In corporate offices and in the deepest recesses of the brain, Minnesota’s psychologists are finding clues to human behavior.
LETTER FROM THE CHAIR

DEAR ALUMNI AND FRIENDS
OF MINNESOTA PSYCHOLOGY,

I am pleased to introduce the inaugural issue of our Department of Psychology magazine. I hope this magazine will enhance communication among the important groups making up our community—alumni and friends, students, faculty, and staff. As you may have heard, the University has embarked on an ambitious mission to become one of the top three public universities in the world. We are all aware of the great tradition of Minnesota Psychology—Lashley, Skinner, Paterson, Meehl, and many others. With our cooperation and collective energy, psychology will play a key role in helping the University achieve this great goal.

Psychology continues to be a vibrant force on campus, with nearly 1,300 undergraduate majors, about 150 Ph.D. students, and more than 40 faculty. Our undergraduate majors enjoy increasing opportunities to work on research with faculty and to enroll in community internships. They receive academic and career guidance from our excellent advising program directed by Holly Hatch-Surisook.

Our marquee course, Introductory Psychology (Psy 1001), remains the largest and most popular course on campus. It is taught by several of our top faculty and includes innovations such as a web-based streaming video version of the lectures.

In recent years, we have seen major turnover among our faculty. As distinguished faculty who began their careers in the 1960s and 1970s reach retirement age, we have recruited young faculty with new and exciting research interests. Cognitive neuroscience, affective neuroscience, behavior genetics, cross-cultural psychology, and political psychology have become hot new areas of prominence in the department, adding to our traditional broad-spectrum strength in psychology.

It was because of this new energy in the department that I accepted our dean’s invitation to become department chair in 2006. I have been a member of the department’s cognitive and biological psychology program for many years. My research area is visual perception with applications to impaired vision. Since I have impaired vision myself, I have a personal as well as a professional interest in the topic.

John Campbell, my predecessor, guided us for five years with skill and grace, and played a pivotal role in our ongoing faculty-recruiting initiative. His scholarly accomplishments in industrial and organizational psychology were recognized by the American Psychological Association with its 2006 Distinguished Scientific Award for the Applications of Psychology.

DID YOU KNOW? The Department of Psychology was one of two psychology departments nationwide to be honored by the American Psychological Association (APA) with the APA Departmental Award for Culture of Service in the Psychological Sciences. Faculty commitment to service and engagement in professional activities at the national, state, and local levels were key reasons for the department’s selection.
All of us in the community of Minnesota psychology share an interest in human nature: What makes people tick? In seeking answers to that question, the department continues to value two great traditions—the basic science of psychology and the applications of psychological science to the health and well-being of society. In this inaugural issue of our magazine, we feature some wonderful applications of psychological science. For example, you will read about Jim Butcher's work on the MMPI (the test that made Minnesota famous!) and Joyce Bono's research on leadership. In next year's issue, look for features on exciting research findings emerging from our labs.

We look forward to hearing from you and to staying in touch. For more information about the department, have a look at our website at www.psych.umn.edu. You may contact the department at 612-625-2818, or send me an e-mail at legge@umn.edu.

Best wishes!

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

LOOKING DEEPER

Leading leaders
Joyce Bono and colleagues explain what makes for effective leadership.

Looking inside the black box
Angus MacDonald explores the mystery of schizophrenia.

Trauma revisited
Minnesota psychologists grapple with the challenges of post-traumatic stress disorder.

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PROJECTS AND FINDINGS
What makes good leaders so effective? And why do bad ones continue to haunt our cubicles with the stubbornness and misery of the common cold? Enter Joyce Bono, the Marvin D. Dunnette Professor in Industrial and Organizational Psychology, who has spent her career decoding the behavioral DNA of leadership.

“Bad leadership is contagious,” says Bono, director and principal investigator of the U’s Leadership Lab. “But everybody thinks they understand human behavior. So organizational psychologists pose the question: If good leadership skills are common sense, how come everybody doesn’t behave that way?”
In truth, great leadership isn’t so common. It’s a precious commodity, partly innate, partly learned. Bono and her colleagues in the Department of Psychology are showing that it has a direct impact on organizational performance and the bottom line. It’s an asset that organizations ignore at their peril.

Personal journey
Long before Bono explored leadership in her research, she understood it in her gut. In her first career, she rose through the ranks of a health care company and became a vice president at age 29 — and hated it. “I got trained in this traditional male model that people are human resources — objects with which you accomplish your goals, the same as a copy machine,” she recalls. Disillusioned, Bono quit and took career tests, which revealed the ideal job category for her personality: management of an entrepreneurial organization. But that was the very kind of position she had come to loathe. So what was wrong?

The problem, she realized, was not the position; it was the prevailing management culture.

Next time around, when Bono took a position with another health care company, she vowed to manage people her way. She clearly communicated goals, and she assumed that most people wanted to do a good job if given the chance and treated with respect. She was far happier, and the company performed beyond expectations.

When Bono later returned to graduate school, she discovered an intellectual framework that validated everything she’d discovered through trial and error. It was Transformational Leadership Theory, an idea put forward by James MacGregor Burns in the 1978 book *Leadership* and later expanded by other scholars.

Bono was a player in that expansion. She began her academic career exploring how transformational leadership encourages valuable behaviors such as hard work, performance, and citizenship. In the next phase of her research, she focused on leadership traits that prompted managers to engage in these behaviors. More recently, she has turned to the psychological processes that explain the connection between good leadership and better performance.

Today, Bono’s Leadership Lab is itself a leader, providing leadership assessments, training workshops, and employee surveys for businesses and nonprofits ranging from Boeing to Grandma’s Bakery to the cities of Minneapolis and St. Paul.

Healthy contagion
Leadership isn’t just do-goodism, Bono has found, but is a management strategy for enhancing effectiveness. “If you believe your employees’ performance matters to your bottom line, you care very much about leadership,” says Bono. “It’s a no-brainer. Maybe you don’t care if your employees are happy and thriving, but your customers do, and your shareholders do.”

Leaders are most effective, says Bono, when they have a vision, express optimism, show employees how their jobs contribute to a larger purpose, provide resources for success, and remain open to new ideas. Their employees tend to be happier — and so are customers.

“It’s like a cascading or waterfall effect,” says Bono. “Managers who are more optimistic and express more positive emotions put employees in better moods and make them more willing to work hard and help others. People call it mood contagion.”

In one case, Bono and her colleagues hired an actor who delivered two versions of the exact same speech — one with enthusiasm and the other neutrally. Those who watched the enthusiastic speech reported better moods.

Unfortunately, even the best leadership can become too much of a good thing. Once, Bono armed 57 employees of a large health care organization with portable electronic devices and asked their bosses to beep them throughout the day to check in. Her data showed that merely dealing with their bosses dampened employees’ spirits.

Yet employees with good leaders bounced back. Even with setbacks, they experienced more positive emotions overall.

Born to lead
Bono’s research shows that some people more naturally practice leadership behaviors. They tend to be sociable, empathetic, aggressive,
positive, achievement-oriented, and willing to listen to new ideas. They also rate high on personal magnetism. In one study of six Twin Cities organizations, Bono found that the most influential managers were consistently sought out by employees, even those who did not report directly to them. Moreover, they created an aura of power; even their subordinates were perceived as influential.

