

BRINGING PRESENCE TO CAROLINA

“Presence, as I describe it and define it, is being attuned to and able to express your authentic best self,” explains Dr. Amy Cuddy. “When I say authentic best self, I am talking about the person you are in your best moments, when you are happy, connecting, and feeling satisfied.” Dr. Cuddy spoke to a group of over 200 faculty, students, and staff at the Department of Psychology and Neuroscience’s 3rd Annual Ann Rankin Cowan Lecture. “The Cowan Lecture is one of our Department’s most popular events,” says Dr. Donald Lysle, Chair. “Its goal is to encourage undergraduates to learn more about the wide variety of research being conducted in the field of psychology and neuroscience.”

Social psychologist and best-selling author Amy Cuddy gave a lecture about presence and power on September 22. Her 2012 TED Talk, “Your Body Language May Shape Who You Are,” has been viewed more than 42 million times and is the second most viewed TED Talk. Her book, *Presence: Bringing Your Boldest Self to Your Biggest Challenges*, has achieved 6 bestseller lists and been published in 29 languages. Lynde Wangler, a senior psychology major, said, “I attended the lecture because I heard from several faculty members that it would be a great opportunity to hear from a very well-known social psychologist. Dr. Cuddy provided listeners with a framework for conceptualizing presence, which she described as the ability to access our best selves in times

of high stress or anxiety. This part of her talk particularly resonated with me as I am currently applying to graduate schools and thinking about future interviews.”

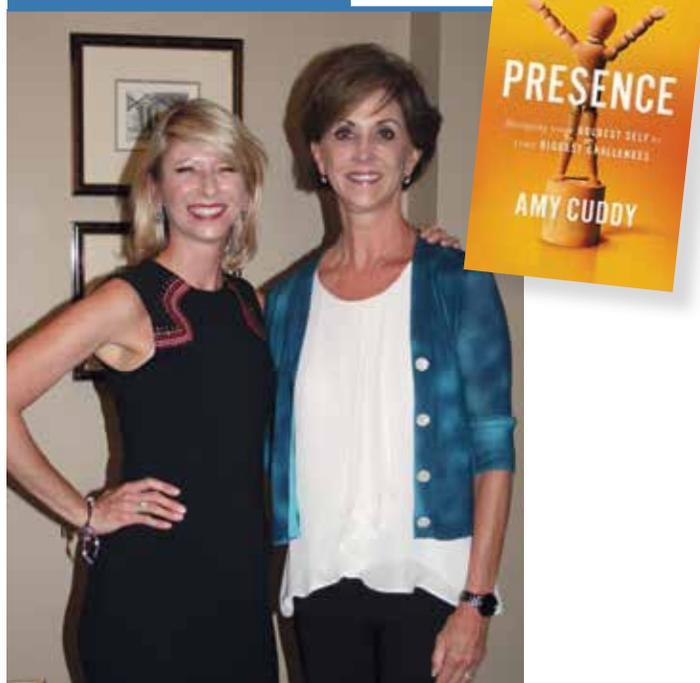
This annual event is sponsored by the Cowan Family Foundation and named for Ann Rankin Cowan, a 1975 UNC graduate and psychology major. Past Cowan lecturers have included Dr. Barbara Rothbaum, a psychologist at Emory University School of Medicine and pioneer in the treatment of anxiety-related disorders, and Dr. Dan Ariely, a professor at Duke University, founder of the Center for Advanced Hindsight, and the author of three books, all *New York Times* bestsellers. The Cowan Family Foundation’s gift significantly enriches and enhances opportunities in psychology that cannot be financed through tuition or state support.

Over the course of her talk, Dr. Cuddy discussed several studies on power and how the feeling of being powerful or powerless affects feelings, thoughts, and behavior. “In both the short-term and long-term, power reduces self-reported stress, it reduces cortisol levels, and it reduces cortisol reactivity,” explains Dr. Cuddy. “When you feel powerful, it cultivates the feeling of presence.” Using pictures and videos, Dr. Cuddy demonstrated expansive postures in animals and humans when they feel a sense of power. One universal expression of feeling powerful is spontaneously throwing your arms in the air. Dr. Cuddy cited University of British Columbia researcher, Dr. Jessica Tracey, who

examines the relationship between posture and emotion. “Tracey has studied this in dozens of cultures, and what she finds is, all over the world, people associate this pose with winning, with pride, with power, and confidence,” states Dr. Cuddy. “The idea I’m most interested in is, can you pretend to be victorious and become victorious, or at least feel victorious?”

Dr. Cuddy and her research team have looked at expansive postures, both seated and standing. When participants adopted two expansive poses for a total of two minutes, they found that people felt more powerful. “It makes you feel more powerful, confident, assertive, and in charge,” says Dr. Cuddy. “And power changes your general orientation. Just changing the way you carry yourself changes the way you feel.” Following the lecture, senior Imani Bazemore shared, “She talked about phenomena that happens in everyday life – phenomena I can observe and even improve on. Since then, I’ve been paying more attention to my posture.”

