Pittman and student researchers tackle obesity epidemic

There may be a time when nutritionists and public health advocates credit Dr. Dave Pittman ’94 and a group of his students at Wofford for helping to turn back America’s obesity epidemic. That is certainly a long-range prospect for the research Pittman, a psychology professor, and his students are conducting to understand how dietary fat is related to taste.

As he explains it, eaters generally associate fatty foods—hamburgers, donuts, ice cream—with good taste. Yet, fat isn’t considered a specific taste (think: salty, sweet, sour, bitter).

Taste, in general, has been a topic of interest for Pittman since his days as a graduate student at Florida State University.

“We don’t know much about how the taste system works,” he says. “Unlike vision or hearing, there are major questions that can be asked—there are a lot of big questions that were yet to be answered.”

He believes one of the most intriguing questions is whether or not fat produces a specific taste sensation.

So, Pittman set about conducting research on that most basic of mammals, the rat.

He and his students set up a “taste aversion” experiment in which rats were fed liquid laced with fat and a chemical that induced sickness. The rats learned to avoid the formula in favor of a solution without fat, suggesting that fat created a taste sensation.

Along with Wofford students Danielle McCormack ’03 and Virginia Clyburn ’04, Pittman wrote a paper on this research, “Detection of Free Fatty Acids Following a Conditioned Taste Aversion in Rats” was published this spring in Physiology and Behavior journal and online at Science Direct, www.sciencedirect.com.

Pittman and a group of students in the Community of Scholars program are working this summer on a project to determine if differences in sensitivity to tastes derived from fat are related to over-consumption.

Pittman says his interest in research took hold in courses at Wofford with retired Professor of Psychology Don Scott. While he seems proud that his ongoing research has been met with positive reviews from other scientists, he is especially excited about the opportunities the college has afforded him and his students.

Anyone in the world can view Pittman’s animals during the data collection via the Internet. A Davis Rig WebCam observes the animals during their training and testing sessions. Link to the site by entering http://DavisCam.wofford.edu/ in the browser. Login at “guest” and use the password “guest.”

Photo by Mark Olenick ’75

Pittman (right) with Tanya Franz ’07 (left) and Ivy Farr ’07. Photo by The Orange Block

At many undergraduate colleges, research "tends to lack rigor," Pittman says. Meanwhile, "the problem at a large university is they’re concerned with their post-graduate and faculty research. Undergraduates often end up being lab technicians or washing dishes—mental help as opposed to doing independent research."

However, Wofford offers students the opportunity to do research that gets published in journals,” Pittman says, noting that Wofford’s psychology laboratory facilities in the Roger Milliken Science Center have transformed Wofford’s research capabilities.

In April, Cameron Corbin ’07 was among a group of Wofford students who presented research at the Association for Chemoreception Science annual conference in Florida. Nearly all the other students on hand, says Corbin, were graduate students.

Corbin is working this summer with Pittman as part of Wofford’s Community of Scholars research program. She says Pittman is an effective leader in the lab because he takes a hands-on approach and is attentive to the needs of his students.

“He’s very easy to talk to,” she says. "And he’s always right there ready to help."

"Wofford students are really quite fortunate to have the opportunity to work with him and learn from (Pittman),” says Dean Dan Maulsby ’61. "He’s doing very sophisticated neuropsychological research at a level that’s competitive with what’s being done in the best labs in the country. He’s bright, and he’s organized, and is a genuine expert in his field of psychology."

by Baker Maulsby ’92

Wofford Community of Scholars begins summer program to foster cross-disciplinary research

Twenty-one Wofford students comprise the first class of the innovative Community of Scholars cross-disciplinary research program that began this summer. The Community of Scholars program is designed to foster collegiality through a 10-week summer program and to create cross-disciplinary dialogue among students and faculty conducting research in the natural sciences, the social sciences and the humanities. The undergraduate research fellows are pursuing their research projects on campus, working under the supervision of faculty mentors engaged in parallel or related research. The projects cross a variety of disciplines, including science, the humanities, the social sciences and the fine arts. Early each fall semester, a public presentation will allow the fellows to summarize their projects. Abstracts will be collected each year for publication. The 2006 Community of Scholars research projects, the mentoring professors and the selected students are:

Foreign Languages: Dr. Laura Butler Rhoden, "Exoticical Perspectives on Latin American Literature" • Tony Arndt ’09 (Barrett, SC). "Tierra del Fuego in Literature: People, Place and Empire" • Lindsay Gates ’09 (Greer, SC). "La Francia in Recent Hispanic Literature and Film" • Loren Hyatt ’07 (Greenville, SC). "The Function of Family Groupings as NGOs in Mexico and Argentina"

Psychology: Dr. Kara Bopp, "Age-Related Differences in Working Memory: Exploration of Focus-Switching" • Mary-Catherine McIlchan ’18 (Anderson, SC). "Age-Related Differences in Working Memory: The Effect of Interference" • Lee Parsons ’10 (Campobello, SC). "Age-Related Deficits in Working Memory: Strategy Differences"

Philosophy: Dr. Christine Cinlin, "Living and Learning: Stories of Disorientation Writing" • Thomas Ray ’07 (Garnetl-Pawling, SC). "The Effects of Textile Mill Visitors on the Culture of Spartanburg: A Documentary Short Film"

Art History: Dr. Karen Goodchild, "Webs, Authors and Advenures: The Literary and Artistic Relationship of Giorgio Vasari and Agnolo Bronzino" • Katherine Ault ’07 (Lafayette, LA). "The Artistic and Architectural Accomplishments of Frank Gehry"

Psychology: Dr. David Pittman, "The Role of the Brain Peptides, Galanin, on Neural Signals Related to Ingestion of Dietary Fat and Alcohol" • Cameron Corbin ’10 (Spartanburg, SC). "The Ability of Rats to Form Taste Aversions to Linoleic and Linolenic Acids" • Meghan Creasy ’10 (Sparta, SC). "The Ability of Rats to Detect and Avoid Oleic Acid Following Conditioned Taste Aversion Pairings" • Kimberly Smith ’10 (Blythewood, SC). "Detection Threshold of Free Fatty Acids in Obese-Prone and Obese-Resistant Rats (research funded through SC Independent Colleges and Universities Inc.)

Chemistry: Dr. Randy Reed • Ashley Barbour ’19 (Leesville, SC). "The Crystal Structure of N-Formylthiophenylglycolic Synthesis" • Keith Muro ’18 (Cleveland, SC). "The Purification and Isolation of Proteins from Inclusion Bodies" • Mark Swamy ’07 (Spartanburg, SC). "The Effects of Environental Parameters on Internal Mechanisms of Cell Expression"

History: Dr. Anne Rodrick, "Early Victorian Feminism and Caroline Norton’s Letter to Queen Victoria: A Documentary History" • Vanessa Loubier ’08 (Greer, SC). "New Woman, New Marriage?" • Wilson Padin ’07 (Greenville, SC). "Growing Up in the Upstate"

Art History: Dr. Peter Schmunk and Sarah McClure ’08 (Landrum, SC), "Music is the Home: Representing the Experience of Music in Nineteenth-Century Art"