Alas, organizations often ignore such “people skills” when selecting managers, promoting people simply because they’re good at a job like engineering, sales, or accounting. And employees often seek leadership positions even if they dislike managing people. “The only way to status and promotion in most organizations is to manage people,” says Bono. “Most bad managers don’t want to manage people. They’re forced to do it to achieve money, power, or status.”

Nurturing leadership
The good news is that leadership can be taught. Indeed, it must be, says Bono.

Savvy business leaders agree. “Leadership affects all parts of your business,” says Michael Bailey (B.A. ’78, psychology), CEO of Jostens. “Not only decision making, but also your ability to attract and retain talent.”

Bailey has cultivated leadership at all levels of his organization. Employees were surveyed to identify problem areas. And 100 senior managers completed a custom leadership curriculum. Finally, everyone — including senior management — undertook a series of actions to change the corporate culture. And that, says Bailey, yielded more effective executives, happier employees, and better performance.

“It’s funny,” Bailey says with a chuckle. “People deal with the issues all the time but never stop to think of what’s underlying them. Every day, people come to work in our company or stay with us because they like the work environment that is, in large part, set by leadership. When you’re competing for a very finite and sometimes difficult-to-attract labor force, that’s significant.”

The role of expectations
In his own research on the role of power in social interactions, Bono’s colleague Mark Snyder has found that styles of leadership “become self-fulfilling prophecies. Leaders who focus on employees’ weaknesses tend to bring out the negatives in people they supervise. Those who focus on strengths tend to bring out the positives. The larger message is that what you expect is what you get.”

Indeed, optimism is one of the signature traits of effective leaders, says David P. Campbell (Ph.D. ’60), Hellervik/PDI Visiting Professor in Adult Career Development in the College of Education and Human Development. An international authority on leadership, Campbell is widely known as coauthor of the Strong-Campbell Interest Inventory and several other psychological assessment tools bearing his name.

At the Colorado campus of the Center for Creative Leadership, Campbell has coached the likes of computer magnate Michael Dell and retired general Norman Schwarzkopf.

Campbell’s research shows that people in more favored positions express more optimism. Is their bright outlook a result of better pay, nicer offices, and a parking spot right outside the door? Or is optimism the cause of their success? Campbell’s verdict: probably both.

Either way, the fact is that optimists create their own good fortune. They maintain a bright outlook and thus persist more. Progress often follows.

When optimism spreads to the entire team, magic happens. And you don’t need a survey to spot them as winners. “You can walk in and have morning coffee and detect it,” says Campbell.

Seeing is believing
So why aren’t we all practicing such leadership techniques? Alas, says Bono, even organizations that claim to value leadership sometimes take the fundamentals for granted. When the discussion turns to abstract matters like vision and values, she says, “their eyes glaze over.”

“But when I walk into a room full of managers and tell them, ‘Your employees were less happy, less optimistic, and less enthusiastic when they were interacting with you, their boss,’ that usually gets their attention,” she says. “It’s a wake-up call.”

— MARK SNYDER, MCKNIGHT PRESIDENTIAL CHAIR
NEARLY 100 MILLION AMERICANS, or about 44 percent of adults, volunteer every year. And Minnesotans beat out every other state in the nation in volunteers per capita. Yet studies show that as many as half of volunteers quit within a year.

Two decades ago, when Mark Snyder was beginning his research on the psychology of volunteerism, he kept hearing complaints of constant turnover from heads of nonprofit organizations. People would volunteer, get trained, serve briefly, and quit.

Snyder was intrigued by a fundamental question: Why do people volunteer in the first place? After all, donating time without reward—with no personal bond of kinship or friendship or urgency of circumstances—appears to be against our self-interest.

“There seemed to be this interesting puzzle,” says Snyder, McKnight Presidential Chair in Psychology and director of the Center for the Study of the Individual and Society. “Why are people acting altruistically, in the interest of others? In the end, the conclusion I came to was that was really the wrong way to look at it.”

In his 20 years of cutting-edge research, Snyder has found that volunteerism is motivated by five basic factors: personal values, community concern, enhancement of self-esteem, desire for a better understanding of other people, and personal development. And reasons for volunteering range from altruistic to self-serving.

Here’s the surprise: the more altruistic volunteers are more apt to become disillusioned and to quit, and those more motivated by self-interest are more likely to persist.

Volunteerism is big business in the United States. According to Mark Snyder, its value to the national economy is equivalent to $250 billion. The public importance of volunteerism has been acknowledged by national leaders at least since the days of John F. Kennedy’s famed charge to “ask not what your country can do for you; ask what you can do for your country.” But while a great majority of people applaud the idea of volunteerism—about 80 percent, according to public opinion surveys—only one-third actually practice it on a regular basis. —TIM BRADY

MARK SNYDER, McKnight Presidential Chair in Psychology, directs the Center for the Study of the Individual and Society.

“The people who were the most self-interested—you could call them selfish—were the people who stuck with it the longest,” Snyder says. “That’s the ultimate irony of this—the most self-centered people are really the greatest altruists.

“If you look down the line at who’s going to keep on helping, it is those volunteers who derive personal benefits from what they’re doing. The key to success is making the experience rewarding by matching up opportunities with motivations. Volunteers need to boost their self esteem, grow and develop, make friends. That’s what keeps them coming back.”

Snyder’s findings can help organizations more effectively recruit and retain volunteers by matching people with opportunities that are in sync with their motivations. Snyder says that matching motivations, expectations, and experiences has a very real payoff: greater satisfaction, less burnout, increased productivity, and greater likelihood of continuing service.

“Where opportunities and motivations line up,” he explains, “you find enduring volunteerism.”
“It’s a miracle that it works,” says Angus MacDonald with a hint of awe in his voice. He’s speaking about the human brain.

“I mean, who on Earth would put the occipital cortex—the part of your brain you see with—at the back of your brain, as far away from your eyes as possible?” asks MacDonald, an assistant professor of psychology. “And who would put the parts of your brain that are doing the heaviest lifting, the deepest thinking, at the front of your brain—the first part to go through the windshield?”

MacDonald may be incredulous, but he’s no skeptic. He knows that if much of the brain’s functioning remains a mystery to psychologists, the fault lies not with its design, but with our own incomplete understanding of how the brain works. Indeed, the brain is the ultimate “black box,” MacDonald says, a mysterious device that receives inputs from the environment and delivers outputs back to it, but leaves most of us wondering what occurred in between.

That black box effect is especially pronounced in mental diseases that afflict a staggering percentage of the world’s population. MacDonald has spent his career studying schizophrenia, one of the most common and debilitating mental diseases. His work has helped psychologists get inside the black box of afflicted brains in order to understand the neural mechanisms that go awry in those suffering from schizophrenia. It’s a journey that has led him to the frontiers of neuroscience.

Going to the source
Schizophrenia is a devastating mental disease that afflicts an estimated one percent of the world’s population—about 6.5 million people. The disorder is usually accompanied by terrifying symptoms, including paranoia, hallucinations, and harassing internal voices.

Aside from the anguish that it brings to those who are afflicted, it is a crushing illness for families and for society as a whole.
Unemployment, social withdrawal, and a 100-fold increased risk of suicide are just some of the devastating consequences of the disease. Entirely successful treatment of the illness is rare, and, in MacDonald’s words, “a cure to schizophrenia awaits a better understanding of its causes.” That’s where his studies begin.

