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Discovery

Treating Parent's Depression: Effects on Children

By Jan Rosemergy



The greatest risk factor for depression in youth is a parent's history of depression. This likely is due to a combination of genetic and environmental factors. What happens if a depressed parent receives treatment and improves—or does not improve—and what is the effect on the parent's children?

Answers to this question are being provided by the Parent-Child Project, a multi-site national project led by Judy Garber, Ph.D., and by the STAR*D-Child Study, a multi-site national project, which included Nashville as a site that Garber directed. Garber, who also consulted on the STAR*D Study design, is professor of psychology at Peabody College and a Vanderbilt Kennedy Center investigator.

Parental and Child Depression

"We know that children of depressed parents tend not to fare as well as children of nondepressed parents," Garber said. "That's not to say that every child experiences problems, but they are at greater risk."

Children of depressed parents are at increased risk for multiple problems including social and academic difficulties, psychopathology, substance abuse, and suicide.

Continued on page 2

Biological Clocks and Constant Light

By Melanie Moran

Constant light has long been understood to disrupt our internal clocks, resulting in problems like jet lag and health problems in extended-shift workers. A study led by Douglas McMahon, Ph.D., reveals that although the clocks of individuals exposed to constant light may get out of synch, they keep ticking. The research was published online Feb. 23 in the journal *Nature Neuroscience*. McMahon is professor of biological sciences and a Vanderbilt Kennedy Center investigator.

Biological clocks are responsible for maintaining circadian rhythms, which affect sleep, performance, mood and more. McMahon's findings offer insight into how to modify constant-light situations to lessen their impact on humans. Findings also may have implications for understanding and treating mood disorders affected by exposure to light.

Biological Clocks

In mammals, the brain's circadian pacemaker, or biological clock, forms a 24-hour internal clock for the brain and body that regulates behavior, physiology and mood. Most of us experience the

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Director's Message

Methodological Evolution



Pat Levitt, Ph.D.

I often tell my students that there's little chance of them coming up with a question about brain development and behavior that someone hasn't already asked. While admittedly a bit melodramatic, my own bias is that there is some truth to this in most scientific disciplines. If so, then how does research make advances of the kind for which the Vanderbilt Kennedy Center has become so well-known?

The great leap forward, which we call a scientific "breakthrough," usually occurs in parallel with the development of new technologies. For example, while we recognized for over a century that the brain utilizes chemicals as messengers to convey information, it was the development of new methods in the 1960s to measure these

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Treating Parent's Depression from page 1

Offspring of depressed parents are at about 3 to 4 times greater risk of developing depressive disorders themselves.

"We also know that that the extent of the parent's depression makes a difference," Garber continued. "Chronic or recurrent depression in parents is particularly predictive of problems in children, contrasted, for example, to a parent who may have had a brief 6-month depressive episode related to a stressful life event like divorce."

The Studies

The Parent-Child Study is being conducted at three sites: Nashville/Vanderbilt University, Seattle/University of Washington, and Philadelphia/University of Pennsylvania. It involves 129 high-risk offspring of mothers or fathers being treated for depression and 98 offspring of non-depressed parents. Children range in age from 7 through 17-years-old (average age is 12).

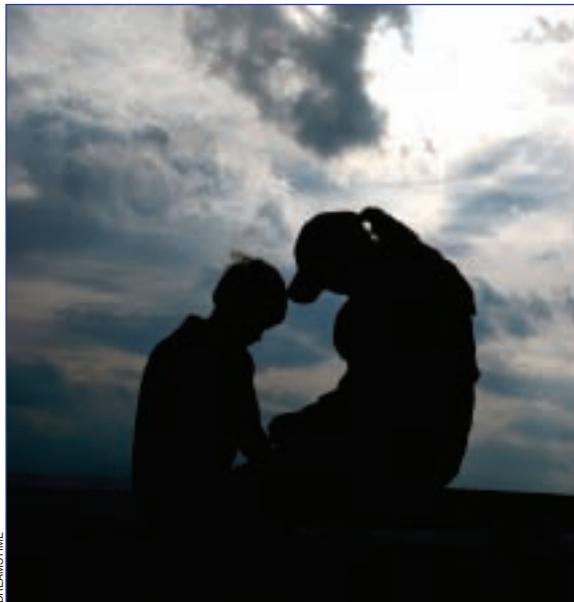
"We included this comparison group," Garber explained, "because changes in children of depressed parents could simply be normative development. The question is whether symptoms in children of depressed parents are changing at a differential rate compared with age-matched children of non-depressed parents."

The STAR*D Study included 151 mother-child pairs in 8 primary care and 11 psychiatric outpatient clinics across 7 regional centers in the United States. Children were ages 7 to 17 years.

Both studies assessed children whose parents were receiving treatment including medication and/or cognitive therapy. The studies focused on remission of the parents' depression in relation to changes in children's symptoms and functioning. Both studies were funded by grants from the National Institute of Mental Health.

Findings

"The bottom line in both studies is that children whose parents got better showed some improve-



DREAMSTIME

ment in their own psychopathology," Garber said. "If parents continued to be depressed, their children's psychopathology tended not to change or to get a little worse."

In the STAR*D Study, remission of maternal depression after 3 months of treatment was associated with reductions in children's diagnoses and symptoms. There was an overall 11% decrease in rates of diagnoses in children of mothers whose depression remitted compared with an approximate 8% increase in rates of diagnoses in children of mothers whose depression did not remit. Findings were reported in the March 21, 2006, issue of the *Journal of the American Medical Association (JAMA)*; Garber was a co-author of the study. This is the first published study to document prospectively the relation between remission of a mother's depression and her child's clinical state.

Garber cautions that these findings do not demonstrate a causal relation. "You can say that there's co-variation," she continued. "It could be that parents are improving and that causes their children to improve. It could be that children's improvement causes parents to change. Or it could be that circumstances have changed for both of them, that some third variable such as decreased stress resulted in changes in both the

parent's depression and children's problems. At this point, we can say that there's a significant relation. Possible reasons for this relation are the continued focus of the Parent-Child Project."

A clear implication of the findings is that if a parent is depressed, it would be prudent for the parent to get treatment to help reduce the depression, Garber emphasized, because remission of parental depression is related to changes in their children. Garber added, "Depression is a very treatable condition, and it is a shame that some parents are not taking the opportunity to get treated, if not for themselves, then for the sake of their children."

Authors of the STAR*D Study pointed out that the low proportion of mothers among women seeking treatment suggests that there likely are substantial barriers to depressed mothers getting the help they need. Other research has indicated that depressed low-income women, in particular, tend not to use community care available to them, even if it is free, making outreach, child care, transportation, and flexible treatment schedules all the more important in encouraging mothers to obtain treatment.

