



PSYCHOLOGY DEPARTMENT NEWSLETTER

University of South Alabama, June 2007



TWO GREEN LIGHTS for PSYCHOLOGY

BIG news this year is that we have been approved to develop a **Ph.D. proposal** which will then be reviewed by the university and then submitted to **ACHE (Alabama Commission on Higher Education)**. Psychology Chair **Dr. Larry Christensen** thinks our chances for getting the program approved are better than they have been in the past because of the economic situation. Also boding well for us is the fact that the USA Pharmacy Department Ph.D. proposal was approved last year (a joint proposal with Auburn). We are grateful to **Dr. Elise Labbe**, who has done much work on getting this proposal launched.

Other BIG news is that our **ABA (Applied Behavior Analysis)** coursework has been approved. The first of three courses in **ABA (PSY 490: Special Topics: Applied Behavior Analysis I)** is scheduled to be offered in the Spring Semester 2008. These courses reflect a joint effort of our Psychology Department and the College of Education. The Behavior Analyst Certification Board, Inc.® has approved the course sequence as meeting the coursework requirements for eligibility to take the **Board Certified Associate Behavior Analyst** examination ®. Applicants will have to meet additional requirements to qualify. Students interested in this program should visit www.bacb.com. For more information, contact **Dr. Lisa Turner** at 460-6013, who has worked hard to get this important project off the ground.

Other good news is a new scholarship for Psychology. In the past our Department has had few scholarships that could be awarded to

deserving students. Fortunately, a gracious donor, Ms. Barbara Davis, has come forth and established the **Pinnacle Endowed Scholarship Fund** for a deserving psychology major. The purpose of this fund is to provide an annual tuition award to a student with a declared major in psychology.

M&M: MARTY & META-ANALYSIS

Dr. Martin Rohling defines his research area as "using meta-analytic techniques to investigate controversial neuropsychological topics." Meta-analysis uses a large sample of existing studies to determine statistically if there is a real effect. For example, there are a lot of individual studies that claim that depression causes cognitive function ("I'm so depressed I can't concentrate"), but there are a lot of other individual studies that show no effect. Put them all together, and what do you have: **Meta-analysis!** With the real answer, or at least the best answer to date!

Marty recently coauthored two separate publications that meta-analyzed all the existing studies that have examined the purported loss of cognitive function caused by over-exposure to two potentially harmful substances: *mercury* and *manganese*. Both have resulted in lawsuits (some class-action), e.g., against mining companies and chemical plants by workers. Both substances are toxic at high levels, and can lodge in the fatty tissue in the brain, possibly with the result of causing some cognitive deficit with overexposure. The question is: Are the workers really overexposed, what with OSHA and NIOSH setting all these standards? So take, for example, a welder who is exposed to manganese, and who comes down with what he perceives as a cognitive deficit with age. Can he legitimately blame his employer for this? THAT IS THE QUESTION!!! According to Marty, his latest on *mercury* and *manganese* meta-analysis finds that typical levels of exposure

in industry *do not cause* a significant degree of cognitive deficit.

Similarly, meta-analysis can be applied to the effectiveness of cognitive rehabilitation after stroke or traumatic brain injury: Does therapy do any good? Sometimes both sides are correct. Maybe there really is a bit of improvement with therapy, but is it worth paying big \$\$\$ for such a modest effect? Marty's research has big implications for lawyers for plaintiffs vs. insurance companies. Obviously the lawyers want \$\$\$ for the victims, and the insurance companies don't want to pay it out. Both sides are very interested in Marty's work, but Marty himself overtly swears to stay aloof from all the bickering. He will just do the science and let meta-analysis speak for itself. Marty may subconsciously want the bickering to go on, because it gives him lots and lots of data to meta-analyze...

Marty has two students helping him with various new projects: Kelly Rawls is looking at PTSD victims in a women's shelter, where the victims are not out after \$\$\$, so they may be able to give a more valid picture of the measures of the severity of PTSD and the level of cognitive impairment it might cause. A publication Marty has in press suggests that, contrary to clinical lore, PTSD does not cause impairment of cognition. However, financial compensation issues frequently cloud the picture. Kelly's thesis hopes to shed better light on these issues.

