credits the wide-ranging opportunities and rigorous academic environment for fostering the hard work she put into her undergraduate experience. “It’s my personality that drove me to work hard, but it’s the University that gave me the opportunity to take advantage of that,” she says.

By Helen West
INTELLIGENCE MATTERS
Stephan Dilchert links low cognitive ability with negative work behaviors

HOW CAN EMPLOYERS reduce problem behaviors in the workplace? One way is assessing the intelligence level of potential employees during the hiring process.

So concludes a study of the relationship between intelligence and counterproductive work behaviors published by Stephan Dilchert (Ph.D. ’08) and Deniz S. Ones, Psychology Professor and holder of the Hellervik-PDI Chair in Industrial Psychology, in the March 2007 issue of The Journal of Applied Psychology.

The study was the first to comprehensively investigate the relationship between cognitive ability and counterproductive work behaviors. A century of research has documented intelligence as a potent factor in explaining a myriad of other work behaviors, including productivity and performance. Although increasing attention has been paid to the subject of negative behavior in the workplace, most other research has focused on personality or level of education as a predictor. Few studies have investigated the link between counterproductivity and cognitive ability. Working with a team that included Robert D. Davis and Cary D. Rostow of Matrix Inc., Dilchert and Ones conducted their research among 3,000 police officer candidates who were given an intelligence test at the time of application. Negative work behaviors were then measured using formal employee records of incidents like destruction of property and physical violence.

The study was inspired by criminological theories asserting that individuals with higher cognitive ability are better able to weigh the consequences of their behavior and are therefore less likely to commit crimes. Using this as a corollary, Dilchert and Ones hypothesized that the same mechanism would underlie behavior on the job. In other words, the higher an individual’s intelligence, the greater the likelihood that he or she would realize that negative work behaviors (like skipping work), despite short-term benefits (like running errands on company time), weren’t worth the risk (like making a bad impression on his or her supervisor).

“Our data clearly show that the higher the level of workers’ intelligence, the lower the incidence of destructive workplace behaviors like theft or substance abuse. Millions of dollars could be saved and workplace safety could be improved if intelligence was taken into consideration before hiring,” says Dilchert.

A native of Hamburg, Germany, Dilchert received the Steven Snyder, Meredith Crawford, and David Campbell Graduate Research Fellowships in Psychology. “This support made my experience at the University of Minnesota even more enriching. Because of the fellowships I received, I could travel around the country to present my work to other scholars and exchange ideas with them,” he says. “I chose the University of Minnesota because it is known as the best program for industrial psychology. The faculty has a strong tradition of hard science and the best approaches to measurements and metrics.”

Ones’s research includes counterproductive work behaviors and issues related to personnel and staffing. “Over the past few years, I have worked on several projects that examine the usefulness of personality measures and integrity tests for absenteeism, turnover, and violence on the job,” she says. “Recently, my focus in this area has been selection for public safety jobs (police officers, sheriffs, firefighters) as well as identifying effective executives and managers who avoid misbehaviors.”

Completing his doctorate during the summer of 2008, Dilchert has taken an assistant professor position at the Zicklin School of Business at Baruch College (CUNY) in New York City. “I’ve had a first rate experience at the U,” he says. “I feel well prepared for my career and I am thankful for and proud of my industrial/organizational psychology heritage at the University of Minnesota.”

BY MARY WINSTEAD
THE BUSINESS OF DECISION MAKING

Gary Kohler’s undergraduate psychology degree has provided a unique advantage in his financial career.

GARY KOHLER NEVER WANTED to be a psychologist, and he isn’t one today. But he studied psychology at the University, and the experience has given him a world of unexpected insights into his life as both a father and a hedge fund manager.

“I knew it was important at the time,” says Kohler, who graduated with a psychology degree in 1978. “I didn’t know how important it would be.”

When Kohler started college, he thought he wanted to be a lawyer. But the freshman was advised to study what interested him, even if he intended to be pre-law. Since he had always enjoyed reading popular psychology magazines, he started signing up for psychology classes, thinking he knew what he was getting himself into. “My view of psychology was that it was touchy-feely, all about feelings and a smattering of Freudian stuff,” he says.

But after taking courses like Sensation and Perception and Cognition, he was surprised to discover that psychology is a real science based on methodical research and hard data. “It’s a systematic study of what people do, why they do it, and how they do it,” he says. “That appealed to me.”

Over time, Kohler’s interest in law evolved into an interest in business, but he continued to pursue his fascination with psychology and his interests soon started to intersect. A class on decision making, for example, inspired him to analyze the choices consumers make about the products they buy, among other questions.