Next Steps

Children in the Parent-Child Project are being followed every 6 months for 2 years, and children in the STAR*D Study are being followed every 3 months from 1 to 2 years. Researchers in both studies are looking at factors such as changes in stress, the parent-child relationship, and/or in children's cognitions (i.e., how they perceive themselves, others, and the world) that may account for the relation between depression in parents and children. Follow-up research focuses on temporal precedents and mediation, that is, whether changes in parents are related to changes in the family environment, which then are related to changes in the children's functioning.

"The next step is prevention," Garber said, "both at the level of getting depressed parents treatment as well as intervening with children who are at risk for depression." ●

Primer

Depression in children and adolescents is characterized by at least five of the following symptoms (at least one of the first two) for more of the time than not, for at least 2 weeks:

- Sadness or irritability
- Loss of interest or pleasure
- Change in appetite
- Sleep problems
- Fatigue, low energy
- Concentration problems
- Low self-esteem or guilt
- Agitation or physical slowness
- Suicidal thoughts or behaviors

Depression in children and adolescents should be prevented and treated because:

- Depression is a significant public health concern. According to the World Health Organization, depression is the number one cause of disability and will be the second most important disorder by 2020 in terms of disability and mortality.
- Depression is impairing. In teens it is associated with decreases in school and work performance, difficulties in family and peer relationships, and an increased risk of alcohol and drug abuse and suicide.
- Depression is common. Between 20% to 40% of teens report depressed mood.
- Depression is chronic and recurring. Depression in childhood or adolescence places youth at risk for disorders later in life.

- Depression is costly due to skyrocketing antidepressant prescription costs, and the costs of health care.

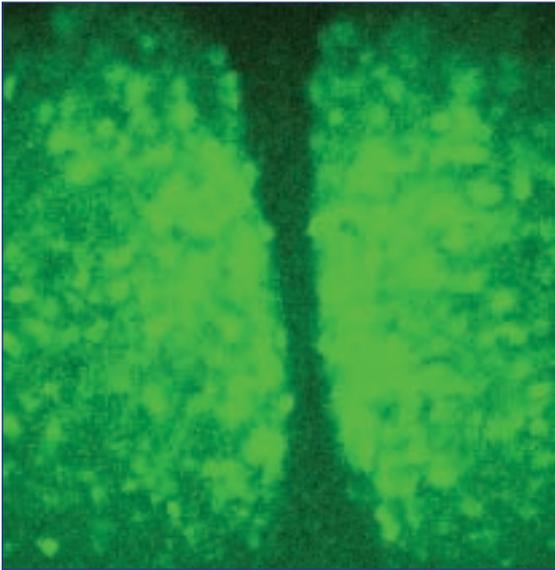
Internet Resources

- Depression & Bipolar Support Alliance
www.dbsalliance.org
- NAMI (National Alliance for Mental Illness)
www.nami.org
- NAMI Tennessee
www.namitn.org
- Tennessee Voices for Children
www.tnvoices.org
- Mental Health Association of Middle Tennessee
www.ichope.com
- Vanderbilt Kennedy Center StudyFinder
Select "Depression" to view studies
kc.vanderbilt.edu/studyfinder ●

Biological Clocks from page 1

circadian clock's daily influence on our mood, with low mood and energy in the morning giving way to higher mood in the afternoon.

Disruptions of the biological clock and the sleep rhythms it times are associated with mood disorders such as depression, including seasonal depression, non-seasonal depression, and bipolar depression. Seasonal affective disorder (SAD), or winter



Researchers inserted a green fluorescent protein into a mouse's individual biological clock neurons in order to study the effect of constant light.

depression, is a clock-based form of depression in which the lack of light during the short winter days disrupts normal clock function. Stimulating the clock, especially early in the morning, with light therapy treats winter depression, and light therapy improves drug treatment of non-seasonal depression as well.

Imaging Effects of Constant Light

McMahon and his colleagues Hidenobu Ohta, Ph.D., postdoctoral fellow, and Shin Yamazaki, Ph.D., research assistant professor of biological sciences, set out to uncover what happens at the molecular level when an individual is exposed to constant light.

The mammalian biological clock in the brain is made up of multiple nerve cells, each with a pair of identical nuclei.

"We wanted to be able to track not just the average activity of the clock nuclei as a whole, but the individual cell rhythms and to correlate that with the behavior of an individual animal," McMahon explained. "Has the light stopped the clocks in individual cells, or has it reorganized the neurons?"

To answer this question, McMahon and his colleagues developed a method to image the ongoing clock gene activity in living brain cells. They constructed an artificial gene in which the regulatory portion of a clock gene called *Period1* controls the expression of a fluorescent protein originally from jellyfish (GFP), and inserted that gene into mice. In these mice, their biological clock cells glow green, and the researchers can read the time on each cells' molecular clock by the level of green glow. They then

used a specially constructed laser-light confocal microscope to track the patterns of gene activity of clock neurons isolated from mice which had been exposed to different light regimes.

In this way they were able to take a snap-shot of the gene activity patterns in the clock resulting in normal and abnormal rhythmic behaviors. The protein glowed in proportion to how strongly the gene was being expressed throughout the day, enabling the researchers to read the time on the molecular clocks.

The researchers found two different answers, depending upon the subject, to their question of how constant light affected biological clocks. Some animals experienced disruptions to their behavior, while others seemed to adapt by creating a new internal 12-hour "day" during which they had active periods. For the animals whose behavior was disrupted, the researchers found the clocks in individual cells were still ticking, but they had become desynchronized.

"Light had disrupted the communication mechanisms between cells that keep them in synch," McMahon said.

In the animals that exhibited the 12-hour cycle, the two identical nuclei no longer beat together but instead showed an alternating burst of activity in the left and the right nucleus every 12 hours.

"The individual cell clocks had not stopped, but they had become desynchronized. Some mechanism that couples the two sides was disrupted. It appears that the nucleus on each side can control behavior," McMahon said.

Developmental Effects of Constant Light

McMahon and his colleagues recently completed an additional study demonstrating that long-term exposure to continuous lighting can have lasting effects on the development of the brain's biological clock. Of particular concern in this case are infants in neonatal intensive care units, where the lights often are left on continuously for observation.

Using the same clock-gene fluorescence assay, the research team has shown that exposure of mice to constant light during their neonatal development period results in disrupted behavioral rhythms and clock organization, as well as increased vulnerability to clock disruption later in life (Ohta et al., 2006, *Pediatric Research*, in press).

Previous studies have shown that human premature infants exposed to constant light also show lower rates of weight gain, compared with those maintained on regular light/dark cycles. Together the animal and human studies suggest that cyclic lighting is the most appropriate condition for neonatal care and clock development.