3RD ANNUAL COWAN LECTURER, AMY CUDDY ON LEFT, WITH ANN RANKIN COWAN



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PRENATAL EXPERIENCES PREDICT POSTNATAL OUTCOMES

Environment has a tremendous influence on children's cognitive development and the presence and persistence of the income-achievement gap provides some of the best evidence of this phenomenon. However, the majority of studies examining environmental factors on children's development have failed to acknowledge the role of the very first setting children experience – the prenatal environment. While

tissue, a novel biomarker that can be assayed for cotinine, a metabolite of nicotine. This tissue sample provides an objective measure of the amount of nicotine that the fetus was exposed to in utero and is a major improvement upon maternal report measures of tobacco use during pregnancy, which is subject to intentional and unintentional reporter bias. She found great variability in the amount of cotinine contained in the umbilical cords of

the amount of fatty acids in the blood. "We've found that maternal reports and blood level of nutrients are not strongly related," explains Camerota. "But the interesting finding here is that higher levels of certain fatty acids in mom's blood were related to better infant sleep quality, as indexed by fewer night wakings and longer continuous stretches of sleep. As far as we know, this is the first study to find a relationship between prenatal nutrition



WE ARE ALWAYS LOOKING FOR WAYS TO INTERVENE POSITIVELY IN CHILD DEVELOPMENT. IF WE FIND THAT PRENATAL EXPERIENCES CONTINUE TO HAVE AN EFFECT ON CHILD COGNITION OVER AND ABOVE POSTNATAL EXPERIENCES, THEN WE WANT TO INTERVENE WITH PREGNANT WOMEN – RATHER THAN WAITING UNTIL THE CHILD IS BORN AND INTERVENTIONS OR SERVICES MAY BE TOO LATE. –MARIE CAMEROTA

researchers know that maternal behaviors such as smoking or drug use are risk factors for adverse child outcomes, much less is known about the spectrum of positive and negative experiences encountered in utero and how these experiences predict cognitive development.

"Unlike the postnatal environment, which we can observe directly, we have to make inferences about prenatal experiences. It is definitely an area that is in need of creative methodological innovation," says Marie Camerota, a fifth year graduate student in Developmental Psychology. Using new and objective measures, Camerota accurately captures a range of prenatal experiences. In one study of women who reported using tobacco products during pregnancy, led by Dr. Cathi Propper at UNC's Center for Developmental Science, Camerota collected newborn umbilical cord

infants who were exposed prenatally to tobacco and plans to conduct additional analyses to examine the downstream implications for children's developmental outcomes, including attention and executive function.

In addition to studying the effects of tobacco, Camerota is interested in exploring the link between prenatal nutrition and infant sleep. There is increasing evidence that maternal nutrition in the prenatal and neonatal periods is related to child cognitive functioning. Long chain polyunsaturated fatty acids (LCPUFA), a contributor to neuronal structure and function in the fetal brain, may be particularly important to consider. In a second study, Camerota measured nutrition during the third trimester of pregnancy through maternal reports, analyzed for macro and micronutrients, and blood draws which can determine

and infant sleep at six months."

Camerota is committed to exploring how prenatal experiences predict postnatal outcomes, as well as the contributions of the postnatal environment to these processes. "It's important to study both prenatal and postnatal conditions," she says. "As developmental psychologists, we are always looking for ways to intervene positively in child development. If we find that prenatal experiences continue to have an effect on child cognition over and above postnatal experiences, then we want to intervene with pregnant women – rather than waiting until the child is born and interventions or services may be too late. However, if postnatal experiences can entirely attenuate the effects of adverse prenatal conditions, it means we can identify children after birth who may be at risk and target interventions specifically for them and their families."

[GREETINGS from the CHAIR]

DEAR ALUMNI AND FRIENDS,

I hope our newsletter finds you well. Every year, we put together a small sampling of the excellent research conducted by our faculty and students in psychology and neuroscience and I am glad to share some of their successes with you.

Our collective need still exceeds the state and federal funds that are available to us. Private funding continues to play a pivotal role in helping the department capitalize on our many strengths. I am particularly proud of the innovative lines of research being pursued by our graduate students and junior faculty – and private support from alumni like you makes those projects possible.

Private giving is crucial to maintaining the academic excellence for current and future

students. So much of what we do depends on the generous support we receive from alumni and friends of the department. We are appreciative of any gift, large



**DR. DONALD LYSLE,
CHAIR**

or small. If you have already made a gift to us this year, we thank you for your generous support.

I hope you enjoy hearing news from our department. When you visit Carolina, I invite you to visit us in Davie and Howell Hall.

