



Research UpDATE

FEBRUARY 2005

Utah State University • College of Education and Human Services • Office of Research Services

Announcements

IRB Moves to Military Science Building:

The Institutional Review Board office has moved from Old Main to the Military Science Building, Room 216 D.

Fall 2004 Undergraduate Research and Creative Opportunity (URCO) Grant Recipients in CEHS:

Laura Holmes, "Campus climate"

Department: Psychology
Faculty Mentor: Melanie Domenech Rodriguez

Jonathan Nelson, "The benefits of optimism in a student-instructor relationship"

Department: Psychology
Faculty Mentor: Scott Bates

Jonathan Nelson, "An investigation of Psi Chi membership at Utah State University"

Department: Psychology
Faculty Mentor: Melanie Domenech Rodriguez

Tracey Reeve, "Magnetic resonance imaging (MRI) of internal perineal structures subjected to bicycle seat pressure"

Department: Health, Physical Education, and Recreation
Faculty Mentor: Eadric Bressel

Jennifer Yardley, "College cheating"

Department: Psychology
Faculty Mentor: Melanie Domenech Rodriguez

Some babies are born listeners . . . Others need your help.

The goal of the National Center for Hearing Assessment and Management (NCHAM - pronounced "en-cham"), affiliated with the Psychology Department in the College of Education and Human Services at Utah State University, is to ensure that all infants and toddlers with hearing loss are identified as early as possible and provided with timely and appropriate audiological, educational, and medical intervention.

An invisible disability, congenital hearing loss commonly goes undetected until delays in language development have become so acute that parents and professionals are eventually led to investigate a child's ability to hear. Thus, the average age of identification in the U.S. has been 2-1/2 years, with milder losses frequently not recognized until a child enters school. The implications of this finding are especially significant when one considers that language acquisition actually begins at birth and progresses very rapidly during the first three years of life. Deprived of critical language learning opportunities by an unidentified hearing loss, most children with hearing loss experience concomitant disruptions in social, emotional, cognitive, and academic growth.

More than 20 years ago, the National Institutes of Health (NIH), based largely on a research



study conducted under the direction of Utah State faculty member Dr. Karl White, recommended that all newborns be screened for hearing loss prior to hospital discharge—but at that time only 3% of all newborns were being screened. Shortly thereafter, Dr. White established the National Center for Hearing Assessment and Management (NCHAM) at Utah State. NCHAM currently receives over \$3 million of funding each year from federal, state, and private sources to conduct research, develop training materials, provide training and technical assistance, and disseminate information about early identification and management of hearing loss.

As a result of the work being done by NCHAM and others, dramatic increases in screening have occurred with over 90% of newborns nationwide now being screened for hearing loss at birth. To help achieve these advances, NCHAM has developed training materials, conducted numerous workshops, and provided on-site



assistance to enable hospitals across the country to establish successful universal screening programs. NCHAM has been actively involved in increasing professional and public awareness through news reports and publications in professional and popular journals.

NCHAM has also conducted an annual nationwide survey of universal newborn screening programs. The results of this survey have been broadly shared and have been instrumental in helping additional programs to be established. NCHAM works cooperatively with a number of different professional and advocacy organizations, such as the American Academy of Pediatrics, the March of Dimes, and the Deafness Research Foundation to accomplish these goals

NCHAM staff members are currently working in a variety of areas to improve the efficacy and efficiency of Early Hearing Detec-

tion and Intervention (EHDI) programs. For example, the Centers for Disease Control and Prevention is funding NCHAM to investigate the genetics of hearing loss and the cost-effectiveness of various screening protocols. A grant from the Maternal and Child Health Bureau enables NCHAM to serve as the National Technical Assistance System for EHDI programs. The Administration on Children and Families is funding NCHAM to expand the very successful techniques and protocols developed for hospital-based newborn hearing screening into Head Start and other early childhood programs. The Oticon Foundation is providing funding to explore ways of doing hearing screening of infants and young children in doctors' offices. The National Institutes for Health is funding a nationwide 5-year longitudinal study under the direction of Dr. Susan Nittrouer, to examine the effects on children's speech, language, cognitive, and psychosocial skills of being identified with hearing loss at different ages or being enrolled in different types of early intervention programs. Results will help educators and clinicians design early intervention programs that ensure the best outcomes for all children. More about NCHAM's activities in each of the above areas is available at www.infanthearing.org.

Recently, NCHAM expanded its work to include more basic research by recruiting two senior

scientists. Drs. Don Sinex (from Arizona State University) and Russ Snyder (from the University of California at San Francisco) bring 50+ years of successful research experience between them and add a new perspective to NCHAM's study of hearing and the consequences of hearing loss.

Dr. Sinex studies the neural processing of the intact auditory system and Dr. Snyder explores the consequences of hearing loss on that processing.

There is a great deal of neural processing that happens in the auditory system, and this processing can be disrupted when the signal reaching the auditory system is abnormal or degraded due to hearing loss.

Both scientists are interested in what happens when the signal reaching the auditory system is processed through a cochlear implant. Each has over-arching interests in the functional organization of the peripheral and central auditory systems, and the effects on that organization of certain kinds of experience and deprivation.

The work of Drs. Sinex and Snyder will extend our understanding of what sorts of processors should be built into the next generation of digital hearing aids and cochlear implants, as well as inform us as to what kinds of experience are important for young children with hearing loss.

www.coe.usu.edu/brs

Think
Research

CEHS Research Council: Kim Corbin-Lewis • Jim Dorward
• Nick Eastmond • Rich Gordin • Sherry Marx • Richard Roberts
• Lori Roggman • James Shaver • Julie Smart • Karl White

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