Synchronizing Biological Clocks

McMahon said some methods for keeping biological clocks synchronized are exercise, keeping an individual alert and exerting oneself, all of which appear to provide feedback to the clock. This feedback has been shown in studies in mice to reinforce natural rhythms and to keep clocks in synch.

The work was supported by a grant from the National Institutes of Health. (Vanderbilt Register, May 7, 2006, with additions by McMahon.) ●

Director's Message from page 1

neurotransmitters that led ultimately to the establishment of entirely new ways of thinking about brain chemistry and its role in psychiatric and developmental disorders. The technologies brought a Nobel Prize to the discoverers.

In the study of brain and behavior, our recent technical ability to monitor brain activity in "real time," with several millionths of a second accuracy, has provided new answers to time-honored questions of how complex information can be processed with such remarkable speed and precision. We recognize that some of the newest methods to peer into the brain of a child or an adult, such as functional neuroimaging, have brought to life the startling complexity and uniqueness of our brain architecture, which for more than a century we recognized as the defining feature of human behavior.

The methods used to resolve the human genome, with more than 20,000 genes at our disposal to influence brain and behavioral development, provide a new platform for understanding the complexities of how genetic vulnerability and early experiences together cause developmental disabilities.

The most expensive of hardware technologies are paralleled by the invention of new methods to test earlier and earlier for developmental disabilities, and for defining new strategies that allow us to recognize the variability inherent in such complex disorders that often make them so challenging to treat.

Investigators of the Vanderbilt Kennedy Center continue the great tradition of our past scholars by contributing to this methodological evolution. Four years ago, we recognized that while the key questions pertaining to developmental disabilities may be evolving ever so slowly, the Vanderbilt Kennedy Center needed to invest in our entrepreneurs to bring us closer to new and meaningful answers. Our Test and Technology Center has created a wonderful platform for this effort and already has new software and diagnostic test development under its belt.

With a realistic goal of expanding these efforts in the coming years, we hope to provide our students and the Center faculty members with the necessary tools to go beyond question-raising, to reach a state of question-answering that continues to define our Center as a leader in developmental disabilities research and treatment.

Internet Resources

VKC Psychophysiology Laboratory
kc.vanderbilt.edu/kennedy/brainlabs
 VU Institute of Imaging Science
www.vuiis.vanderbilt.edu ●

Vanderbilt Kennedy Center for Excellence in Developmental Disabilities

When Down Syndrome and Autism Co-Occur

By Jan Rosemergy



MELANIE BRIDGES

Parent panelists—Mike and Debra Powers, Peggy Moss, Sheila Moore, and Darla and Jim Love

“Where are we now?” was the first question addressed at a unique all-day conference on the co-occurrence of autism and Down syndrome that addressed improving supports and services for individuals with these co-occurring conditions. The answer of Elisabeth Dykens, Ph.D., director of the Vanderbilt Kennedy Center for Excellence and professor of psychology, was: “We are somewhere (the train has left the station) but we are not there yet—we have a long way to go.”

The Research Base

Dykens stressed the history of inattention to mental health concerns in people with intellectual disabilities because of the assumption that problems were due to cognitive impairments. While “diagnostic overshadowing” has lessened, it still occurs, although there is increased awareness that people with intellectual disabilities also have psychiatric, behavioral, or emotional problems.

“Dual diagnosis,” the term used to characterize the co-occurrence of a developmental disability and a psychiatric disorder, is unfortunate, Dykens pointed out, because problems are often more than “dual,” and because in psychiatry the term refers to psychiatric disorder and substance abuse.

Research has confirmed that, relative to the general population, persons with intellectual disabilities are at increased risk for behavioral, emotional, or psychiatric disorders. Biopsychosocial factors include increased risk of failure, less differentiated views of self, poor communication and assertiveness, social rejection, increased

exploitation and abuse, untreated medical conditions and/or pain, atypical neurological functioning, family stress, familial genetic factors, specific syndrome characteristics, and seizures, sensory, or motor disorders.

Progress has been made in developing assessment tools for people with intellectual disabilities, including rating scales, specialized interviews, and the *Diagnostic Manual for Persons with Intellectual Disabilities*, soon to be published by the National Association for the Dually Diagnosed, in association with

the American Psychological Association and the World Psychiatric Association, with partial funding from the Joseph P. Kennedy Jr. Foundation.

Dykens indicated that approximately 40% of people with intellectual disabilities show “clinically significant” problems. The type and rate of problems differ across persons with different underlying causes of intellectual disability.

Data on the actual co-occurrence of Down syndrome and autism are not yet available. “Studies using samples of convenience suggest that 5% to 10% of individuals with Down syndrome also have autism,” Dykens said.

Assessment and Diagnosis

Characteristics of Down syndrome and autism, medical and psychological evaluations, diagnosis and assessment were reviewed by Lisa Craft, M.D., developmental pediatrician and MIND Training Project director, and Linda Ashford, Ph.D., psychologist with the Vanderbilt Center for Child Development.

Craft recommended that parents who have concerns talk with their child’s pediatrician and seek referral to appropriate clinics. A two-step process should be expected: an initial visit to discuss concerns with a psychologist, pediatrician, and other clinicians; and a psychological evaluation (approximately 3 hours). Possible assessments include psychological evaluation, medical evaluation, speech-language and hearing evaluation, occupational therapy evaluation, physical therapy, or nutrition.

Diagnosis and assessment should be multidimensional and comprehensive. Components may include

a developmental history, information from teachers or therapists, report of home behaviors, speech-language evaluation, cognitive evaluation, observational evaluation, and diagnostic interview.

Family Perspectives

Especially compelling was the parent panel led by moderator Sheila Moore, director of the Down Syndrome Association of Middle Tennessee. Parents were Peggy Moss, Darla and Jim Lowe, and Mike and Debra Powers, each of whom have a son or daughter with co-occurring conditions. All reported struggles with challenging behaviors that led to diagnosis, then difficulties in finding treatments and strategies that would work for home and school life. Mike Powers described the experience as “a tough gig—you don’t realize what families go through.”

They offered useful advice for other parents. “Learn to accept and love your child for who he is,” said Peggy Moss. She emphasized, “I’m a mom, not his educator. Praise God for educators! But we’re a family and we do home life.”

The Lowe family has found peer mentoring to be helpful for their teen. “We roll with the punches and do the best we can do,” said Jim Lowe.

Mike Powers advised, “Start early, because it takes forever—and stay after it.” He urged parents and educators alike to “do your homework” and use it to help your child and family. “Find lots of resources and use them,” Powers said, “and get help with stress management for yourself and your family.”