Sincerely,

Donald T. Lysle, Ph.D.
Chair of the Department of
Psychology and Neuroscience
Kenan Distinguished Professor

RISK-TAKING BEHAVIORS IN ADOLESCENCE



Risk-taking behaviors, such as aggressive driving, alcohol and drug use, unprotected sex, and delinquency with peers, increases dramatically during adolescence and is associated with increased incidences of substance abuse, violence, unintentional injury, and sexually transmitted infections. Despite the fact that risk-related behavior is a major cause of morbidity and mortality, relatively little is understood about the mechanisms underlying risk behavior and their development. Some theories suggest that adolescence is a particularly vulnerable time for risk-taking due to the imbalance of socioemotional and cognitive control systems. While neurodevelopment of socioemotional structures reaches maturity in adolescence, frontal control regions continue to progress and develop into adulthood.

INTERVENTIONS LIKE D.A.R.E. HAVE SO FAR NOT BEEN EFFECTIVE AT REDUCING ADOLESCENT SUBSTANCE USE AND ONE POSSIBILITY IS THAT IT DOESN'T ACCOUNT FOR SOME OF THE NEURODEVELOPMENTAL DIFFERENCES BETWEEN ADOLESCENTS AND ADULTS.

—KRISTIN MEYER

There is longstanding literature implicating both a role for heightened-reward response and for reduced cognitive control in risk-taking behavior, however, there is emerging developmental neuroimaging research that suggests these processes may be acting in tandem. Kristin Meyer, a third year dual graduate student in Clinical and Cognitive Psychology, studies how emotional reactivity and top-down cognitive control interact across development. “Neurally, adolescents show greater striatal activity, an area of the brain closely linked with reward, in response to receiving monetary and other rewards than children or adults,” explains Meyer. “What this looks like behaviorally is that adolescents bias behavior more

from reward. Almost everyone speeds up their responses to things that have been associated with reward, but adolescents do this to an even higher degree.”

Her work examines how higher-levels of reward sensitivity and lower levels of cognitive control work in concert with each other to affect risk-taking behaviors in adolescents. Meyer, working in collaboration with her advisors Dr. Joseph Hopfinger and Dr. Margaret Sheridan, is examining reward-related disruptions in control in a study of adolescents, ages 15 to 17, with a history of binge drinking. “Reward-related disruptions, in our experiment, involve distracting the participant with a reward-associated stimulus while they are trying to



pay attention to something else,” explains Meyer. “Preliminary results in a similar study with adults show that failure to stop responses to rewarding stimuli can be predicted by greater activity in brain regions associated with reward saliency. This suggests that when the brain tags something as particularly rewarding, it actually disrupts typical cognitive control processes, such as motor inhibition.”

Using tasks that measure aspects of cognitive control, including attentional control, motor inhibition, and planning of the future, Meyer will assess behavior with both reward-related and neutral stimuli. Data collection is still underway, but she hypothesizes that measures of cognitive control over reward will predict substance use and other risk-taking behaviors in adolescents. She says, “I also am expecting that individuals who show deficits in motor and attentional control as well as planning for the future in context of reward will show the most problematic levels of risk-taking and be at highest risk for a broad range of psychopathology, including conduct disorder, oppositional defiant disorder, and substance use disorder.” Her study will help researchers better understand the cognitive processes at play and to improve interventions for adolescents at-risk. Meyer explains, “Interventions like D.A.R.E. have so far not been effective at reducing adolescent substance use and one possibility is that it doesn't account for some of the neurodevelopmental differences between adolescents and adults. I came to UNC to better understand how cognitive processes lead to riskier behavior from a more developmental perspective.”

[COMMUNITY OUTREACH *Spotlight*]

CLINIC PROVIDES AFFORDABLE SERVICES AND INVALUABLE TRAINING

In the 1970s, as part of its graduate student training, the Clinical Psychology Program converted two offices in Davie Hall to provide clinical services. Today, Clinical Psychology graduate students and faculty serve over 240 clients a year in two Community Clinics both off and on-campus.

Serving not only staff and students at Carolina, but children, adolescents, and adults in the broader community, the Clinics offer specialty and general therapy clinics, assessment and psychoeducational testing for ADHD, learning disabilities, and bipolar disease. “We’ve had clients come from Atlanta, Virginia, and Maryland when they can’t find services near them,” says Dr. Jennifer Youngstrom, Director of Child and Family Services. Director of Psychological Services, Dr. Erica Wise, agrees, “In addition to our general services, there are areas of expertise that draws people specifically to us. For example, there are specialty services, such as the anxiety clinic that Dr. Jonathan Abramowitz provides – people

travel long distances for his assessment and treatments. These are people who have sometimes tried to get help elsewhere and not been able to do so.”

One of the aims of the Community Clinics is to provide affordable psychological health care to its clients. The Clinics offer a sliding scale for its services and approximately 85% of therapy clients are paying below already discounted rates. Dr. Youngstrom explains, “Our sliding scale is very helpful for low-income families as well as college students. Our assessments in particular have a full fee that is well below the community rates, which is often several thousands of dollars. We’re able to serve people who otherwise wouldn’t be able to get diagnosis or accommodations.”