One of the disease’s most baffling problems, says MacDonald, is the difficulty of understanding why and how it afflicts some people and not others. “Schizophrenia is such a perplexing illness because it frequently has no antecedents,” he says. “You can’t predict with much certainty who’s going to get it; it seems to come from nowhere and strikes folks from all walks of life.”

Fifty years ago, the prevailing view amongst psychologists was Freudian: the disorder was caused by environmental influences such as the “schizophrenia-causing mother.” But then another Minnesota researcher, Irving Gottesman, challenged the prevailing orthodoxy about the disease. Gottesman earned international recognition for studies that revealed a genetic predisposition to schizophrenia. Schizophrenia, he boldly argued, was caused by a complex gene system that was triggered by unknown environmental stressors.

The balance between nature and nurture, however, has remained unclear. Indeed, while it is known that schizophrenia is a heritable illness, many people born with a predisposition for the disease never get it. In fact, MacDonald says, “a schizophrenia patient’s identical twin has only a 50 percent chance of developing the disorder, despite sharing the same DNA.” Moreover, different schizophrenic patients present different symptoms—some terrifying and some, MacDonald notes, “endearing and wonderful, with bursts of creativity.”

The range of both causes and symptoms makes defining schizophrenia and searching for specific treatments exceedingly difficult. “You can find two people who share very few symptoms of the disease. The only thing I can almost guarantee is that they’re going to be interesting characters,” MacDonald says wryly.

**A novel approach**

In his wide-ranging research, MacDonald is bringing a battery of tests and measures to bear on the questions surrounding schizophrenia, thereby creating a comprehensive image of the disease. His arsenal includes functional magnetic resonance imaging (fMRI), which enables him to examine the brain patterns of schizophrenic patients and compare them to those of healthy relatives. Another procedure,

*CONTINUED ON PAGE 8*
electroencephalography (EEG), enables MacDonald and research collaborator Scott Sponheim to measure the brain's electrical activity (event-related potential) in response to stimuli in both healthy and mentally-ill subjects. Together, these and other methods illuminate the brain's mechanisms — including perception, thinking, and memory — and how they malfunction.

MacDonald stands among a new generation of “translational” researchers who cross levels of analysis and connect basic neural mechanisms to clinical problems. Thanks to advances in areas like neuroimaging and genetics, this research is entering a dynamic era and scientists can formulate more comprehensive explanations for the disease.

“You get a pretty coherent story about which brain regions are firing [under certain conditions] and when they’re firing in relation to one another,” says MacDonald. “Those are important sources of information because they say how the network [of the brain] is interacting.”

When these interactions are studied alongside genetic data collected from patients, causes can be linked to symptoms even more firmly. In 2003, for instance, MacDonald and his colleagues showed that one part of the prefrontal cortex functioned abnormally in people with schizophrenia, and that this impairment was associated with a genetic predisposition to the disease. Interestingly, MacDonald has gone on to show that these prefrontal mechanisms are impaired even in healthy relatives of schizophrenics. Such findings can further refine our understanding of the brain and its malfunctions: while genetics may plant the seeds of a disorder such as schizophrenia, other factors, including environmental stressors and cognitive processes, play a role in its onset and development.

Use it or lose it
MacDonald’s lab has also developed tasks to measure cognitive mechanisms with possible potential for improving cognitive functioning in people with schizophrenia. One of these tasks, which reveals functional problems associated with the dorsolateral prefrontal cortex, has proven to be a very promising tool in differentiating those who are genetically predisposed to the disorder from those who are not.

Other tasks have treatment potential. In one recent study, for instance, MacDonald and a graduate student demonstrated that patients who participated in a regimen of mental exercises for six weeks showed improvements in cognitive functioning on tests of working memory. Their improvement was also observed on preliminary analyses of fMRI scans: the patients showed increased activation in their left dorsolateral prefrontal cortex during these tests.

If these findings hold up, clinicians of the future might be able to prescribe mental exercises for patients suffering from schizophrenia that will reduce the intensity and frequency of sometimes debilitating symptoms.

“The brain follows the ‘use it or lose it’ principle,” says MacDonald. “You can strengthen connections in the brain by putting a load on them every day. This intensely abstract, executive part of the brain isn’t something you’re born with, but is something that is plastic and can be modified.”

Research on the frontiers
By identifying possible patients through genetic and fMRI analysis, and further refining the analysis through cognitive testing, MacDonald is creating an integrated description of schizophrenia that enhances the possibility for early prediction of the disease and development of concomitant treatment. Studying the disease from multiple angles, he says, has produced knowledge that each angle, independently, could not.

And this is just the beginning. “Before I retire, we will think of this as the dark ages of schizophrenia research,” he says. “The kind of information we’re going to generate in the next decade is going to make us think of this illness in a new way.”

MacDonald’s research has also earned him a reputation as a rising star. During his graduate studies at the University of Pittsburgh, he won the Bassell Award for neuroimaging research on schizophrenia. Last year, he won a Young Investigator Award from NARSAD, the mental health research association for neuroimaging research. And this year, the University named him
one of three McKnight Land-Grant Professors in the College of Liberal Arts, an award given to the University’s most promising junior faculty.

But he’s not resting on his laurels. One recent morning found him in the control room outside an MRI scanner in the Center for Magnetic Resonance Research on the East Bank campus.

He was scrolling through a computer screen flickering with images of the brain of a twin. The data are part of a two-year study of the neurological mechanisms behind paranoia, a classic symptom of schizophrenia. In this study, MacDonald and his colleagues are running pairs of identical twins through the fMRI scanner while they play a game (borrowed from economics) designed to measure distrust.

A growing body of evidence suggests that mistrust activates the part of the brain called the insular cortex. MacDonald and his team have hypothesized that the game will produce more activity in this area in subjects with paranoid tendencies. Using twins will provide clues about how much of the behavior is related to genetic structures.

The experiment is just one thread in a broader tapestry of research, but its attention to everything from genetic structures to game playing marks MacDonald’s signature approach, one that keeps behavioral geneticists in conversations with cognitive psychologists and even economists — not to mention all the rest of us.

By crossing those boundaries, MacDonald hopes to transform the black box into something like a window. “If you can see how the mechanism works, you can intervene effectively,” he says. “You can’t fix the car unless you understand how it works.”

TIM BRADY, KERMIT PATTISON, AND DANNY LACHANCE CONTRIBUTED TO THIS STORY.
PTSD occurs when memories of trauma become tormenting and disruptive, even disabling. Time and again, the trauma rears up in thoughts, dreams, or flashbacks. PTSD sufferers may lash out, become depressed or irritable, experience intense anxiety or panic, have difficulty concentrating or sleeping, and even become suicidal.

Several University of Minnesota psychologists are exploring this condition in work that ranges from the study of brain mechanisms to clinical counseling. How does the brain respond to traumatic events? What makes these psychological wounds so indelible? Why do some people succumb while others seem unharmed? And how can PTSD be treated? Research now under way promises some answers to such questions for people traumatized by war, sexual assault, natural disasters, accidents, terrorist attacks, or the death of a loved one.

On the front lines
According to the National Comorbidity Survey, 5 percent of men and 10 percent of women in the general U.S. population suffer from PTSD at some point in their lives. But few people see the faces of PTSD as intimately as does Brian Engdahl.
Engdahl (B.A. ’75, Ph.D. ’80, psychology), a clinical associate professor in the department, works as a rehabilitation psychologist at the Veterans Affairs Medical Center in Minneapolis, where the trauma of war reverberates for decades after the shooting stops. His patients include octogenarian World War II POWs who still deal with intrusive memories of combat, executions of fellow POWs, or the removal of dead children from the rubble of bombed-out buildings. And they include young soldiers freshly returned from Iraq, some so wary of crowds that they can’t go to the grocery store.