Other Aspects

Medication management was addressed by Karen Summar, M.D., fellow in developmental and behavioral pediatrics, Center for Child Development. A panel, moderated by Wendy Stone, Ph.D., TRIAD director, addressed the need for service coordination. Panelists were Nicolette Bainbridge Brigham, TRIAD outreach coordinator, J. Lynette White, behavior analyst for Metro Nashville Public Schools Autism Team, and Karen Summar. “Next steps” to conclude the conference were offered by Janet Shouse, Williamson County ASMT Contact, and Elise McMillan, J.D., associate director, Kennedy Center for Excellence.

The conference, held April 8, was sponsored by the Vanderbilt Kennedy Center for Excellence, the Down Syndrome Association of Middle Tennessee, the Mid-Tennessee Interdisciplinary Instruction in Neurodevelopmental Disabilities (MIND) Training Project, and the Autism Society of Middle Tennessee (ASMT). ●



Treatment and Research Institute for Autism Spectrum Disorders

Educating and Supporting Families A New Beginning

By Traci Fleischman

Parents of young children with autism need cutting-edge information and high-quality support. TRIAD has established a new program for parents of young children who have or are suspected of having an autism spectrum disorder. Through the Parent Support and Education Program (PSEP), autism specialists provide information, support, and consultation for parents of children under 4-years-old who are concerned about autism. From its start in September 2005 through May 2006, PSEP has seen over 30 families.

"PSEP was developed because there is such a long wait to get a diagnostic evaluation for autism in our community, as well as the rest of the country," explained Sarah Coffey, TRIAD autism consultant.

"It also was designed to overcome some common problems with the diagnostic process. Parents get a life-changing diagnosis of autism and then they are sent out on their own to figure out what to do next. This service is meant to address both of those problems."

PSEP involves a three-session model that includes assessment and intervention visits with consultations individualized to each family.

Evon Batey Lee, Ph.D., conducts the initial diagnostic assessment. Lee is the psychological assessment coordinator for Clinical Research and Assessment at the Vanderbilt Kennedy Center.

"During the first visit, I typically conduct a diagnostic assessment which includes several kinds of measures," said Lee.

"For example, the cognitive assessment evaluates verbal and nonverbal problem-solving skills. The parents also are interviewed about the child's social adaptive skills. This helps me get information about the child and allows me to look at the child's independent living skills at home. I focus on practical things, such as how a child is communicating or how self-help skills, like feeding or dressing themselves, are developing," continued Lee. "The other two measures look more specifically at autism-related behaviors. So the assessment is a combination of watching the child in structured and unstructured situations and then getting a good history from the parents."

After the initial visit, parents attend two



SUSAN MCKINNIETTES

follow-up sessions. These sessions are conducted by the TRIAD autism consultants, and focus on areas that the parents identify as priorities. Some common areas of concerns for parents are their child's behavior and communication skills.

"In the follow-up sessions, we learn what the priorities of the parents are. Some families are at the point where they know their child's diagnosis before coming to PSEP and just need information and resources, while other parents need to be educated about autism in general. We see parents who have different levels of understanding and different types of needs, so we individualize our follow-up sessions to best meet their needs," explained Coffey.

"For example, we can show parents how to prompt interactions from their child, how to structure the environment to facilitate communication, and how to set up social situations to make a nonverbal child become motivated to communicate. We demonstrate these specific methods and then let the parents practice implementing them."

At the follow-up sessions, each parent receives a notebook specialized for their child. The notebook consists of several different sections containing information about the characteristics of autism, understanding and managing behavior, using different teaching strategies, promoting social interactions, and locating state and regional resources.

In addition to the notebooks, the TRIAD autism consultants often provide the parents with teaching materials such as pictures or visual schedules. Parents learn how to use these materials during the sessions, and then can bring them home to use.

PSEP also serves the scientific community by gathering information that will inform research on best practices.

"Because the program is associated with the Vanderbilt Kennedy Center and TRIAD, families can be informed of upcoming studies in which they can choose to participate," stated Lee.

"My family became involved with the PSEP program through Dr. Wendy Stone and TRIAD," stated Diane Holitik, a participant in the PSEP program. Holitik's son, Rob, is 4-years-old and was diagnosed with autism by the PSEP professionals. "I had filled out a questionnaire for Dr. Stone and

one particular question in regards to the diagnostic process struck a chord with me."

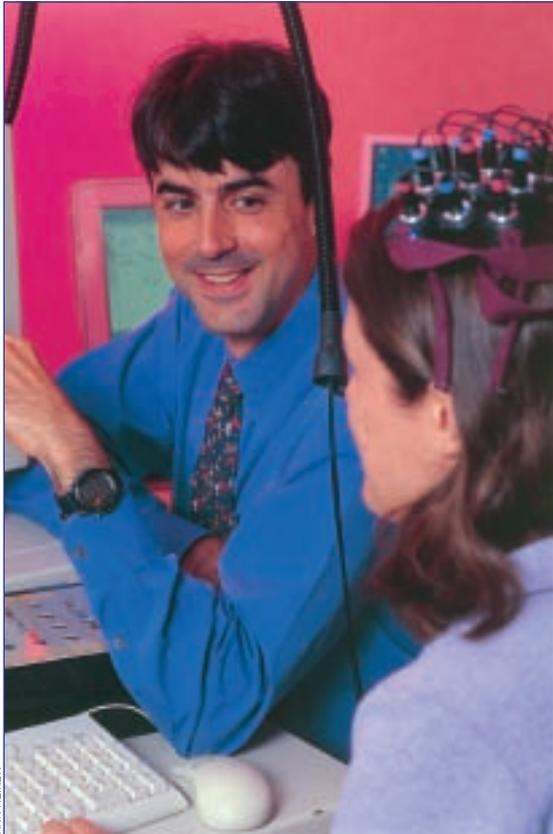
"My son, Rob, was able to see Dr. Lee and an autism consultant at TRIAD," Holitik continued. "This assessment was different than any other assessment we had been through before. We received a full written report with Rob's evaluation and were able to have our questions answered. I learned a lot in the parent interview. PSEP unlocked doors to many different avenues. It was a blessing for us. Without this program, there is no doubt that Rob would be at least a year behind in school. The diagnosis validated our fears and concerns. My husband, Robert, and I now feel educated on what is best for Rob."

Parent support is important to both the child and the parents. "From the child's point of view, the parent is the constant in the child's life," explained Lee. "Family members are around them in different settings and throughout the day, which puts them in a prime position to provide intervention. From the parents' point of view, the opportunity to obtain support and information is what makes this program so unique."

Currently, the PSEP program is based on a fee for service and does not bill insurance companies. There is a sliding fee scale, based on income level.

For information contact Teresa Turnbo at (615) 936-5118 or email teresa.turnbo@vanderbilt.edu.