“A store is really just a great big rat maze,” he says. “Which aisles people go up and down is a function of a lot of things—how people learn, what people perceive,” and other standard psychological concepts. These and related ideas would eventually form the crux of an emerging field called behavioral economics. Early on, Kohler realized that the study of human behavior could have a profound impact on the study of economics. Whereas economic theory predicts what people ought to do in financial situations, he says, psychological research can show what people actually do in those situations.

Kohler continued to explore consumer behavior at Cornell University in Ithaca, New York, where he earned an M.B.A. in 1981. Now he works as a portfolio manager for the Minneapolis-based hedge fund management company Whitebox Advisors, where he finds that his psychology background helps him help his clients make better financial decisions.

For example, psychologists talk about primacy and recency effects: when people are given a long list of nonsense syllables, they remember the first and last syllables in the list but forget the ones in the middle. The same is true of investments, Kohler says. Overwhelmed by too much information, people often pick stocks that are mentioned first or last on lists that have been presented to them. They also tend to fall prey to what scientists call an availability bias: investing in major companies with name recognition over obscure companies, even if the obscure stocks are financially smarter choices.

“A lot of what I do is look at biases in human behavior and try to get outside those biases,” Kohler says. “I don’t think of the stock market as a market of stocks,” he adds. “I think of it as a market of human behavior.”

His psychology-based strategies seem to be working. At Whitebox, Kohler runs a $700 million hedge fund that was up 40 percent in 2007. The fund was named the “Absolute Return 2007 Small Cap Hedge Fund of the Year.”

Psychology has influenced more than just Kohler’s work life; it has also become a family affair. His younger daughter, Anna, is a sophomore and psychology major at the University of Minnesota. His older daughter, Sarah, is a psychology major at New York University and is looking into graduate programs, including Minnesota’s.

“When they went off to college, I said, ‘Be sure to take psychology. You’re going to find it really interesting,’” Kohler says. “They don’t always listen to everything I tell them.” But in this case, the message came through loud and clear.

BY EMILY SOHN
HONORING NORMAN GARMEZY

Keith and Nancy Nuechterlein established a fellowship in their mentor’s name

KEITH NUECHTERLEIN’S (B.A. ’70, PH.D. ’78) FIRST ENCOUNTER with legendary Minnesota psychologist Norman Garmezy wasn’t exactly personal. Garmezy was projected onto a screen in a crowded auditorium, delivering a previously recorded lecture to Nuechterlein’s Introduction to Psychology class.

“He was just so well informed,” recalls Nuechterlein. Indeed, Garmezy’s path-breaking work on schizophrenia and on childhood resilience made him a giant in the field. But something else came through despite the impersonal medium of a recorded lecture: “He also seemed approachable,” says Nuechterlein.

Intrigued by the lecture, Nuechterlein visited with Garmezy and launched a decades-long relationship with the scholar. Approachable, he found, was an understatement. Inspired by Garmezy and under his direction, Nuechterlein went on to write a summa cum laude undergraduate thesis on competent disadvantaged children. After graduation, he returned to Garmezy’s lab as a Ph.D. student focusing on factors in the development of schizophrenia.

It was an exciting time to be working with Garmezy, Nuechterlein says. After years of research on children with schizophrenic parents, Garmezy had begun to wonder why some of the children he studied functioned well despite enormous disadvantages. That question led him to pioneer studies that laid the foundation for decades of research on resilience in children.

But for all Garmezy’s fame, he would use self-deprecating humor to put his students at ease. When Elliott Hall was being built, Garmezy called Nuechterlein into his office and pointed to blueprints sprawled across his desk. “Keith,” he said, “they’re asking me where I want my office. I’ve looked at the plans, but I can’t even tell which side of the building faces the river. Your spatial abilities are good. Which way is the river?”

Nuechterlein laughs at the memory. “It was endearing, this brilliant man who recognized that he couldn’t read a map,” he says. Moments like those, he says, provided relief from the challenges of working on a disease that takes a devastating toll on its victims.

Since he earned his doctorate in 1978, Nuechterlein’s own career has remained grounded in schizophrenia. The author of more than 180 journal articles, he is currently director of UCLA’s Center for Neuropognition and Emotion in Schizophrenia.

He and colleagues recently oversaw the development of a consensus battery of cognitive tests that are now being used to evaluate the effectiveness of treatments that attempt to reverse the damage schizophrenia does to cognitive functions like attention, memory, and problem-solving ability. Reversing those core deficits is a crucial goal for schizophrenia researchers. Anti-psychotic medication can eliminate the hallucinations and delusions, but cognitive deficits can keep those who suffer from the disease from resuming a normal life.

“The belief is that once we can reverse these cognitive deficits, much of the disability that is often caused by schizophrenia, like the inability to work productively or live independently, is likely to be reversed as well,” Nuechterlein explains.

Now established as a prominent researcher in the field, Nuechterlein, with his wife, Nancy, has decided to express gratitude to Garmezy by establishing a fellowship in his honor. The Norman Garmezy Graduate Fellowship will provide annual funding to a clinical psychology graduate student in the Department of Psychology or the Institute of Child Development.