“When we are threatened with death, our bodies, by virtue of evolution, turn on every system they possibly can,” says Engdahl. “Some of those systems may not fully reset in the original position. A one-time life-threatening situation can change you for the rest of your life.”

The war in Iraq has recently brought PTSD back into the spotlight. According a 2004 study published in the New England Journal of Medicine, about 16 percent of military personnel returning from Iraq suffer from PTSD, depression, or anxiety—a rate that may climb because onset of the disorder is sometimes delayed. PTSD even strikes people far from the front lines with surprising frequency.

Our evolving understanding of this terrible affliction has run parallel to Engdahl’s career. Engdahl began working at the V.A. hospital as an intern in the 1970s, in what he calls “the bad old days.” The medical establishment believed then that adult exposure to trauma would not lead to long-lasting problems in the absence of preexisting issues such childhood abuse. Vets complaining of nightmares and flashbacks were told, “You’re just going to have to learn to live with it. You have your arms and legs; go back home.”

Veterans of Vietnam, however, changed all that. In 1980, the American Psychiatric Association finally added PTSD to the Diagnostic and Statistical Manual of Mental Disorders III, declaring that PTSD was a bona fide illness with clinical symptoms.

“When you’re able to lay out a list of common problems and signs of psychological injury, it’s a great relief—I’m not alone, it wasn’t just me,” says Engdahl. “It was quite an eye opener for vets, because their tendency had been to go home and suffer in silence and think they were the only one, that they were weak.”

Memories run amok
Many researchers believe the severe traumas of modern life trigger the same processes that evolved to help our ancestors respond to events like attacks by wild beasts. Research has shown that PTSD may be associated with alterations in the central and autonomic nervous systems.

“It’s a disregulation of the system’s inhibitory mechanisms,” says professor Bruce Cuthbert, who researches mood and anxiety disorders. “Because they’ve been over-stressed, they’ve gotten out of whack.”

People tend to remember things that are the most arousing—a useful evolutionary adaptation, notes Cuthbert, because “it’s more practical to remember the tiger at the waterhole than the little innocent bird.” But a traumatic experience may be so stimulating that it overloads and resets these systems. One hypothesis asserts that trauma causes an imbalance of hormones acting on the hippocampus, the part of the brain involved in the consolidation of memory.

“You wind up with this maladaptive storage of the memory,” explains Cuthbert. “It’s so strong that it overwhelms the memory system—and that’s why you get the flashbacks and the nightmares.”

Intrusive memories are a defining symptom of PTSD. Memories spill out in a chaos of images; for one patient, for example, the sight of a child at a playground conjures vivid memories of the crash that killed her own child. Yet this process remains only partially understood.

Cuthbert’s research seeks to develop new models and measures to understand mood and anxiety disorders and their relationship to the major motivational systems of the brain. In one study published in Psychophysiology in 2003, Cuthbert and a group of colleagues (including Christopher Patrick) measured the physiological response to fear imagery in people with PTSD and other anxiety disorders.

While subjects were exposed to fear-triggering images, researchers measured heart
Indelible memories

Why are these memories so deeply burned into our brains? Animal models have provided invaluable clues.

One pioneer in this area is professor Bruce Overmier, who developed the concept of “learned helplessness” along with his colleague Martin Seligman in the 1960s when they were at the University of Pennsylvania. They found that animals exposed to inescapable shocks subsequently were impaired in learning how to avoid them. Learned helplessness became a widely known and often-cited model for depression and PTSD because it showed how exposure to severe trauma causes lasting distress and a reduced ability to cope.

More recently, associate professor Jonathan Gewirtz has shown just how permanent traumatic memories can be. Gewirtz conditions lab animals to associate a tone or light with a painful electric shock. Soon these stimuli trigger a stress response even without a shock. Blood pressure increases, stress hormones flood the body, and the “startle reflex” becomes chronic. A fearful rat—just like a nervous person—will literally jump higher than a normal one.

Gewirtz has shown that these shocks rapidly produce traumatic memories that may last a lifetime. “It’s indelible,” he says. “No matter how long the rat is tested, those memories don’t go away.”

Gewirtz believes these rats’ responses to shocks provide models for what occurs in humans with PTSD or phobias. His research seeks to identify brain structures and molecular mechanisms involved in the formation and retrieval of such fearful memories. It also examines methods of treatment, such as anxiety-reducing drugs, or use of “exposure therapy,” which repeats the triggering event without painful consequences.

“Can we alleviate those states?” asks Gewirtz. “That’s essentially what we’re trying to do in animal models. If we can find the right treatments, then we want to try them out on people, too. That could help people with anxiety disorders, depression (which is often triggered by stress), and drug addiction.”

The right stuff

Like laboratory rats, some people are more resilient than others, and less susceptible to PTSD. One person may survive a plane crash and show relatively few aftereffects, while the passenger in the next seat may develop full-blown PTSD. Trauma, like pain, is filtered through cognitive and emotional processes that may raise or lower reaction thresholds.

Professor Emerita Gloria Leon has done extensive research on survivors of traumatic ordeals such as Vietnam combat, Holocaust concentration camps, and the Chernobyl and Three Mile Island nuclear accidents. Part of her research focuses on what makes certain people more resistant to stress and trauma, or what Leon calls “the right mix of the right stuff.”

According to Leon, some of these differences are innate. Newborn infants react with a range of individual differences in heart rates, digestive disturbances, or crying when they are startled by a loud noise. Similarly, adults respond in varied ways to extreme stress. Some become hyperactive, others immobile. Some may tell themselves there’s no hope while others think optimistically and work to resolve the problem.
Yet no one is immune, says Leon: “Every person has a breaking point.”

But how do we return from that breaking point? This is a question that drives Patricia Frazier’s research on adjustment to stressful or traumatic events, particularly sexual assault.

Frazier identifies three key coping strategies. First, identifying social support is crucial—even if you don’t use it. “It’s not so much the support you receive, but how much you perceive that you have,” says Frazier. “You don’t necessarily need to call up Betty and talk to her. But just knowing Betty is there helps. People facing a trauma who don’t have anyone they could call are particularly likely to be distressed.”

A second coping strategy is to focus on what can be done now rather than dwelling on what went wrong in the past. Ruminating, says Frazier, is natural—but, after a certain point, ineffective. “We worry about the past and we worry about the future, and we can’t do anything about them,” she says. “We can do something about the present.”

Frazier’s research suggests that focusing on the past not only keeps one mired there but also may even lead to more distress, perhaps because it forces continual re-enactment of the event. In one review, Frazier and her co-authors examined the distinctions between past control (could I have prevented this?), future control (can I keep this from happening again?), and present control (what can I do now?). The more people thought about how a traumatic event could have been “undone,” the more distress they reported.

Frazier’s research shows that blaming doesn’t help, either. In a longitudinal analysis of 171 sexual assault survivors that was published in the *Journal of Personality and Social Psychology*, survivors who focused on blame (blaming themselves or the rapist) reported the most distress during the two years following the assault; those who focused on the present recovery process fared better.