Also, another thesis student, Clint Moore, is conducting a meta-analysis of the effectiveness of FFT (Functional Family Therapy), which also appears to help adolescents reduce the risk of being re-incarcerated. FFT is one of several *empirically supported treatments (EST)* that are a hot topic in clinical psychology treatment these days. Studies such as these are related to Marty's interest in "*evidence based practice (EBP)*", which Marty believes holds much promise for psychological practitioners. EBP is not just a way of delivering services to the clients, but a training model designed to foster "life long learning" in graduate students. Marty plans to incorporate EBP into the Department's graduate training program, especially if the proposed doctoral training program at USA is approved.

Marty has remained a very active and sought after speaker. In the past year alone, he has given eight presentations at four different conventions (National Academy of Neuropsychology, International Neuropsychological Society, Coalition of Clinical Practitioners of Neuropsychology, & the Alabama Psychological Association), covering a variety of topics.

INTEGRATING the NEIGHBORHOODS

Dr. Mark Yates continues to look at the effects of **neighborhood** on various word processing tasks. First, recall that the *orthographic neighborhood* reflects visual (spelling) similarity, the *phonological neighborhood* reflects auditory similarity, and the *semantic neighborhood* reflects meaning similarity. This last year Mark spent most of his time working in the *phonological neighborhood* armed with his versatile *eye-tracking movement machine*, which can measure to a very high precision where the eye looks at things, like letters in a word. Mark now works with whole sentences, as opposed to single words. His typical experiment is as follows: An S, seated in front of a monitor, hooked up to the eye-movement tracker, reads a sentence, e.g., "The painful PUNCH/STING made the man wince". Different subject groups get either PUNCH (lots of phono-neighbors, 19 to be exact), or STING (not many phono-neighbors, only 6). Then visual fixation time for the target word is measured. It turns out that, during (visual) reading, there is a shorter visual fixation time for words with lots of (auditory) phono-neighbors, e.g., PUNCH is processed faster than STING. Mark argues that this is a clear indication that phonology is important in reading. Having digested this (and being basically an "auditory" researcher myself), I asked the obvious question: "Are hi-phono-neighborhood words also processed faster when the task is auditory (e.g., simple listening), not visual?" Mark says the complete opposite is true. That is, hi-phono-neighborhood words are actually processed more slowly in auditory tasks.

Mark's eye tracker also allows him to measure the effect of **parafoveal processing**, which is how far to the right of fixation a person is processing when reading a word. For example, he can present "The painful XXXXX made the man wince", to factor out any processing of the word PUNCH while PAINFUL is being read. Then when the person's

eyes start to move to the XXXXX, it is rapidly replaced with PUNCH. Pretty precise! It should be really interesting to know, for example, if one can get **semantic neighborhood** information from **parafoveal** vision.

Mark's biggest technical problem in research is selecting stimuli. Mark and his team spend a lot of time going through dictionaries and databases to calculate word neighborhoods. Mark now has a USARC (USA Research Council) grant of \$5000 to help with his research. He has several undergrad students (Sherry Vo, Brandy Young, Anthony Headland) working on the word neighborhoods, and one graduate student (Mark McClinton) planning to get into visual picture processing.

AUDIO-VISUAL SPEECH PERCEPTION and AGING

Dr. Michael Gordon is interested in how the two major modalities (seeing and hearing) interact for perception, and how they change over the lifespan. Recently he has studied this topic by presenting audiovisual videos of a talker and then degrading either the sound (e.g. with background noise), or the image (e.g. blurring), or both. Even for people with good hearing, being able to see the face of a person talking can be enormously beneficial for understanding speech, especially when there is a lot of background noise. However, this visual benefit has been found to decrease over the lifespan, and Dr. Gordon's research has been investigating why this occurs. By degrading the sounds and images for speech he found that younger adults are hardly affected by blurring the visual images, but there is a dramatic loss of intelligibility for older adults (~70 years of age) – even for older adults who are tested to have good vision (20/20). The findings from this research suggest that while the ability to integrate what we see and hear may be maintained over the lifespan, sensory losses in the visual and auditory systems may make it much more difficult for older adults to benefit from audiovisual speech. Or put another way, in healthy older adults it seems that thought and perceptual processing remain strong over their lives, the challenge is getting the signal from the eyes and ears into the brain as we get older. Dr. Gordon has two students helping with his

research, undergrads Sarah Jones and Courtney Stewart.