Not only does the Clinic serve low-income families and college students, but it provides an invaluable service of training our Clinical Psychology graduate students. Dr. Wise says, “It’s really our reason for being here. What comes together

synergistically is that we’re not just giving good services, but we are training another generation of psychologists that are going out into the field with excellent skills.” Clinical psychology graduate students, at the completion of the doctoral program, typically have accrued over 600 hours of direct clinical service training. “I have been challenged

and given feedback for how I can improve as a therapist, assessor, and supervisor. We are very fortunate to receive such excellent training so that we can improve the lives of our clients, which is ultimately the greatest reward,” says fifth-year graduate student Julia Browne.

For Dr. Wise and Dr. Youngstrom, realizing the Clinics’ twin goals of training and providing affordable, excellent services is incredibly rewarding. “You see students come in their second-year and they’ve never talked to a



TATE OVERBEY, RESEARCH ASSISTANT IN THE ABRAMOWITZ ANXIETY CLINIC, DEMONSTRATES SPIDER PHOBIA TREATMENT.

client,” shares Dr. Wise. “But even by the end of their first year providing service, they’ve become therapists. We see their professional growth and that’s really exciting.” Dr. Youngstrom agrees, “We serve people who really need the services and they benefit from proper diagnosis, which leads to proper interventions and accommodations. Many, many times a client will get back in touch after an assessment and it has really changed their path. It is very powerful and satisfying.”

[ALUMNI *Spotlight*]

BUILDING CUSTOM ANALYTICS AND SOLUTIONS AT MICROSOFT

Dr. Danielle Dean, a graduate of our Quantitative Psychology doctoral program in 2015, is now a Principal Data Scientist Lead at Microsoft. Working in the Artificial Intelligence and Research Organization, Dr. Dean leads an international team of data scientists and engineers in building predictive analytics and machine learning solutions for external companies utilizing Microsoft’s cloud analytics products. Her twelve-person team is from eight different countries and is cross-disciplinary in terms of the team members’ backgrounds, such as physics, oceanography, computer science, statistics, and medical imaging.

Microsoft creates artificial intelligence and predictive analytics solutions, which can be leveraged through the cloud Azure platform and products such as SQL R services. Dr. Dean works with customers building out analytics solutions, which often comprise of open-source data analytics and machine learning solutions. Part of her work entails making sure that Microsoft’s products can solve real business problems and gathering feedback through the direct use of the products. “It’s a really fun role,” says Dr. Dean. “I both get



DR. DANIELLE DEAN '15

to build custom analytics solutions with customers and then also work with the product teams to make sure the products are improved over time so that, as we move forward, we can continue to solve bigger and even greater problems.”

After completing her undergraduate degree at UMass Amherst, Dr. Dean decided to pursue Quantitative Psychology at Carolina. She says, “I was intrigued by how mathematics and statistics can be used to study individual behavior on a large scale to find patterns and frameworks through data. One of the most important traits of a data scientist is curiosity – always trying to understand how things work, how to examine data, and how to model different phenomenon. The training at UNC allowed me to nurture this curiosity.”

At Microsoft, Dr. Dean shares that she loves the challenging nature of the work and the continuous change in the technology sector. She explains, “I’m currently learning about the applications of deep learning for image classification and it’s incredible to see the continuous progress in the use of data with increasing computing power to solve incredible real world problems.”

REVEALING HOW THE BODY HELPS TO SHAPE EMOTIONS

Ever since the functions of the autonomic nervous system were discovered, researchers have recognized that the peripheral nervous system plays a role in feelings and behavior. Organisms utilize sympathetic and parasympathetic branches to generate and regulate physiological arousal as they react with the threats, challenges, and triumphs in their surroundings. Hormones, such as glucocorticoids like cortisol, also assist in these peripheral responses to the environment.

“However, there are still a lot of things we don’t know about how the body’s current state may shape our subjective feelings,” explains Jennifer MacCormack, a fifth year graduate student in Social Psychology. She first became interested in how the body might matter for emotions and social cognition as an undergraduate. Working in a laboratory that studied how parents teach children about emotions, MacCormack noticed that some parents talked about bodily sensations while explaining their feelings and wondered if parental knowledge of the physical phenomenon of emotions might predict their children’s socioemotional competence. She tested this theory for her honors thesis and discovered that these parents’ children were better at regulating their emotions, were more empathetic and sociable, and exhibited fewer internalizing and externalizing behaviors in academic settings. MacCormack says, “I was shocked by how much we still don’t know about individual or developmental differences in body awareness for emotion. I decided to research exactly how the body can be a powerful force in shaping people’s emotional experiences and outcomes.”