Leading the Vanguard of Discovery



ANN REINER

ADAM W. ANDERSON, PH.D.

Associate Professor of Biomedical Engineering
Associate Professor of Radiology and
Radiological Services
Vanderbilt Kennedy Center Investigator
Joined Vanderbilt Kennedy Center 2003

Research Interests

Magnetic resonance imaging (MRI) of the brain, including functional MRI and diffusion tensor imaging (DTI)

Principal Investigator

- Improved imaging of brain white matter, National Institute for Biomedical Imaging and Bioengineering
- White matter structural abnormalities in schizophrenia, NARSAD: The Mental Health Research Association

Clinical Interests

My main interest currently is assessing the connections among brain regions using MRI. I am working with investigators in the Vanderbilt Kennedy Center, Psychology, and Psychiatry departments to measure how disabilities such as Williams syndrome, mathematical learning disability, and schizophrenia change the microstructure of major axon fiber bundles in the brain.

National Service

- Editorial Board, *Magnetic Resonance Imaging*
- Reviewer, *Biological Psychiatry*, *Journal of Magnetic Resonance Imaging*, *Magnetic Resonance Imaging*, *Magnetic Resonance in*

Medicine, NeuroImage, Journal of Magnetic Resonance

Selected Publications

- Anderson, A.W. (2005). Measurement of fiber orientation distributions using high angular resolution diffusion imaging. *Magnetic Resonance in Medicine*, 54, 1194-1206.
- Anderson, A.W., Marois, R., Colson, E. R., Peterson, B. S., Duncan, C. C., Ehrenkranz, R. A., Schneider, K. C., Gore, J. C., & Ment, L. R. (2001). Neonatal auditory activation detected by functional magnetic resonance imaging. *Magnetic Resonance Imaging*, 19, 1-5.
- Peterson, B.S., Anderson, A. W., Ehrenkranz, R., Staib, L. H., Tageldin, M., Colson, E., Gore, J. C., Duncan, C. C., Makuch, R., & Ment, L. R. (2003). Regional brain volumes and their later neuro-developmental correlates in term and preterm infants. *Pediatrics*, 111, 939-948.

Education

B.A. (with Honors in Physics), 1982, Philosophy, Physics, Williams College
M.S., 1984, Physics, Yale University
M.Phil., 1986, Yale University
Ph.D., 1990, Physics, Yale University

Attraction to Developmental Disabilities Research

We really don't have a good understanding of how changes in the brain are related to typical development or developmental disabilities. A promising way to investigate the relationship is with imaging, particularly magnetic resonance imaging (MRI). This is because MRI can produce detailed maps of the structure and function of the brain in an examination that is safe for infants, children, and adults. This suggests exciting possibilities for early diagnosis of those at risk for developmental disabilities, for identifying the best interventions for those diagnosed, and for understanding the basic mechanisms of these disabilities, which may lead to new treatments in the future.

Reasons for Vanderbilt Kennedy Center Membership

The Vanderbilt Kennedy Center is a remarkable resource for interdisciplinary research in human development. It brings together scientists and practitioners with expertise in a wide range of relevant fields, from basic neuroscience to community programs. The Vanderbilt Kennedy Center's infrastructure for research makes it much easier to carry out crossdisciplinary research projects. ●

Boys vs. Girls on Timed Tests

By Melanie Moran



DANIEL DUBOIS

Stephen Camarata (pictured)

New research attempting to shed light on the ever-green question—just how do male and female brains differ?—has found that timing is everything. In a study involving more than 8,000 males and females ranging in age from 2 to 90 from across the U.S., Vanderbilt Kennedy Center researchers Stephen Camarata, Ph.D., and Richard Woodcock, Ph.D., discovered that females have a significant advantage over males on timed tests and tasks. Camarata and Woodcock found the differences were particularly significant among pre-teens and teens.

"We found very minor differences in overall intelligence, but if you look at the ability of someone to perform well in a timed situation, females have a big advantage," Camarata said. "It is very important for teachers to understand this difference in males and females when it comes to assigning work and structuring tests. To truly understand a person's overall ability, it is important to also look at performance in un-timed situations. For males, this means presenting them with material that is challenging and interesting but is presented in smaller chunks without strict time limits."

The research has been published in the May/June 2006 issue of the journal *Intelligence*. Camarata and Woodcock compiled their results through an evaluation of three sets of data collected from 1977 to 2001 as part of the Woodcock-Johnson Series of Cognitive and Achievement Tests.

Camarata and Woodcock plan to conduct studies to measure brain activity using tools such as functional magnetic resonance imaging and event-related potential tests to better understand which brain areas are playing a role in processing speed and how these areas react differently in males and females.

The research was funded in part by an endowment from the Scottish Rite Foundation of Nashville and by a grant from the National Institute of Child Health and Human Development. (Excerpts from *Vanderbilt Register*, May 7, by Melanie Moran; see www.vanderbilt.edu/exploration/stories/camarata.html) ●

Grants Awarded

Brain manganese deposition in high-risk neonates

Judy Aschner, Ph.D. (Pediatrics)
National Institute of Environmental Health Sciences

Neurodevelopment and neuroimaging in parenterally-fed infants and young children

Judy Aschner, Ph.D. (Pediatrics)
The Gerber Foundation

Anger expression, opioid dysfunction, and chronic pain

Stephen Bruehl, Ph.D. (Anesthesiology)
National Institute of Neurological Disorders and Stroke

Mechanisms of CAM Kinase II signal transduction (renewal)

Roger Colbran, Ph.D. (Molecular Physiology & Biophysics)
National Institute of Mental Health

Evaluating a multicomponent reading comprehension program designed to address the diverse needs of struggling readers in late elementary school

Donald Compton, Ph.D. (Special Education)
Institute of Education Sciences

Emotional reactivity, regulation and childhood stuttering

Edward Conture, Ph.D. (Hearing & Speech Sciences)
National Institute of Deafness and Other Communication Disorders

SERT polymorphisms and human cortical 5-HT_{2A} receptors

Ronald Cowan, M.D. (Psychiatry)
National Institute of Mental Health

Training program in ion channel and transporter biology (renewal)

Alfred George, M.D. (Medicine)
National Institute of Neurological Disorders and Stroke

MRI diffusion in tumors using oscillating gradients

John Gore, Ph.D. (Radiology & Radiological Sciences)
National Cancer Institute

Early intervention and assessment for young children with disabilities

Ann Kaiser, Ph.D. (Special Education)
Institute of Education Sciences

Effects of strategy and self-regulation instruction on students' writing performance and behavior: A preventative approach

Kathleen Lane, Ph.D. (Special Education)
Institute of Education Sciences

Assessing the efficiency of melatonin in treating insomnia in children with autism