The third and very effective strategy identified in Frazier’s research is “cognitive restructuring,” or reframing how we perceive events. A woman who has been sexually assaulted can say, “I’m damaged beyond repair and I will never be able to get over this,” or she can say, “I’m going to use this experience to educate others about sexual assault.” The second strategy is more likely to reduce distress, says Frazier, because “you’re taking control of the stressful event.”

**Focus on recovery**

Back at the V.A. Medical Center, psychologists like Engdahl are helping trauma survivors do just that—take control. Besides treating patients, he and other University of Minnesota psychologists are researching topics such as personal growth and healing after traumatic events, and are exploring the diagnostic potential of neuroimaging.

Sadly, this work won’t end anytime soon. Data from past wars suggest that one-third of the veterans of Iraq and Afghanistan will develop PTSD during their lifetimes, says Engdahl. Two-thirds of those with serious wounds will suffer from the disorder.

Most people, says Engdahl, are resilient and resolve their problems over time. Yet his research shows that severe trauma leaves lasting scars in most people. In one study, Engdahl and his colleagues examined a group of 262 veterans who had been prisoners of war during World War II or the Korean War. More than half the men had PTSD during their lifetimes, and 29 percent still did. Among the most severely traumatized group—former POWs of Japan—84 percent had grappled with PTSD at some point in their lives and 59 percent still did half a century later.

“If trauma exposure is severe or prolonged, most people will be badly affected in ways we have come to recognize as PTSD,” Engdahl says. “Many will be affected for a very long time.”

Yet the profession has come a long way. Today there’s a strong emphasis on early screening, treatment, and destigmatization—and it’s not just young veterans who are reaping the benefits.

“Some of the people being evaluated for post-traumatic stress disorder and getting into treatment are World War II veterans coming in for the first time in 60 years,” says Engdahl. “We tell them, ‘Let’s see if we can help you.’”
Jim Butcher's journey has taken him from poverty to personality, painting, and PowerPoint

It also has exported the Department of Psychology's expertise around the globe. Butcher has taught workshops in 33 countries. These international contacts drew him into another fertile area of research: cross-cultural personality assessment. Butcher traces this interest to his service in Korea, where he was part of an international force that included Koreans, Turks, and Ethiopians. “I saw an awful lot of similarities in people from different cultures,” he recalls. “There was a certain common core that was recognizable.”

Butcher has been an innovator in other ways. He created the Butcher Treatment Planning Inventory (BTPI), a self-reporting instrument to detect problems in patients undergoing psychological therapy. In the 1960s, he pioneered the use of computer-assisted personality assessment.

He has written or edited more than 50 books—including three last year alone—and 175 articles. Even in retirement, he remains busy with research and book projects. And last year, he attained a new publishing credential—cover artist.
In his mid 60s, while he was on sabbatical in London, Butcher took up painting and quickly discovered a dormant skill. Like his academic work, his art has an international flair, and Butcher often paints while he's traveling in places like Greece or Italy.

His new talent has also brought him new acclaim in his field. A colleague cajoled Butcher to paint a courthouse as a cover illustration for a legal guidebook to the MMPI that they had co-written. Soon afterwards, the American Psychological Association selected one of his watercolors for the cover of the October 2005 issue of the American Psychologist. Last summer, he gave a presentation on the relationship between psychology and art at the APA convention.

“I am still involved in psychology—writing, consulting, and lecturing,” says Butcher. “But now I take a paint set along with my PowerPoint files.”

Jo-Ida Hansen applies vocational psychology to our free time

JO-IDA HANSEN HAS spent her career connecting people to the right job. Now she's doing the fun part: matching them with leisure activity.

Hansen is opening a new area of research at an opportune time as more than 75 million baby boomers approach retirement. “We know that vocational interests drive much of what people do in their work lives,” says Hansen. “That stimulated my interest in trying to understand if leisure interests did the same thing.”

Hansen is well positioned for this task. She is best known for her work in vocational interest assessment — including research that shows how interests remain stable over time and predict an individual's career path. She also directs the department's Ph.D. program in counseling psychology and co-directs the Vocational Assessment Clinic, an in-house laboratory.

She currently is serving a three-year stint as associate dean for graduate programs in the College of Liberal Arts.

Hansen's influence has extended far beyond the University. She developed the third and forth editions of the Strong Interest Inventory. She has won the E. K. Strong, Jr., Gold Medal and the Leona Tyler Award, the highest honor in counseling psychology, which recognized her “eminent scholarship and her untiring commitment to the discipline and its scientific base.” She served as president of the Association for Measurement and Evaluation in Counseling and Development, as president of the Society for Counseling Psychology, and as editor of the Journal of Counseling Psychology.

Given this long list of professional responsibilities, leisure might not be the first word that people associate with Hansen. Even so, her recent research takes a basic notion of vocational psychology—the match between individual and environment—and applies it to life outside work.

“When they think about retirement, historically most companies and most people worry about things like benefits, their pension or IRA,” says Hansen. “They're less concerned about how people make the transition from work to retirement, have life satisfaction, and integrate that with the consequences of aging: bad health, lack of physical ability, and the dissolution of relationships.”

Many retirees, says Hansen, become unmoored when they stop working. “A lot of people, particularly in the corporate world, come to retirement and feel they're no longer engaged in useful activities,” she says. “Suddenly they have way too much time on their hands.”

That's where her new work begins. Over the last 10 years, Hansen has developed a 325-item questionnaire on leisure interests that runs the gamut from adventure sports to travel to volunteering. This tool will help people find activities that suit their tastes, improve their quality of life, and reduce stress.

This vein of research already has yielded interesting revelations. One study examined patterns of leisure interests between generations. For thirtysomethings, social contacts tended to be integrated with other pursuits like sports, perhaps because they focus on family activities with their children. “For college students, social activities still have a primary role,” says Hansen. “Retirees look quite similar to the young adults in that the social factor of leisure interests reappears.”

In another study, Hansen and her colleagues surveyed a group of University alumni at their 50th reunion along with faculty and staff who had reached retirement. They found that people with higher energy levels were content with a wider range of community activities; those with lower energy levels were pickier, and finding a match with the right activity became more important.

Millions of Americans will make the transition to retirement in the years ahead. As baby boomers leave the workforce, Hansen's research will help them find the gold in their golden years.
**IT’S IN THE GENES?**

**Siri Scott follows parents’ path into new territory**

**SIRI SCOTT’S LIFE RAISES** a nature vs. nurture question: Are psychologists born or reared?

Scott, a junior from Stillwater, Oklahoma, comes from a family of psychologists. Her father is a social psychologist and professor at Oklahoma State University. Her mother, who earned a Ph.D. from the University of Minnesota, is a clinical psychologist in private practice. Her parents met at a psychology conference.

Scott, the third of four children, decided she wanted to follow in their footsteps.

She already has made remarkable progress. She has earned four scholarships, including the Fox Memorial and Mortensen Scholarships from the department and the College of Liberal Arts’ prestigious Selmer Birkelo Scholarship. She also is a member of Psi Chi, a psychology honor society.

Scott cites two classes that especially caught her interest: Brain and Emotion, taught by Bruce Cuthbert, and Psychopaths and Serial Killers, with Chris Patrick.

“My psychology classes have nailed into our heads how to critically analyze everything, particularly studies we see on TV, and think critically about what they’re reporting and what the study actually says,” says Scott. “Or to read published studies and think outside the box. What could be wrong with this? What did they leave out?”