Since coming to Carolina, MacCormack has built a research program centered around how the

body’s state – autonomic responses to stress, hunger, or illness as well as the aging of the peripheral nervous system – can shape people’s emotional experiences and, in turn, how internal body awareness moderates these effects. One thread of her research examines interoceptive ability, the perception of internal visceral changes, such as noticing an increase in heart rate. Research indicates that some people are more objectively accurate at detecting their internal bodily changes. “I’m particularly curious about how interoception might interact with autonomic reactivity and how it drives individual difference in emotion,” says MacCormack. In a recent study examining 100 young adults, ages 17–24, MacCormack measured electrocardiography, impedance cardiography, and blood pressure while participants undertook a stressful task, which elicited autonomic reactions and negative emotions. Although analysis is still in progress, MacCormack expects that autonomic reactivity will predict the intensity of the self-reported emotions during the task and that interoceptive ability should moderate this intensity.

Everyday changes that everyone experiences, such as hunger, fatigue, and inflammation, can feed into our peripheral and central nervous systems to impact emotions. Correlational research has shown that hungry individuals are more likely to be aggressive, like the pop culture idea of feeling “hangry,” however, there is no direct evidence that hunger shifts people’s emotions. Over three studies, MacCormack discovered that hunger can impact how people are feeling and construing the world around them, but with two caveats: what context people in and how aware they are of these feelings. Hungry people who weren’t thinking about their emotions were

more likely to report feeling hateful, stressed, and other high arousal negative emotions in a frustrating situation compared to hungry people who had been primed to think about their emotions. “It really seems to be something about hunger that amps up negativity when elicited by an unpleasant or negative situation,” says MacCormack. “I found that hunger really only seems to feed into people’s emotions when they are unaware of their feelings, which is particularly interesting because it suggests we may have some control over how these body states drive our emotions and resultant behaviors.”

MacCormack is also curious about how aging of the peripheral nervous system sensitivity and function can affect how the brain represents emotions and shapes older adults’ emotional lives and

well-being. Funded by a National Institute of Aging fellowship, she plans to use functional magnetic resonance imaging (fMRI) to test if limbic and paralimbic regions in the brain will be less activated or functionally connected during older adults’ emotions relative to younger ones. By having participants complete emotion induction tasks in the fMRI scanner, MacCormack will be able to assess age differences in functional activity and connectivity in the brain during emotions. “I always wonder how the things I’m studying might vary or change at different stages of life. Aging naturally provides a glimpse into the underlying mechanisms of a construct, as you watch that phenomenon change over time,” explains MacCormack. “This work could be informative where older adults’ emotions are at play, including mood disorders, financial and health decisions, and their relationships with loved ones and caregivers.”

I WAS SHOCKED BY HOW MUCH WE STILL DON’T KNOW ABOUT INDIVIDUAL OR DEVELOPMENTAL DIFFERENCES IN BODY AWARENESS FOR EMOTION.

— JENNIFER MACCORMACK

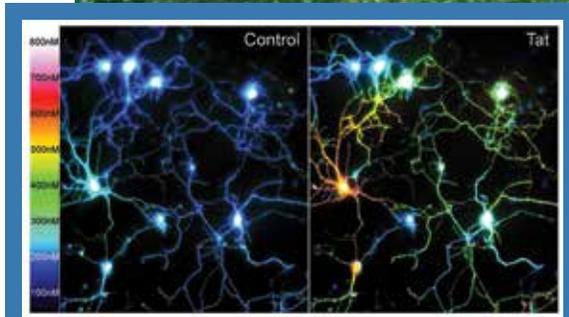
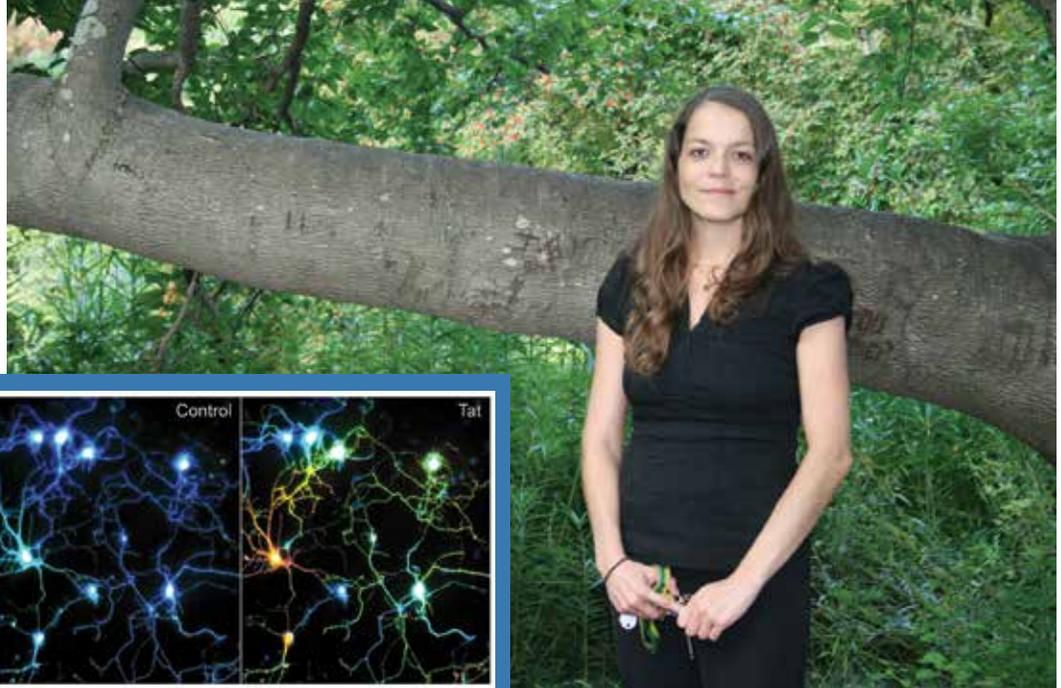