Dr. Gordon also continues to study spatial acoustics, and specifically how **football helmets** may impair aspects of auditory perception, both for speech (hearing those calls from the quarterback can be a real challenge!) and non-speech (if a defender is bearing down on the quarterback, he better hear him coming!). Our hearing system developed over thousands of years without a plastic cover, or perfectly round earholes, and this research offers a way to understand how hearing is changed by these other changes caused by wearing a football helmet. In this project recordings are made using the lab dummy, **SAM** (see below). **SAM** 'listens' to sounds either when wearing a helmet or without one, and these recordings are then analyzed, and eventually played back to listeners to test behaviorally what the helmet does to hearing. What happens to the sound in a football helmet? Well as you can imagine, the plastic shell reflects some sound making things quieter, and the shape of the helmet and earhole cause a lot of harmonics to occur and some spectral smearing – making it much harder for listeners to understand speech and to localize where sounds are coming from.

After our interview we went back to Dr. Gordon's Lab (LSB 366) to see his hi-tech acoustic equipment. He showed me his Tucker-Davis-Technologies System 3, used to generate attenuate and calibrate his sound stimuli, and his very comfortable-looking \$9000 *WHISPER ROOM* (sound insulation chamber) where he obtains his data. I also met **SAM**, the synthetic human dummy head that is used to make sound measurements. **SAM** is normal sized adult head, with human-like facial bone structures (eye-brow ridges, cheek ridges, a nose), and of course very accurate and realistic ears, complete with ear canals and pinnae. Instead of ear-drums **SAM** has two very tiny microphones that can 'hear' just like a real human. When it comes to hearing a sound, **SAM** is a very smart dummy!



FOSTER FOCUS on NARCISSISM, SELF-ESTEEM

Dr. Josh Foster continues his research on **narcissism** and **self-esteem**, which, by the way, are different: **self-esteem** is having a positive but *realistic* view of oneself, while **narcissism** is having an *unrealistic over-inflated* view of oneself.

NARCISSISM and TIME: This last year Josh has been combing the archives of **narcissism** testing, going back about 30 years to the early 80's, looking at a total of 115 studies, to find out if people (namely college students) have changed their views of themselves. The standard test used consists of 40 pairs of items, e.g. "I am much like everyone else" vs. "I am an extraordinary person". Choose the first and you get a "0", choose the second and you get a "1". The maximum is 40 points. Total up everything and you get a rating as to **narcissism**. What Josh has found is quite interesting: College students rate *higher now* in **narcissism** than in earlier years. The old norms show an average rating of about 14, whereas now the new norms, including Josh's new data from USA students, show a rating of about 17. Josh thinks this effect is due to "the **self-esteem** movement", whereby children are encouraged more from early ages to think of themselves as **special**. For example, California had a **Task Force for Self-Esteem** to instill this value in children. Children would sing a song to the tune of "Frere Jacques" that goes, "I am Special! I am Special! Look at me! Look at me!" Unfortunately, says Josh, this **culture of praise** may instill some unrealistic self-views. For example, there is *no correlation* between **narcissism** measures and **job capability**. Also, while **narcissism (and self-esteem)** is *rising*, **SAT scores** are *falling*. Therefore, although people may think they are getting better and better, they really aren't. However, much remains to be deciphered concerning the rise in **narcissism** reports. For example, the biggest rise in **narcissism** over this time period may be in women. Maybe women are simply catching up to men!

NARCISSISM and BEHAVIOR: Josh is also making progress in understanding how narcissism plays out in the real world. He gives the **narcissism** survey then uses an actual

experimental situation to look at real-world behavior. One of his tasks involves **investment decisions**, since there is evidence that some **big investors** might be **narcissists (watch the SQUAWK BOX some time)**. Josh plans to give his survey subjects *actual money to invest*, and then look to see if **narcissism** correlates with **investment decisions**.