Scott has found plenty of research opportunities. In Patrick’s lab, she assisted in a study of binocular rivalry in recognizing facial expressions. She worked with the Minneapolis Twins Study. And she worked with assistant professor Cheryl Olman on a study of high-functioning autistic children.

“One big thing I’ve learned is how to open up opportunities for myself,” Scott says. “In a big research institution, you just have to take the initiative and seek them out.”

Scott has rounded out her liberal arts education with minors in Spanish and leadership, and she is studying in Argentina spring semester.

“I’m really interested in research, specifically fMRI or some other brain imaging technique,” says this daughter of psychologists. “The human brain fascinates me.”

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**BEYOND THE CLASSROOM**

**Bassim Birkland mixes theory and practice**

**BASSIM BIRKLAND KNOWS** he received a great classroom education as a psychology major. But he’s just as grateful for the time he spent beyond campus.

Birkland, who received his B.A. in 2006, completed field work with an autistic child and did research at the Minneapolis VA Medical Center. Coupled with his academic work, those experiences laid the foundation for a career in public health and medicine.

First came the lesson of persistence. Birkland, who is from Arden Hills, Minnesota, took his first psychology class at the University when he was a high school student. “I didn’t do very well in it,” he laughs. “I really made up for it in the past couple years.”

Indeed he did. Birkland went on to earn scholarships and academic honors, including a Mortensen Scholarship and a Selmer Birkelo Scholarship.

“It turned out to be a great decision,” he says of his major. “I learned so much about how humans behave and think.”

Birkland says his major armed him with both the data and the investigative skills of science and the critical thinking skills of liberal arts. “We’re taught to analyze and think critically,” he says. “The department engraved that in our minds. It has much broader applications in everyday life, in whatever field students end up in.”

Another powerful combination—theory and practice—naturally came together when he took Behavioral Analysis and Autism from Gail Peterson, who became a mentor and friend. Birkland visited the home of an autistic child three times a week and used behavioral therapies he learned in the classroom.

When the department’s undergraduate adviser steered him toward a job as a research assistant with the schizophrenia and psychotic disorders research team at the Minneapolis VA Medical Center, Birkland learned how to collect brain wave data and analyze patient charts. He also worked on a study examining the relationship
between supersensitivity psychosis and tardive dyskinesia, a movement disorder.

This research gave rise to his undergraduate thesis project, which examined the side effects of antipsychotic drugs among these patients. “They have pretty high expectations in the department for a senior thesis,” says Birkland. “It has to be in the form of an American Psychological Association manuscript like you’d submit to a journal to be published. That’s something that a lot of people don’t learn until they’re well into graduate school and working on their dissertation.”

Last fall, Birkland entered the University’s School of Public Health. He hopes eventually to attend medical school and pursue a career that involves both clinical work and research—the very combination that made his undergraduate education so memorable.

“Both skills developed in psychology,” he says. “My coursework, research, and clinical work complemented each other.”

"ARE YOU SURE about that?"

This simple question captures a nettlesome mystery in psychology: How does the brain judge its own functioning? Sara Kvidera has broken new ground with her research in “metacognition”—our ability to evaluate the reliability of our own thinking.

Working with Wilma Koutstaal, Kvidera is examining whether the brain uses similar processes to evaluate both perceptual and conceptual decisions. “While thinking about our own thinking is something most of us do every day, it’s not often covered in much depth in psychology coursework,” says Kvidera. “It’s a new field. I like going where no one has gone before.”

The answers are also long overdue. “This research addresses a question that has been in the literature for more than 50 years,” explains Koutstaal, associate professor of psychology and Kvidera’s adviser.

Seeing is believing?

Metacognition has profound implications in everyday life. Can we trust an eyewitness who identifies a criminal suspect? Can we rely on our perceptions of distance when we’re merging into rush hour traffic?

Previous studies showed that people tend to be overconfident about conceptual decisions, such as their answers to history or geography questions, and underconfident about perceptual decisions, such as judgments of an object’s size.

This difference led other researchers to hypothesize that conceptual and perceptual confidence judgments rely on two different brain processes. Yet there is no consensus on this question.

Enter Kvidera and Koutstaal.

Koutstaal’s research focuses on human memory and judgment and examines factors that affect how we gain access to or awareness of what we know and remember, and also how we evaluate those processes.

Kvidera, the first student to join Koutstaal’s lab, began working on a project to examine “confidence calibration,” or how well our confidence matches our accuracy in making decisions. Koutstaal entrusted Kvidera with many details of the study, such as creating the stimuli and analyzing data. Meanwhile, Kvidera, now a third-year graduate student and recipient of the Gloria J. Randahl Graduate Fellowship, earned a reputation in the department as an outstanding student and superb teacher.

“She’s very persistent,” says Koutstaal. “You have to be to do this kind of work. You also need to be able to move between attention to detail and the big picture, and she can do that.”

Kvidera solved one methodological problem by using the same stimuli for both types of decisions. For example, subjects were shown the words India and France and were asked both conceptual questions (Which country is bigger?) and perceptual ones (Which word is bigger?).

The findings were surprising. Kvidera and Koutstaal found overconfidence on perceptual decisions and good calibration on conceptual ones. “We had thought it might go one of two ways, and it went a third way,” says Kvidera.

The two are conducting follow-up studies and expect to publish the findings, with Kvidera listed as first author in her first published paper. The Journal of Behavioral Decision Making reviewed an earlier version of the study and invited the researchers to resubmit the paper after performing additional experiments.

Her partnership with Koutstaal in the lab has launched Kvidera into a fertile area of research. She plans to conduct imaging studies of the brain during confidence assessment—especially to explore error processing (what happens in the brain when we realize we have made a mistake). She also hopes to extend her interest in metacognition to study “lucid dreaming,” the awareness that one is dreaming. So the next time you say “I must have been dreaming,” maybe Kvidera can sort things out.
SUCCESS HAS TWO essential ingredients. One is the foresight or good fortune to be in the right place at the right time. Another is the ability and drive to take advantage of the opportunities that come along. Lowell Hellervik had both. Hellervik is chairman of the board, president, and chief executive officer of Personnel Decisions International, a Minneapolis-based firm that helps organizations develop leadership, plan for succession, and improve effectiveness. As it has grown from a small startup into a global firm, PDI has retained close ties to the Department of Psychology.

Lowell Hellervik enrolled in the Ph.D. program in educational psychology in the 1960s. Although the program was in the College of Education, he took courses in the psychology department, where he and Marvin Dunnette, an industrial psychologist, became fast friends. In 1967, Dunnette founded a small consulting firm with Wayne Kirchner, an industrial psychologist at 3M. They invited Hellervik to join them. The young Hellervik found himself on the fast track in the nascent, fast-growing field of management consulting. “In those days, there was not a specific course on management assessment,” he says. “Mostly, I learned by experience.”

Lowell Hellervik uses his psychology degree to build a global company and give back to the University.

DAVID LYKKEN NEVER BOASTED about the worldwide acclaim he gained for his research on human cognition and behavior. But when it came to his students, he could hardly contain his pride.

“He was constantly bragging about his students and their accomplishments,” recalls his son Joe. “He understood that students are perhaps the most important legacy you can leave behind as a scientist.”

Lykken, who died in September at age 78 after a half-century career at the University of Minnesota, is being honored with a new fellowship that will support future generations of students. The fellowship, established by the Lykken family and the University, will support graduate students in clinical sciences and psychopathology in the Department of Psychology. A fundraising effort will kick off this spring with a symposium in honor of Lykken.