Beth Malow, Ph.D. (Neurology)
Dana Foundation/Autism Speaks/National Alliance for Autism Research

Linking clinical phenotypes and molecular underpinnings of addictions

Peter Martin, M.D. (Psychiatry)
National Institute on Drug Abuse

Research training in diabetes and endocrinology (renewal)

James May, M.D. (Medicine)
National Institute of Diabetes and Digestive and Kidney Diseases

Identification of synaptic remodeling genes in *C. Elegans*

David Miller, Ph.D. (Cell & Developmental Biology)
National Institute of Mental Health

Optical imaging of SI cortex in the awake primate

Anna Roe, Ph.D. (Psychology)
National Institute of Neurological Disorders and Stroke

Signal transduction in depression

Richard Shelton, M.D. (Psychiatry)
National Institute of Mental Health

Unraveling the genetic etiology of autism

James Sutcliffe, Ph.D. (Molecular Physiology & Biophysics)
National Institute of Neurological Disorders and Stroke

GIT1 regulates spine morphogenesis and synapse formation

Donna Webb, Ph.D. (Biological Sciences)
National Institute of Mental Health ●

Memorial Tributes

Lloyd Dunn, Ph.D., a national pioneer in the development of tests that allowed educators and parents to better understand, teach, and assist individuals with developmental disabilities, died April 6. He was 89. Dunn was chair of the Department of Special Education at Peabody College from 1953 to 1967 and helped found the national network of centers for the study and treatment of developmental disabilities.

Dunn's publications with his wife, Leota, on assessment, methods and materials used for understanding individuals with developmental disabilities are still used extensively throughout the U.S. A third edition of the Peabody Picture Vocabulary Test, which he developed, was published in 1997. It continues as a leading measurement tool for standard English vocabulary and a screening test of verbal ability in early reading.

In 1954, Dunn and the late Nicholas Hobbs founded the nation's first doctoral-level training program in intellectual disabilities at Peabody College. The program is still supported by a training grant that represents the longest continually funded federal training grant in the nation. Dunn was instrumental in establishing the John F. Kennedy Center for Research on Education and Human Development in 1965 and its predecessor, the Institute on Mental Retardation and Intellectual Development. Dunn served on President Kennedy's Panel on Mental Retardation from 1960 to 1964, which helped create early legislation benefiting people with disabilities.

Dunn once described himself as the Andy Rooney of special education.



Leota and Lloyd Dunn, 1995

"If I had my way, the field would get rid of the term 'special education,'" he said. "There should be no dichotomy between general and special education. We are all just school teachers who don't know as much as we should about educating young people who are very different from the average." (Excerpts from *Vanderbilt Register*, April 24, by Melanie Moran).

James (Jim) Lent, Ed.D., passed away April 7 at age 76. He was a dedicated advocate for persons with disabilities, developing the Department of Special Education at the University of Houston, which he directed 1959 to 61. He was a researcher in programs on intellectual disabilities at the University of Oregon and the University of Kansas, before joining Peabody College as a professor of special education from 1975 until his retirement in 1993.

Lent was a researcher at the John F. Kennedy Center, where he directed Project MORE (Mediated Operational Research for Education) whose purpose was to develop and disseminate validated, replicable instructional materials for persons with intellectual disabilities. More than 70 daily living skills were published. He also led Project CHANGE, a model system for the education of children and youth with severe or profound developmental delays. Its goals were to increase children's control over their environments and to promote movement to less restrictive settings. Both projects were initiated in the 1970s, decades before inclusion in schools and communities became a common practice. ●



Susan Gray School *Where Knowledge Meets Nurture*

Peabody College of Vanderbilt • Vanderbilt Kennedy Center

Empowering Families to Empower Their Children

By Courtney Evans



MELANIE BRIDGES

Ben and Halle Buttriss

Empowering families to do whatever they can to help their child reach his or her full potential is an important aspect of all the programs of the Susan Gray School (SGS). One way the School puts this into practice is by serving a child and their family across a developmental continuum, from the time of diagnosis until kindergarten. From the community outreach program to the School's eight inclusive classrooms to assisting in the transition into local school systems, the SGS programs meet families where they are and create a supportive environment in which to empower and transition their child with special needs.

Beginning in Community Outreach

"The majority of the children at Susan Gray School begin in the outreach program," said Michelle Wyatt, M.Ed., SGS assistant director.

"We go into their homes or into the day care centers and work with the people who are working with the children. The focus of an outreach visit is not just to be hands-on with the child the whole time, but also to teach whoever is taking care of the child things that they can do in their regular routine to aid in the child's development, to help the child develop the skills needed."

Halle Buttriss, now age 5, began in the outreach program when she was just

9-months-old. Though never diagnosed, Halle's symptoms are hypotonia (reduced muscle tone), failure to thrive, hydrocephalus (an abnormal accumulation of cerebrospinal fluid within ventricles inside the brain), and complex partial seizures. The SGS outreach teacher began visiting Halle at her day care center where, at almost 1-year-old, she was being cared for in the infant room.

"Halle was the oldest child in the classroom and should have moved on developmentally with another group, but they left her there because she couldn't sit up or roll over," Wyatt said. "They felt she couldn't be in a classroom where the children were more independent because she would be hurt."

"I could tell Halle was bored in the infant program," Halle's mom, Chris Buttriss said. "Michelle was great because she came in and gave the teachers ideas about how they could stimulate her. She helped us with strategies to help her sit up on her own and interact with things. That was really helpful for all of us."

Next Step—SGS Toddler Classroom

To begin in the outreach program and to then enter a SGS classroom enables a smooth transition for the families because the teacher may become aware of a child's needs before he or she enters the classroom. Communication and continuity between outreach and classroom is a key element.

"The transition for Halle was incredible and necessary," Wyatt said. "Within the first couple of months that she was here, we really saw what she was willing to do. Being around developmentally appropriate peers encouraged her. She was with other 1- and 2-year-olds who were up and moving, and so she wanted to be up and moving. She is now doing so much better than any of us who first started working with her ever thought she could do."

Preschool Transition

When a child with special needs turns 3, by federal and state law, the local school system becomes responsible for the child's special education.

"Most, but not all, children receiving early intervention at SGS live in Davidson County, so they transition into Metro Nashville Public School's preschool special education program," explained Ruth Wolery, Ph.D., SGS director. "Metro operates preschool special education in

some of their own Metro schools, as well as through contract arrangements with community preschool programs. SGS has a contract with Metro Public Schools for preschool special education. Essentially we provide the classroom placement and Metro provides the special education service. This has been a wonderful relationship and is extremely beneficial to the families because it eases the sometimes stressful elements caused by transitioning."