BIOACOUSTICS LABORATORY

SPEAKING OUT!! Dr. Chuck Brown continues to investigate biomechanical asymmetries in the primate larynx. In collaboration with Dr. Fariborz Alipour, of the University of Iowa, Dr. Brown presented a paper entitled: Is the squirrel monkey larynx lateralized biomechanically? This paper was presented before the 4th Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan held last December in Honolulu, Hawaii. Dr. Brown is currently expanding this work through the adoption of a high-speed video analysis system at the National Center for Voice at the University of Iowa.

Dr. Brown is collaborating with USA faculty in two new research initiatives.

BATTER UP!! In the area of Sports Psychology, Dr. Brown is collaborating with Drs. Gordon and Foster in a project exploring the batter's perceptual judgments of balls and strikes from a signal-detection framework in Major League Baseball. This research team is analyzing a data base composed of all the pitches thrown in all major league baseball games played over the preceding two seasons. Their initial study is comparing the perceptual judgments of left- and right-handed batters.

CAN YOU HEAR ME NOW?? In the area of sensory disorders associated with cancer and its treatments, Dr. Brown is collaborating with Dr. Gordon on a research initiative focused on changes in taste and hearing acuity associated with radiographic and oncological treatment regimes. Disturbed taste and impaired hearing are frequent side-effects reported by cancer patients. This work is being conducted with patients at USA's Mitchell Cancer Institute, and a research grant proposal to expand this initiative is presently under review at the National Institutes of Health.



HELPING FRESHMAN ADAPT

This last year **Dr. Susan Anderson** spent a lot of time interacting with new students in **CAS 100**, which is a relatively new course designed to provide help in adjusting to college life. The 2-hr course actually started a few years ago as an elective, but last year it was required of all dorm-living students, and this coming year (Fall 07) it will be required of all new full-time students. Transfer students with more than 15 hours are exempt. It is a multi-faceted course, dealing with very general issues (What is college all about? How to handle being away from home?), as well as specific: How to study? How to build up reading, listening, note-taking, test-taking skills? Where to go with various problems? Where are the writing, math and stat labs? How to get to know your advisor? How to choose a major? How to manage time and money? How to handle roommates, dating, sex, substance abuse? It is aimed at retention of students, and encourages participation in extra-curricular activities such as games and concerts. There are also special sections for honors students. Each course is limited to 25 students, so that there will be lots of discussion and interaction. This year Susan was on the committee that chose the text for the course.

Susan also helps to advise new **pre-health professions** students (pre-med, pre-optometry, pre dentistry, pre-pharmacy, pre-vet med) who have Arts & Sciences majors and those who are undecided about their major. Scheduling for these students can be challenging because they need to fit a year of biology, physics, math, and two years of chemistry into their first two years, in addition to all their general education requirements!

Susan also keeps busy with her *PSY 120 General Psychology* courses, trying to determine who does best *on-line*, and who does best with the traditional *classroom* course. She thinks that the best *on-line* students are the older, more mature, self-motivated, usually part-time students taking a single course. They typically instigate lots of interaction with the professor via email. The younger full-time students appear to have a higher drop rate. As one drop-out commented in an evaluation "I was given a syllabus, and then was just on my own..." (which is of course what an

on-line course is all about). Courses such as **CAS 100** will hopefully help more students handle *on-line* courses.

Susan also teaches *Biopsychology I and II (PSY 310 and PSY 410)* as well as the graduate biopsych course. This year the *Biopsych II* class got a real treat: a chance to view and handle real brains (human, cat, sheep, rat)! She is chair of the A&S college committee to evaluate faculty awards for teaching, scholarship, and service. She also gets up each month for a 7:00 a.m. IRB meeting where she reviews research proposals from faculty throughout the University.

NEWS from the CLINIC

According to **Dr. Elise Labbé**, the new development in the CLINIC this past year was the **expansion of the PRACTICUM** to the summer semester. This gives the clinical students the opportunity to practice counseling and therapy all year long. One new program added by **Dr. Cay Welsh** is a group therapy program for **breast cancer**, conducted in association with the College of Medicine. There are still the regular services for anxiety and depression screening, which are getting more publicity due to national campaigns launched via the television, newspaper and internet.