The award reflects Lykken’s view that bright people can do great work if they’re given the right resources. “He valued independence tremendously,” says William Iacono, Distinguished McKnight University Professor, longtime colleague, and former student. “He felt that what a mentor really needed to do was turn people loose and let them show what they could do.”

Lykken’s University career spanned—and spawned—a remarkable range of discoveries in psychophysiology and behavior genetics. His Ph.D. thesis on psychopathology remains one of the most influential works in the field. He was also one of the forefathers of the famous Minnesota Twins Study. He earned renown most recently for his “set-point” theory of happiness.

In his book Happiness: What Studies on Twins Show Us About Nature, Nurture, and the Happiness Set Point, Lykken proposes that we may indeed be born to be happy or unhappy. Our natural baseline of cheerfulness and contentment, he says, is to a large extent genetically determined.

Perhaps thanks to his own remarkably elevated set point—and his relentless intellectual curiosity—Lykken continued working after his retirement in 1998. He submitted his last article shortly before his death. “My dad always said the great thing about psychology is there are important problems that are simple and obvious just waiting for someone to take them up and investigate them,” says Joe Lykken. “His first piece of advice to anybody coming into psychology would be: look around at all the wonderful things in this field that nobody has thought about.”

The new fellowship will enable new generations of psychologists to think long and hard about those wonderful things. It also will promote other signature features of Lykken’s work: both scientific rigor and usefulness in the world.

“He believed that the University should serve the community that feeds it,” says his son Matt. “Professors should be out in the community and using their skills and knowledge to make the world a better place.”
He also applied his psychology education, which prepared him to interpret tests, perform validation studies, and work one-on-one with clients.

“I was a former teacher, so when people wanted to do management training, I could do workshops,” he says. “I was not afraid to get up in front of a class. Likewise, I was not afraid to do individual work with executives because I had therapeutic and counseling internships in graduate school. I could do virtually anything that came down the pike.”

It’s that kind of confidence and drive that made PDI a pioneer and a powerhouse. Today, the company has 29 global offices, more than 700 employees (about 75 Minnesota Ph.D. graduates over the years), and more than $100 million in annual revenue. Its clients include some 80 percent of Fortune 100 companies.

Hellervik’s personal stamp is everywhere. He was instrumental in developing PDI’s 360-degree feedback business, including a system known as PROFILOR. He also was one of the original authors of the Successful Manager’s Handbook, which has sold more than one million copies.

Hellervik and his wife, Cay Shea Hellervik, have retained close ties to the University. Lowell Hellervik has served on the board of the University of Minnesota Foundation and holds the title of adjunct clinical associate professor in the Department of Psychology (“it qualifies me for staff-price football tickets,” jokes Hellervik, an ardent Gophers booster). The Hellerviks and PDI have endowed several academic chairs, an expression of their gratitude for the opportunities that have come their way from the University.

“We both feel it very strongly,” says Cay Shea Hellervik, PDI’s vice president for relationship development. “The people we meet, the fun we have, and the excellent education the University provides for students are very motivating factors for us.”

MR. HOLLAND’S OPUS
To become one of the forefathers of modern career counseling, John Holland first had to become a revolutionary.

“It took many years before I became popular,” says John Holland (Ph.D. ’52), now 87. “I was kind of a renegade character.”

Today, Holland can look back on a career as one of the most influential industrial psychologists of the 20th century. Straddling the twin pillars of data and theory, his taxonomy of personality types transformed our ability to match people with work and careers.

“His theory has had more impact on how people select occupations and careers than any other source of directed intervention in the field of psychology,” said Professor Jo-Ida Hansen in a tribute to Holland.

Holland, who grew up in Nebraska and attended the University of Omaha, flirted with the idea of becoming a classical pianist before deciding “there was always some kid who played better.” Serving in the Army during World War II as a psychological assistant, he administered the Wechsler Adult Intelligence Scale, which piqued his interest in psychological research. It was that interest (and the G.I. Bill) that brought him to psychology at Minnesota.

As a Ph.D. student, Holland absorbed the department’s signature emphasis on empiricism, but he also was drawn to theory. Inspired in part by a philosophy class with Herbert Feigl, he decided to embrace a then-unorthodox mix of theoretical and empirical approaches. That was a direction that would one day revolutionize the field of vocational psychology.

Holland quickly found that the instruments used to measure vocational interests were wholly inadequate. “We couldn’t link people’s interests to the occupational world with any completeness or empirical base,” he recalls. “I remember saying to myself, ‘Somebody ought to really fix this. This is really one hell of a mess.’ I never thought I would do it. Or knew how much work it would be.”

In 1959, Holland published an article that became the basis for the Holland Theory of Vocational Personality Types. He posited six types: Realistic, Investigative,
FOR GENERATIONS, INDUSTRIAL and organizational psychologists have grappled with a fundamental question: What are the best measures to predict job and academic performance? Paul Sackett has taken this question a step further: Are these tests fair?

Sackett’s research focuses on the challenge of designing measurements that screen for performance while also maximizing gender, ethnic, and racial diversity. His work has taken on particular importance amid the current debates over affirmative action.

“Employers want the best possible work force, and universities want a talented and high-caliber student body,” Sackett says. “Sometimes there’s tension between pursuing the first goal of high performance and questions of access.”

Sackett’s own performance has put him in the vanguard of his field. Last fall, he became the first Beverly and Richard Fink Distinguished Professor in the Liberal Arts.

“I hope this permits me to do more and better work,” says Sackett, who has been at the University since 1988. “To me, the best way to do that is to support students.”

Sackett is using the funds provided by the professorship endowment to hire three graduate research assistants. One of the projects they’ll work on, funded by the College Board, examines how coaching can affect the scores of various selection tests. Another project examines counterproductive behavior in the workplace.

Sackett’s work promises to help organizations better predict workplace productivity and also enhance employee, employer, and even client and customer satisfaction.

“Why is it that in any given job there are people who do it well and others who do it not so well?” asks Sackett. “Anybody who’s ever stood in a supermarket checkout line has had the experience of saying, “The line next to me is moving twice as fast. That cashier over there is quick and the one I’ve got isn’t.”” How, he asks, do we best measure and address these differences?

Such questions, he says, have fundamental and far-reaching implications for the happiness of workers, the performance of organizations, and global competitiveness. And the answers just might keep those lines moving more swiftly.

HOLLAND, FROM P. 19

Artistic, Social, Enterprising, and Conventional. Similar types naturally congregate, he said, and when they work together, they create workplace environments that reflect and reward their shared characteristics. Moreover, people who choose compatible environments are more likely to be successful and satisfied in their work.

Despite some early skepticism, especially among behaviorists, this simple and elegant system is now widely considered the gold standard in the field. “There is no question — it has become a bedrock of the profession and has stimulated much of the scholarship in vocational psychology and career development over the past 30 to 40 years,” says Hansen.

“If you develop some deviant ideas, you have to work hard to get acceptance,” says Holland. “Science is a conservative enterprise. People have a belief about what’s correct and if you come along and say that’s wrong, you have to go against the grain.”

Holland not only won over his profession but has been showered with honors—including the APA Gold Medal Award for Distinguished Professional Contributions. His book Making Vocational Choices: A Theory of Vocational Personalities and Work Environments (first published in 1959) is in its third edition, and The Dictionary of Holland Occupational Codes remains a standard reference tool.