EXAMINING NEURONAL INJURY IN HIV

Over 1.1 million people in the United States are living with HIV today and there are approximately 36.7 million people worldwide living with HIV/AIDS. There is currently no cure for HIV, however, many HIV patients are on a combination antiretroviral therapy (cART), which refers to a combination of drugs that are effective in keeping HIV infections under control.

“Humans live much, much longer because of this antiretroviral therapy,” explains Dr. Sylvia Fitting, an Assistant Professor of Behavioral and Integrative Neuroscience. “Once the HIV virus is transmitted, the immune system can be handled with the medication. Although HIV patients live much longer, neuropsychological tests show significant deficits over time, including memory deficits, attention deficits, impulsivity, and motor impairment. The problem is that HIV infects the brain and the medication doesn’t cross the blood-brain barrier.” This infection causes HIV-associated neurocognitive disorders (HAND) in an estimated 50% of HIV patients.

Dr. Fitting and her laboratory examines a protein called TAT (Trans-Activator of Transcription), which is released by the HIV infection of glial cells, and is critical for the virus as it replicates and negatively affects neurons in the brain. “TAT is able to attack neurons and what we see with neurons is that there is neuronal injury. In Alzheimer’s disease, neurons are dying in the brain and when you look at performance, the less neurons a patient has, the worse they perform in neuropsychological



INCREASES IN CALCIUM PRODUCTION IN NEURONS, CULTURED FROM THE PREFRONTAL CORTEX, ARE SEEN WHEN TREATED WITH TAT. THE WARMER THE COLOR, THE MORE CALCIUM IS IN THE NEURON. INCREASED CALCIUM IS A STEP BEFORE NEURONAL INJURY AND DEATH.

tests,” says Dr. Fitting. “With HIV patients, it is not necessarily neuronal death, but more the neuronal injury on dendrites and synapses that correlates well with neuro-psychological deficits.”

Utilizing *in vitro* cell culture models, Dr. Fitting applies TAT to neurons to examine its effects and injuries. By using confocal microscopy, neuronal imaging, and electrophysiology, Dr. Fitting and her team are able to study the structural, physical, and functional changes of the neurons as TAT is applied. She says, “We can see how the cells actually change, for example, in calcium production. Calcium is important for a cell to have, but if there is too much, it overexcites the cell. It is a step before neuronal injury and death.” The UNC Center for Aids Research recently funded Dr. Fitting’s research allowing her to generate preliminary data on the neuronal effects of TAT. Due to this important data collection, Dr. Fitting is pursuing additional funding through the National Institutes of Health for the next step of her research, moving from *in vitro* to *in vivo* studies and assessing behavior in an animal model. Using transgenic mice, researchers can induce the

expression of TAT and test for behaviors like attention and impulsivity to

measure executive function.

Another central part of Dr. Fitting’s research examines how to reduce the effects that the TAT protein produces. “In Parkinson’s disease, Alzheimer’s disease, and various inflammatory diseases, endocannabinoids show protective effects in the brain,” says Dr. Fitting. “Endocannabinoids can protect the brain from neuronal death. So now, we want to look to see if we can find similar effects for HIV in the brain.” Dr. Fitting uses enzyme inhibitors fatty acid amid hydrolase (FAAH) and monoacylglycerol lipase (MAGL) to block the degradation of ligands AEA and 2-AG. “When you have a disease like Parkinson’s, you see these ligands being increased in response to the injuries being caused in the brain. When we actually inject an enzyme inhibitor, like a FAAH or MAGL, you can see even more of an increase, which is good as these ligands go against an injury. By injecting an enzyme inhibitor, we are helping the brain not only to create ligands, but to stop the natural degradation of them. We produce more AEA and 2-AG, which is helpful to the disease,” explains Dr. Fitting.

This work complements her research currently examining the destructive effects of TAT as Dr. Fitting investigates if these endocannabinoids may have protective properties for the brain against the protein. She explains, “For TAT-induced transgenic mice, we see an increase in attentional deficit and worse performance in an operant conditioning task. We hope to see, by injecting an endocannabinoid enzyme inhibitor, that their performance would remain the same.”