Elise and student Ashley Fobes are also continuing a very interesting project dealing with **music perception** and preferences. They are researching how college students and teenagers react to music *physiologically*, as measured by respiration, muscle tension, heart rate and skin conductance (sweating). Are some kinds of music more relaxing than others? Everyone seems to relax to classical music (defined by slowing of respiration and heart rate, lowering of muscle tension and skin conductance), while heavy metal music seems to have the opposite effect, even though some listeners claim that metal music "is relaxing". Elise is also looking at the effects of various types of music on cognitive tests to see what helps vs. hinders actual performance. She also encourages subjects to bring in their own type of preferred music for evaluation, and many are choosing **COUNTRY** these days!

A new research project for Elise and her students (Nicholas Schmidt and Jonathan Babin) involves gathering data on how people stereotype themselves. Here is a typical experiment: A subject comes into a

room to take a test and is told: "Some people do not do well on this test". The result is that while *white* students are typically not affected by this remark, *black* students often are, and in fact will not do well on the test. Physiological responses will also be assessed to shed light on this phenomenon of **internal stereotyping**.

On the lighter side, Elise and her family just got back from a cruise trip to Juneau Alaska, where they saw lots of humpback whales, sea lions, and glaciers.

HELPING ADOLESCENTS COPE

Dr. Jenny Langhinrichsen-Rohling (aka **Dr. L-R**) describes her two big research interests as: (1) "Helping adolescents build relationship skills to reduce their risk of interpersonal violence and injury", and (2) "Preventing suicide proneness as measured by the LIFE ATTITUDES SCHEDULE (Dr. L-R's and Dr. Peter Lewinsohn's measure of suicide proneness) in high-risk adolescents and young adults". Dr. L-R accomplished a lot this year in her position as USA's youth violence research scholar with 12 publications, 14 posters/presentations, and 9 additional works in press. She has happily continued to publish with many former USA students, including J Kilbert, M Saito, and N O'Brien, and the papers with these students include "The adaptive versus maladaptive correlates of self-oriented and socially-prescribed perfectionism"; "Sensitive research with adolescents: Just how upsetting are self-reports anyway?"; "Gender-specific associations among suicide proneness and coping strategies in college men and women"; "Reading disability in adjudicated youth: Prevalence rates, current models, traditional and innovative treatments." She is PI or Co-PI of four large grants (ranging from \$99-999K) which supported six graduate students (Christi Culpepper, Kelley Drayer, John Friend, Ashley Powell, Thomas Sherrer, and Kristy Jernigan). Most recently, she has been invited to be a featured speaker at the conference "From Ideology to Inclusion: Evidence-Based Policy and Intervention in Domestic Violence", sponsored by the National Family Violence Legislative Resource Center, to be held Feb 2008 in Sacramento CA. This fall she will receive the *Dean's Lecture Award*

for the College of Arts and Sciences. Amazingly, Dr. L-R still manages to have time for a few non-academic interests: self-publishing a book of poetry, running road races whenever she can (she recently came in first for her age group for "Do it in the Bush" at College Hill Park), and being an involved soccer-mom!

TRAVELS of the CHAIR

Psychology Chair **Dr. Larry Christensen** has been doing a lot of traveling these days. Some of this is for academic purposes, for example this year he traveled to Canada and England to participate in various invited international **carbohydrate-conferences**. Larry continues his research on **CARBO-consumption**, and is now in the process of investigating **CARBO-triggers**, which are sensory stimuli (smell, taste and appearance) that influence **CARBO-cravers**.

On the non-academic side, Larry just got back from a **BARGE TRIP** in Belgium (actually a beer-tasting trip) which convinced him that that "Belgian beer is superior to American beer". After that, he traveled to Germany to trek through the **BLACK FOREST**, where he saw lots of trees but ate no cake. Larry ended his trip with a visit to Denmark, where he participated in a family reunion held in a lodge on the North Sea.