From 1969 until his retirement in 1980, Holland served as professor and director of the Center for Social Organization of Schools at Johns Hopkins University. He still lives in Baltimore, where he took up piano again in retirement. And here’s more music to his ears: the mess that he encountered half a century ago has been swept into the dustbin of history.

“It’s very tidied up,” he says.
THE LEADING-EDGE WORK OF RESEARCHERS in the Department of Psychology addresses fundamental concerns and issues of people in their daily lives—the ability to think, speak, see, hear, read, interpret, remember, make decisions, connect (or fail to connect) with others, feel and express emotion, experience joy and pain, recover from loss, control antisocial impulses, and cope with stress and trauma. Looking deep into the brain’s neural pathways, the department’s cognitive scientists are pulling back the curtain on mental illness, addiction, and substance abuse, psychopathic behavior, learning disabilities, and perception and behavior disorders. And social psychologists are offering new insights into how people function in important domains of their lives, including their social relationships, the workplace, the political arena, and their communities. The research capsules below give you an update on some recent findings by the psychology faculty at Minnesota.

MIGRATION AND MEMORY
Richard M. Lee, in collaboration with the Minnesota International Adoption Project, found in a recent survey of over 1,500 children adopted from Asia, Europe, and Latin America that racial discrimination is just as important as pre-adoption adversity when it comes to the behavioral development of children. This finding, based on parent reports, highlights the need to educate families on the effects of discrimination as a post-adoption risk factor and the need to develop programs to prepare children for discrimination.

BLASTS FROM THE PAST
Jeff Simpson and his colleagues at the Institute of Child Development have shed light on the impact of past attachment relationships on current ones. Among participants in a lifelong study, they found a statistically significant connection between poor affect regulation (e.g., difficulty being soothed at age 1 and the experience and behavioral expression of negative affect with romantic partners in the early 20s. But they also found that intervening relationships at critical stages of development—notably, social competence in grade school and the emotional support of same-sex friends during the teenage years—mediated the link between early childhood and adult emotion regulation.

WORKPLACE WELL-BEING
Joyce Bono has found that employees whose bosses are “transformational” leaders are more optimistic, enthusiastic, goal oriented, and hardworking throughout the course of the workday, even during stressful times. On days when they experience negative work events (e.g., conflict with coworkers), they experience more health complaints, are less motivated, and consume more alcoholic drinks—but are more resilient if they have good bosses. Managers who receive negative feedback tend to be committed to improvement only if they have high core self-evaluations (such as high self-esteem and emotional stability).

GETTING IN THE WAY
Ever tried to think of the name of a celebrity that begins with “Jack N-something,” and all you can think of is Jack Nicklaus—but you know that’s not the right name? (Instead, it’s Jack Nicholson.) Chad Marsolek says that this kind of interference can occur even when you’re simply trying to identify visual objects. Recent studies show that your ability to quickly identify an object—say, a piano—can be impaired by your previously identifying another object—say, a desk. This finding is helping us understand how vision and memory operate.

PAUSE OR QUIT?
Got a bad habit? If you’ve tried to quit, you may know from firsthand experience that people who are able to initiate a change in their behavior (e.g., stopping smoking) in the short run are often unable to maintain that change over time. Alex Rothman and his colleagues have been working to understand why. In a recent study of smokers enrolled in a cessation program, Rothman and colleagues found that smokers were able to quit if they were confident of their ability to refrain from smoking, but they remained off cigarettes only if they were satisfied with the outcomes afforded by their new, smoke-free status. So if you’re trying to quit, make sure there’s a reward at the other end!

SOUNDS YOU CAN’T HEAR
Andrew Oxenham and colleagues at the University of Lancaster, England, have discovered that inaudible sounds (sounds below a person’s threshold of hearing) affect how subsequent sounds are perceived. Related findings have been reported for vision, but this is the first such report in the auditory domain. An earlier model developed by the same researchers suggested that over time, the cumulative effect of sounds in a sequence is to amplify, distort, attenuate, or otherwise change the perception of successive sounds in a straightforward linear manner. The findings are published in the Journal of Neuroscience.

DISSOLVING DUALITIES
People traditionally have thought of things like an antisocial personality or a drug abuse problem as something you either have or don’t have—as “either/or.” Bob Krueger and his colleagues are finding that these problems are better thought of as a continuum—more a matter of degree than a matter of kind.

SELFISH ALTRUISM
In their research on volunteerism, designed to answer the question “Who helps and why?” Mark Snyder and colleagues have found that, contrary to conventional wisdom, those who volunteer for selfish reasons actually serve longer than those who volunteer for more purely humanitarian reasons. Apparently, a little selfishness can be good for society, as it can lead to the altruistic behavior of volunteers helping others on a sustained basis. This research program was recently featured in a cover story in the American Psychological Association’s Monitor on Psychology magazine.

READING THE EDGE
Gordon Legge and his students are studying the reading difficulties of people with age-related macular degeneration (AMD). AMD is the leading cause of vision impairment in the United States and frequently results in a loss of central vision. Afflicted people must rely on their peripheral vision. The research focuses on the possibility of training people to read with their peripheral vision. Results with normally sighted participants show that a training regimen can enhance the capacity of peripheral vision for letter recognition and reading.

STALKING DEVIANCY
Christopher Patrick and his students have been investigating dispositions related to psychopathic personality in normal individuals from the community. They have found one disposition entailing disinhibition and aggression, and another involving fearlessness and dominance. Individuals high in the first disposition are likely to show impulse control problems of various kinds, whereas individuals high on the second are likely to be emotionally resilient and socially assertive. Individuals high on both may exhibit the “masked” deviancy associated with psychopathy.

To read about recent faculty awards and honors, go to www.psych.umn.edu/news.
spellbound with stories of his work on the celebrated Minnesota Twins Study.

Such eminent lecturers give the course a certain well-deserved academic cachet. But the secret to the course’s success goes far beyond marquee-name-professors. Once a week, undergraduates gather in small learning communities led by dedicated and talented graduate students. And discussion is just part of what happens there.

I wanted a student’s-eye view. So I caught up with John Muros, a grad student in industrial and organizational psychology, who told me about one of his favorite classroom exercises.

Before class, students complete a modified personality inventory to assess two traits related to sociability and impulsiveness. Then they form four separate personality-trait-compatible groups, each of which maps out an all-expenses-paid vacation. The groups’ plans predictably reflect the groups’ respective traits. Students see for themselves the power and value in psychological assessment. They also see why vacation planning with trait-incompatible friends and partners can be a nightmare.

Another section leader, grad student Ben Denkinger, told me that to keep class content fresh and up-to-date each section leader is expected to create two lesson plans for the year. A self-described “pop-culture devotee,” Ben keeps his students engaged by relying heavily on media clips, movies, and new technologies and focusing on hot issues related to psychology.

Thanks to private philanthropy, Ben and John have both received financial support from the University — and they credit that support for their success. As an added benefit, their support contributes to the department’s success and national reputation through their innovative teaching of undergrad courses like Psy 1001.

Please consider offering your support to worthy students like John and Ben. They are the next generation of leaders in the discipline. And who knows when their research may affect or improve one — or all — of our lives?

Warm regards,

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P.S. We wish John well as he presents three papers at the annual conference of The Society for Industrial and Organizational Psychology in New York. A portion of his travel expenses is being covered by the Harrison and Kathryn Gough Psychology Fellowship Fund and the Steven Snyder Fellowship Fund.