Ultimately, Dr. Fitting says she uses HIV as a tool. “I am interested in HIV, however, the goal for me is to look at the structural, the behavioral, and function changes in the brain in a disease-state and how you can apply treatment to it. By targeting all three mechanisms, we can see what is exactly going on in a disease model. I’m looking at how we can target the brain after HIV infection to decrease these cognitive deficits.” By targeting TAT, a protein found in other viruses, as well as potential protective effects of endocannabinoids on neuronal injury and death, Dr. Fitting’s work may have implications for diseases that demonstrate similar injuries in the brain. “HIV is usually looked at as an immune disease, but it is basically a brain disease,” Dr. Fitting says. “TAT causes neurons to get injured and die and it is important to clinically target this component of the virus.”

KING LEGACY CONTINUES THROUGH EXCELLENCE FUND

For the 13th consecutive year, UNC Chapel Hill ranked first among national public universities on U.S. News & World Report in 'Great Schools, Great Prices,' based on academic quality and the 2016-17 net cost of attendance. "That's what Chapel Hill's mission really is – as a public university, to take smart kids from all over and give them an opportunity to get an education," says Dr. Murray Turner '76. "I was one of six children and when I was accepted to UNC, my parents said that's where you're going. They could afford to cover the basic housing allowance and tuition and being in Chapel Hill provided me some work opportunities. I appreciate everything Chapel Hill did for me. It really provided me an opportunity and an education where I could afford it."

In 2008, Dr. Turner created the Richard A. King Graduate Student Excellence Fund to support graduate students studying behavioral and integrative neuroscience. Dr. Turner graduated from Carolina in 1976 and earned his medical degree at Wake Forest University in 1980. "When I thought about giving money back to the university, the person that kept coming back to mind was Dr. King," explains Dr. Turner. "I only had him for one semester, but King was one of the most naturally curious people I had ever met. That was true throughout my entire educational career." Dr. King taught Introduction to Psychology to undergraduates for almost fifty years and was well-known for his research on the biological basis of memory. When the fund was created, Dr. King revealed that he had no idea that he was influential in Dr. Turner's intellectual growth and said, "I feel quite honored to have had the opportunity to share what little I know with others." He passed

away on March 3, 2017. "Dr. King is deeply missed among our faculty and former students," says Dr. Donald Lysle, Chair. "It was wonderful that Dr. Turner was able to give this generous gift to honor Dr. King's many contributions here in the Department."

Douglas Hermes, a third year graduate student, recently received a King Graduate Student Excellence award for his research studying the interactions between HIV-1 TAT mediated neurotoxicity and cannabinoids, opiates and cannabinoids, drug discovery and neurodegenerative illnesses. "King funding allowed me to expand the scope of my current research projects to include other drugs of interest in treating HIV-1 related neurodegeneration," says Hermes. "As a new researcher, it is inspiring to have additional money available for traveling, learning, and the freedom to pursue independent projects

spurred by one's own curiosities."

Dr. Turner, a retired nephrologist, wanted his gift to support graduate students in neuroscience, a field that supports addiction research. "When I was a fellow in nephrology at McGill University, I was involved in research and my professors were able to direct me where my time was most profitable," says Dr. Turner. "I realized that the real connection is between the graduate students and the professors that direct them." Financial support through the King Excellence Fund assists our graduate students to progress toward Ph.D. completion and to pursue novel ideas in their research.