MORE on BONNIE BEATS BANNER

According to **Ms. Bonnie Hall**, she now knows enough about BANNER to do everything she needs to do to keep PIs informed about the financial status of their grants. She knows: (1) How to track basic category expenses (form FGRBDS), (2) How to get detailed expenses (form FGRODTA) (2) How to get balances (form FRRGITD), and now *this year*, after going to *another seminar*, (3) How to print out the accounting feed audit forms (form ZPGRxxxx), which give all the personnel pay information. Besides printing out all these forms for PIs, Bonnie directly checks seven departmental funds: (1) Basic operating, (2) Lab, (3) Clinic, (4) Overhead, (5) Clinic income, (6) Special course fees, (7) Supplementary operating. For these she keeps her own QUICKEN records to double-check

for possible mistakes in BANNER. Also, she does requisitions for faculty members who have become *completely lost* trying to deal with the BANNER system (many thanks, Bonnie). Aside, Bonnie reports that our copy machine is doing "OK". And now that **summer slowdown** is here, she is doing *her departmental house cleaning* which consists of, among other things, mounds and mounds of shredding. JMS offered to lend some gerbils to help with this, but Bonnie says thanks, she has two very competent "gerbils" of her own, namely office assistants Jocelyn Reynolds and Erica White.

Bonnie recently took a break from her departmental duties to take a 4-day trip to NYC (first time ever) with some friends and family members ("all girls, 8 ladies, no husbands"). The high point was attending two live audience shows of *Regis & Kelly*, where she saw 5 celebrities: Joan Rivers, Shaq O'Neill, Jeremy Piven (sp?), John Cusak, and Michael Chicklas (sp?). She went to a *Yankees game* (Yanks vs. Diamondbacks), went shopping on *5th Ave* and bought a bracelet at *Tiffanys*, saw *Ground Zero* and the *Empire State Building*, attended a Broadway play *Mama Mia* and had lunch at *Tavern on the Green* (known for its collection of sculptured bushes of animal forms). Everything went well on the trip (no plane delays), but Bonnie's only negative comments was that the NY subway system (\$7 for a day pass) was "complicated and dirty".

EDZOOICATION

Dr. Joan Sinnott (JMS) has moved to **THE MOBILE ZOO** to set up a field performance site for teaching and research activities in **Comparative Psychology**. She is now working there with four **Old World monkeys**. They are, in order of degree of experimental sophistication, **CHICO** and **MOJO**, both *Japanese macaques*, who were retired in Spring 06 from her lab in the USA medical school after 7 years of dedicated performance on speech perception experiments. Next is **MARCEL**, an *African gray-cheeked mangabey*, also a USA monkey retiree, formerly involved in Dr. Chuck Brown's vocalization research back in the early 90's. Finally there is **BUBBA**, a *rhesus macaque*, who can best be described as a cast-off pet who

got too difficult for his owner to handle. So these four boys (**THE BOYS**) make up the **MONKEY SIDE** of the research team that hopefully will gather exciting new data on the extent to which zoo animals can be trained to perform on various experiments. (The **HUMAN SIDE** of the research team consists of four collaborators of JMS: **Mr. Kelly Mosteller** [JMS's basic right-hand-man], **Dr. Jennifer Vonk of USM** [who is also using the Zoo for her chimp research projects], and USA students **Stephanie Jett** and **Lindsay Weaver**).

The fun formally began with JMS's spring semester **PSY 490 Zoo Animal Behavior** class. We decided to try to teach **THE BOYS** a simple *go-left/go-right auditory localization task*. Specifically, the monkey must learn to *go-left* to the vowel sound "oo" and *go-right* to the vowel sound "ee", as follows. Three platforms are set up inside the monkey test pen, and three humans are seated outside the pen, opposite the platforms, with food. The *center human* lures the monkey to the center platform with a grape. When the monkey takes the grape, a trial begins and either the *left human* says "oo" or the *right human* says "ee". The monkey must go to the left ("oo") or right ("ee") platform to obtain a reward (peanut) from the human. Now granted this is quite a trivial task for a lab animal, even the lowly gerbil can learn to do this in the lab. But at a Zoo, with all the noise and distraction? *Lions and tigers roaring, chimps hooting, birds chirping, wind swishing, people walking by and talking?* **A test session only once a week with only 20 trials per session?** Well, we are absolutely exuberant to report that one of the boys, **MOJO** to be exact, successfully accomplished this task to flawless 100% accuracy after exactly 8 test sessions. You should have seen the class clapping and cheering when **MOJO** had that *flash of insight* and figured out what was expected of him!!!! C'mon now, **CHICO, MARCEL, BUBBA**, you can do it too!!

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*This newsletter gets by with a little help from*  