Nancy, who met Keith during his clinical internship in Los Angeles, hopes the gift will reflect some of the warmth that she received when she first met Garmezy and his wife, Edith, on trips to Minnesota. “I was the new kid on the block, and they were so giving in their willingness to embrace Keith and me as a couple,” says Nancy, who is a licensed mental health professional.

Memories of that warmth and selflessness, Keith hopes, will prompt other alumni, colleagues, and friends to contribute to the fund. “We know so many other people have been influenced by Norm,” he says. “We’re hoping that our gift is just the beginning.”

BY DANNY LACHANCE
ENHANCING THE UNDERGRADUATE EXPERIENCE

FOR PSYCHOLOGY STUDENTS WHO WANT to broaden their undergraduate experience, the sky’s the limit at the University of Minnesota. From opportunities for community engagement to high-tech classroom learning, today’s students are not only getting a solid foundation, but also rich and exciting opportunities to broaden their professional horizons.

APA ENGAGEMENT AWARD
Thanks to an American Psychological Association (APA) Culture of Service Award in 2006, the department initiated APA Engagement Awards, which encourage undergraduate majors to link their psychology studies with outreach and public engagement. Spring 2008 winners Maureen Kunkler and Martin Odima each received a $500 award. Martin serves as a youth development counselor at the Midway Family YMCA. You can read about Maureen’s experience at the Aurora Center on page 17.

INNOVATIVE TEACHING TECHNOLOGY
Psychology classes are being transformed as faculty apply leading-edge technology in their classrooms as well as in their research. Here are a few examples.

Major Project in Psychology has a new course structure, overseen by Professor Tom Brothen, that allows students to choose whether they want to focus their major projects on research, community service, or individual foci. Using WebVista, the University’s course management software, instructors can create and manage Web-based learning materials and activities. After students complete assignments and quizzes online, instructors grade and return them electronically.

Introduction to Learning and Behavior taught by Professor Gail Peterson and taken by most psychology majors, aims to incorporate more student-centered technology into the CLA curriculum. Students complete weekly mastery and final unit quizzes online, where they also have 24/7 access to recorded lectures. Computer-based simulations of important concepts in the psychology of learning are being developed for use in class by the instructor and also online by students.

The Undergraduate Research Design class now uses Sentience (http://www.psych.umn.edu/sentience/), an online academic journal for undergraduate papers on research and theory. Developed by instructor Mark Stelmack, the journal is published annually and allows students to gain first-hand experience in all phases of the scientific publication process. Submitted manuscripts are peer reviewed and revised by an editorial board (of fellow undergraduates) in a process typical of most refereed scientific journals.

VIRTex
Vertically-Integrated Research Team Experience (VIRTex) creates research teams that include a high school student, an undergraduate student, a graduate student, and a faculty mentor to work on a summer research project. “By providing this opportunity early in their careers, the University gives these students a close-up of the world of social science,” says Professor Angus MacDonald.

AWARD-WINNING ADVISING
The department’s undergraduate advising office provides information and services related to psychology courses; major, minor, and honors programs; career guidance; and graduate school preparation. Members of the advising staff are Becky Mooney, Amy Kalenberg, and Holly Hatch-Surisook.

The advising office coordinates multiple events for undergraduates. Basic informational sessions, like “What Can I Do With a Major in Psychology?” show students the breadth of career paths available to them with a University of Minnesota psychology degree. Panel presentations like “Mental Health Programs,” presented by graduate students, and “Psychology and Law,” featuring alumni panelists, give students the opportunity to zero in on specific areas of interest.

Putting together successful events like these requires resourcefulness, creativity, and dedication. Hatch-Surisook, coordinator of the advising office, won a 2007-08 John Tate Award for Excellence in Undergraduate Advising. The highly competitive, university-wide award honors sustained and substantial contributions to undergraduate education.

REMEMBERING MARVIN DUNNETTE

MARVIN DUNNETTE, 80, a professor emeritus of Psychology at the University of Minnesota died September 18, 2007, in St. Paul, Minnesota.

Marv played many key roles in transforming industrial and organizational psychology from its empiricist and technological origins into its present status as a model of science and practice.

Throughout his working life, he blended science and practice, mentorship and entrepreneurship, research and consulting, academia and industry, always publishing. He helped his students and colleagues, indeed the entire field, to think about issues in different and testable ways.

He started his career in industry working for 3M Company. He left 3M in 1960 to become an Associate Professor of Psychology with tenure at the University of Minnesota.


Marv was most proud of his contributions to the lives of his students, 62 of whom received doctorates in psychology under his mentorship.

His wife Leaetta, daughters Alex, Peggy, and Sheri, and three grandchildren survive him.