When Halle turned 3, an Individualized Education Program (IEP) team met to assess her case and to work with her parents to make decisions about where she would be placed. Halle continued at SGS.

"One of the issues that played into why I wanted Halle to remain at Susan Gray School was the issue of social interaction," Buttriss said.

When Halle first began in the classroom, her physical limitations dictated that while the other children moved on to the next activity, she would have to wait behind and transition after the fact. This was to prevent her from being physically hurt, but it also separated her somewhat from the other children.

"When she turned 3 and we had her IEP, the teachers at Susan Gray School sat us down and made great suggestions about what they felt was best for Halle, what we might ask for in our IEP hearing," Buttriss remembered.

"Thank goodness they did, because we got all of it, including an educational aid that stays with Halle all day at school. Because of the aid, Halle now can transition at the same time as the other kids. This has been so beneficial in helping her with issues like social interaction and even independence. She graduates next month and starts kindergarten this coming year. The educational aid will go with her, but Halle has developed such independence that I am hoping the aid will just have to stand back and watch."

Buttriss expresses true gratitude for the continuity of care that Halle has received at SGS. She feels very strongly that fewer transitions make a difference in development.

"Halle has enough on her plate without worrying about transitioning again and again. The independence and confidence that she has now is amazing. They have prepared her so well at Susan Gray School. She is excited about entering kindergarten, and everyone here feels that she is ready." ●

Creating Opportunities for Artists

By Courtney Evans



Artists at work during "Common Ground" workshops led by Full Circle Art

Lain York, director of Zeitgeist Gallery in Nashville, sits before a group of eager artists, parents of artists, and art enthusiasts who have come to the Vanderbilt Kennedy Center to hear about his experiences as a painter, to discuss marketing, and to brainstorm about the possibilities that could arise from creating a community of artists with special needs in Nashville.

"I know what it is to want to pursue painting in an environment with limited prospects of sales and subsidies," York remarks. "What works is identifying and stressing what makes you different. It is a matter of coming together as a community to identify common goals and to share resources."

"Creating Community and Opportunity for Artists with Special Needs" was just one in a series of community-building workshops that have been offered through the Vanderbilt Kennedy Center University Center for Excellence and thanks to a Metropolitan Nashville Arts Commission grant.

Judging from the ideas that were shared and the enthusiasm among the workshop participants, a community of artists seems not only plausible but necessary. Leisa A. Hammett, mother of an 11-year-old visual artist with autism, has been advocating for some time to meet the need for an established community in the form of an art center for people with disabilities in Nashville.

"I came here tonight thinking I could plant a

seed," Hammett said. "I want to have a place where people with disabilities can go and experience the joy and the therapeutic nature of making art. I know that creating art has been right there with speech and behavior therapy, with occupational therapy and education as being an important factor in my daughter's development."

The advantages of creating a community of artists with special needs are many. Not only would it provide a supportive atmosphere in which to create, share experiences, and develop stronger survival skills as artists, it would also benefit parents, caregivers, and friends who are often given the task of marketing the art.

One parent present at the workshop suggested that artists with special needs share booth and transportation costs for out-of-town art fairs and festivals. Another deemed coming together to catalog the work of artists with special needs an important task for marketing. Yet another suggestion was made to link the artist websites to build traffic and exposure.

"It was great to hear the ideas, to get mine out in a public setting," Hammett shared after the workshop. "If, as a community, we can create a window, create a way for the typically developing population to see into the world of the person with special needs, they might see just how beautiful and how capable that world can be."

Establishing a Common Ground

One window into the world of the artist with special needs opened in the form of the Common Ground art exhibit (view online at kc.vanderbilt.edu/kennedy/art/art0406/).

The exhibit was the product of a series of workshops facilitated by Full Circle Art.

In the workshops, participants first invited and engaged the artistic muse through drumming and movement. They then carried out the Full Circle Art mission "to communicate a shared vision of peace, love, and hope" with paint brushes and canvases, ceramics, and stained glass. The result was a colorful and energetic display of shared common ground between the Full Circle artists and youth and adults with developmental disabilities.

"The common ground that exists among all humans regardless of what keeps us separated on the outside is the unquestionable internal dialog that art and music can produce in all of us," said Massood Taj, director of Full Circle Art. "This fact is perhaps especially significant in those of us that for any number of reasons have limited social contact or interaction with the rest of the world."

The success of the UCEDD workshops, both in terms of the art work produced and the connections made, is encouraging and is a promising move toward building a community of artists with special needs.



Rebecca of Pacesetters Inc. shows a mask she created for the current exhibit "Why Possum's Tail Is Bare."

"As the University Center for Excellence grows, there will be an increased number of workshops in the areas of education and the arts," promised Elise McMillan, J.D., Center for Excellence associate director. "It is an exciting time and we are honored to contribute all that we can to help forge relationships for community artists with special needs."

For information on future art programming, contact (1-866) 936-VUKC [8852] or email ucedd@vanderbilt.edu.

Spotlight

Making Dinner Plans

DEBORAH LOVETT

By Traci Fleischman

Deborah Lovett's energy and enthusiasm are fueled by her natural curiosity. This curiosity has helped to expand her life in meaningful ways, such as being involved in various community activities, dedicating her time to the Vanderbilt Kennedy Center, and maintaining an ongoing zest for life. Lovett and her husband, Mike, have four children, Geoff, Will, Sarah, and Patrick.

Lovett joined the Vanderbilt Kennedy Center Leadership Council in the summer of 2005.

"I decided to join the Leadership Council because I was fascinated by the Center's work and delighted to support its mission in any way that I could," explained Lovett. "Then, the very next day after I agreed to participate in the Council, my sister-in-law called to tell me that my 3-year-old nephew had been diagnosed with autism."

Lovett is the chair of the upcoming November 15 Leadership Dinner, whose theme this year is



Front: Will and Sarah Lovett; Back: Geoff, Mike, Patrick, and Deborah Lovett

"From Dinner to Discovery!" She has been focusing much of her time on table sponsorships.

Five table sponsorship levels are available:

- Visionary Sponsorship \$25,000
- Innovator Sponsorship \$10,000
- Pioneer Sponsorship \$5,000
- Explorer Sponsorship \$3,000
- Discoverer Sponsorship \$1,500

All sponsorship levels include a table for 10 at the Dinner with increasing recognition at each level.

"A Visionary Sponsorship will lead to the naming of a Discovery Grant in the donor's honor,"

stated Lovett. "My husband and I have made a personal commitment to meeting the evening's goal by directing our Canby Robinson Society and United Way donations." Similarly, Vanderbilt faculty and staff can designate gifts through the Annual Faculty-Staff Campaign.