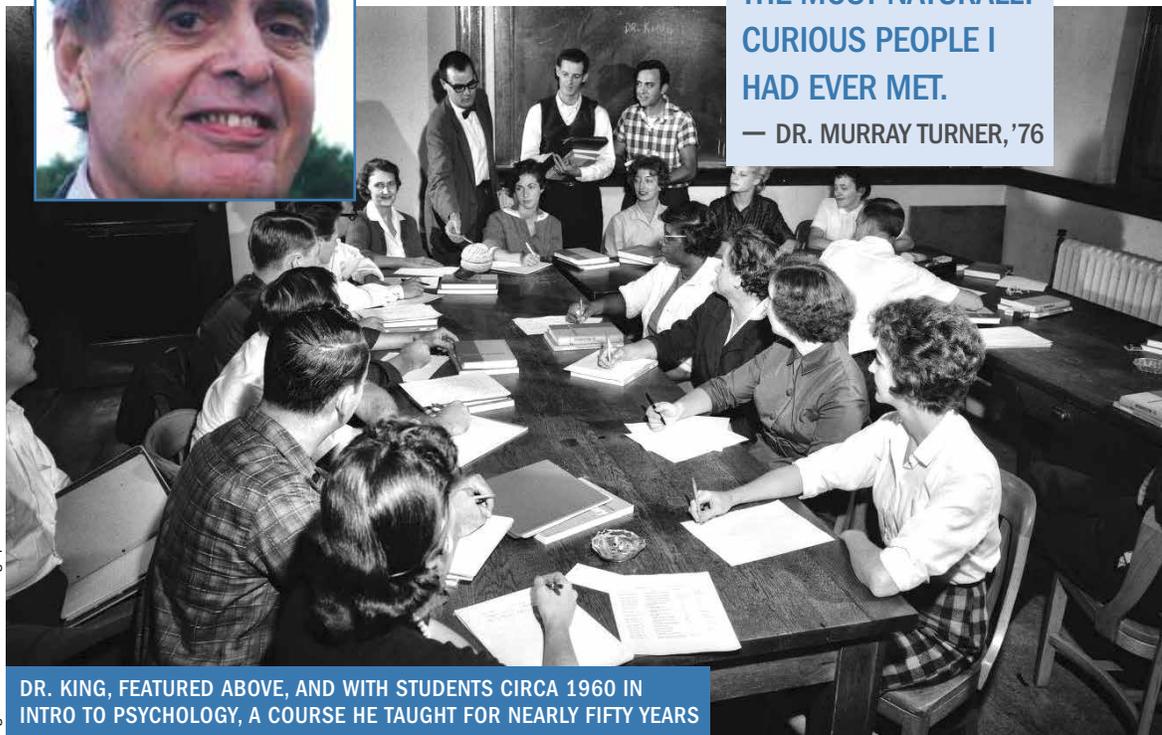
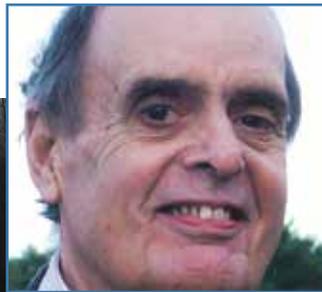
"Psychology provided me with a framework for how people thought," says Dr. Turner. "It also was my introduction to statistics." In fall 1974, he enrolled in Dr. Mark Appelbaum's graduate-level Intermediate Psychology Statistics course. Dr. Turner laughs, "I was the only junior in the class. There were a couple of seniors and the

rest were all the Ph.D. candidates. I did well in it and I realized I could handle graduate-level work. When I look back on it, I am very thankful I had those opportunities and that experience, it really served me well during my career."

If you would like to contribute to this fund in memory of Dr. King's legacy at Carolina, please visit: <http://psychology.unc.edu/make-a-gift>

WHEN I THOUGHT ABOUT GIVING MONEY BACK TO THE UNIVERSITY, THE PERSON THAT KEPT COMING BACK TO MIND WAS DR. KING. I ONLY HAD HIM FOR ONE SEMESTER, BUT KING WAS ONE OF THE MOST NATURALLY CURIOUS PEOPLE I HAD EVER MET.

— DR. MURRAY TURNER, '76



Digital NC Collection Photographic Archives

DR. KING, FEATURED ABOVE, AND WITH STUDENTS CIRCA 1960 IN INTRO TO PSYCHOLOGY, A COURSE HE TAUGHT FOR NEARLY FIFTY YEARS



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[FACULTY Spotlight]

FACULTY PUBLISH POPULAR PRESS BOOKS

Dr. Keith Payne's *The Broken Ladder: How Inequality Affects the Way We Think, Live, and Die* shows that the social comparisons we make can alter how we see the world. Going beyond obvious measures such as income, education, and employment, Dr. Payne's work demonstrates that the key to understanding what lies at the heart of self-perception is the hunger for status. Comparing ourselves to the people we meet each day, and often falling short, we set ourselves up for acting and thinking in predictable, detrimental ways. Feeling poor matters, not just being poor – it affects how we make decisions, how our immune systems function, and even how we view moral concepts like justice and fairness. In his book, Dr. Payne tackles inequality and its wide-ranging effects, and the steps we can take to get off the endless treadmill of social comparison.

In *Popular: The Power of Likability in a Status-Obsessed World*, Dr. Mitch Prinstein examines how our popularity affects our success, relationships, and happiness – and why we don't always want to be the most popular. In many ways, some even beyond our conscious awareness, those old dynamics of our youth continue to play out in every business meeting, every social gathering, in our personal relationships, and even how we raise our children. Our popularity even affects our DNA, health, and mortality in fascinating ways. As children, we strive to be likeable, but in adolescence, a new form of popularity emerges. More than childhood intelligence, family background, or psychological issues, Dr. Prinstein's research indicates it is how popular we were in these years that predicts how happy we grow up to be.

THE BROKEN LADDER

How Inequality Affects the Way
We Think, Live, and Die



KEITH PAYNE

Popular

THE POWER OF
LIKABILITY
IN A
STATUS-OBSSESSED
WORLD

Mitch Prinstein

"The best insight into understanding the human mind...
with the most clarity and the most compassion."
—Michele Kuzniak, author of *Superior Intelligence*