In addition to the new levels of table sponsorships, a live auction will be held, and bid boxes will be at each table for items in the silent auction.

"This will be the first year for a live auction with some eye-popping items such as a 2007 GMC Yukon XL and a trip to Miraval Spa and Resort in Catalina, Arizona."

Lovett's desire to expand community awareness of the

Vanderbilt Kennedy Center is strong. She is a ninth generation Nashvillian who remains dedicated to the Nashville community, including the Vanderbilt Kennedy Center.

"Without question, the Center's biggest asset is its people and their passion and focus on helping others. The Center's researchers are all leaders in their fields and the collective brainpower in the room at any given meeting is mind-boggling. The Center does work of tremendous value. The work is done very well and deserves support from all of us in the community." ●

Kennedy Center Donors

New Nicholas Hobbs Society
Members since April 6, 2006
(\$1,000 and above). A complete list is found at kc.vanderbilt.edu/giving/give2hobbs.html

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Mr. and Mrs. Monroe J. Carell, Jr.
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Honor and Memorial Gifts

In Memory of Dr. Ben J. Alper
Dr. and Mrs. Pat Levitt

In Memory of Mrs. Betty Funk
Mr. and Mrs. A. Bruce Moore Jr.

In Memory of Ellie Glassman To the Vanderbilt Kennedy Reading Clinic
Mr. and Mrs. Jobe Bernard

In Memory of Mr. Bert Gutis
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Mr. and Mrs. Thomas R. Williams

For information about joining the Nicholas Hobbs Society or making honor or memorial gifts, contact (615) 343-5322.

Waddell & Reed Financial Services
The 4th annual Waddell & Reed Financial Services Charity Golf Tournament, June 16, benefiting the Vanderbilt Kennedy Center was a huge success, raising more money than in years past. We are grateful to this caring company.

Every effort has been made to ensure the accuracy of this report, which reflects Hobbs Society membership, and honor and memorial gifts April 6, 2006-June 29, 2006. If an error has been made, we offer our sincerest apology and ask that you bring it to our attention by contacting (615) 343-5322. ●

“The Ultimate Race”

By Traci Fleischman

Inspiration, dedication, and teamwork are words that describe not only Andrea McDermott and William Spickard, but also a team formed to establish an endowment to win what McDermott calls “The Ultimate Race—Literacy for Children with Down Syndrome.”

Team William was formed by McDermott, Vanderbilt Kennedy Center Leadership Council member, who in May 2006 completed a master’s degree in special education at Vanderbilt’s Peabody College. The Team was named for William Spickard, a young boy with Down syndrome, who is now attending the Vanderbilt Kennedy Reading Clinic. McDermott privately tutored William in reading and decided she could do more than tutor him—she could help other children in his honor.

“The goal of the endowment is to advocate, to educate, and to provide families with support and an opportunity to witness their child’s success,” explained McDermott. “My work with William inspired me not only to increase my knowledge base for teaching children with Down syndrome to read, but also to reach out to other children who, similar to William, could use instructional support.”

Three sessions are held annually at the Vanderbilt Kennedy Reading Clinic. Each session costs \$1,080. At its current level, the endowment provides a scholarship for all sessions for one student.



COURTESY OF ANDREA MCDERMOTT

Andrea McDermott and William Spickard of “Team William”

Continued fundraising to increase the endowment is critical to providing additional scholarships to the Reading Clinic.

For the second consecutive year, Team William has far exceeded expectations and hopes for many families. This year 23 members were on the fundraising team, while last year the team was McDermott, her family, and the Spickard family.

“We greatly increased the number of people who contributed to the cause this year—we’re currently up to 235 contributors with 23 states represented, as well as France,” said McDermott.

The total amount (collectively) as of June 19th for the endowment reached \$78,962.80. Contributions are still coming in, although peak contributing time tends to be right before and after the marathon. The need for continuing contributions to this endowed scholarship fund and other Vanderbilt Kennedy Center scholarship programs is important.

Scholarship decisions are made by a Scholarship Committee, which includes the Reading Clinic faculty directors, Lynn Fuchs, Ph.D., and Doug Fuchs, Ph.D., and Clinic coordinator, Carena Young. The potential Team William scholarship recipient must have Down syndrome, in addition to meeting other criteria.

“The Vanderbilt Kennedy Reading Clinic uses sound research-based methods for teaching reading. All of the tutors are trained and given a fairly structured scope and sequence to follow, yet there is still some room for the tutor to add a personalized touch to the session,” stated McDermott.

McDermott will continue to raise money for the Team William endowment and plans to run the Country Music Marathon annually.

“This may entail flying to Nashville from my new home in Austin, but I don’t mind. Team William is more than a cause now—it is part of my daily routine and a huge part of my life.” ●

Overcoming Obstacles

By Traci Fleischman

All parents want their child to develop, to learn, and to succeed in life. They want to do everything possible to help their child accomplish these goals. As challenges arise, parents seek help from professionals, educators, and physicians, which can be costly. Scholarships can make all the difference.

Educational and behavioral services needed by children with disabilities often are not covered by private or public insurance. Services are expensive to provide since intervention or training with children, family members, educators, or others may be needed over extended time periods.

Even services provided at cost (not for profit) may be more expensive than a family can afford. Scholarship money makes services critical to development available and lessens the financial and emotional burden for families.

The Vanderbilt Kennedy Reading Clinic offers scholarship money to students who require tutoring in reading but whose families would otherwise not be able to take part.

The scholarships are raised through individual gift giving and small grants.

Anne Kabling read about the Reading Clinic in a local paper. Her daughter, Nadezhna, is 9-years-old and is a struggling reader. Nadezhna started school in Nashville in 2003 and was having trouble with her limited English and her inability to read.

“Nadezhna started at a Level Two at the Clinic and within a year, she was up to Level 14. She has been there 2 years and is reading at her grade level. I don’t think Nadezhna would have reached the milestones with her reading improvement if it were not for the Reading Clinic and its scholarship program,” said Kabling.

In addition to the Reading Clinic, scholarship funds are needed for other services, including the Vanderbilt Kennedy Center’s annual camps—a Transitions Camp for adolescents with developmental disabilities, a Music Camp for young adults with Williams syndrome, TRIAD Social Skills Camp



MELANIE BRIDGES

Nadezhna Kabling at the Vanderbilt Kennedy Reading Clinic

for children with autism spectrum disorders, and Explorers Unlimited Camp for children with Down syndrome.

Donations for scholarships from caring individuals, corporations or businesses, or foundations will make a crucial difference in developmental outcomes for children. For information contact (615) 322-8233. ●

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Hold Dinner Date

Wednesday, November 15

Vanderbilt Kennedy Center Leadership Dinner "From Dinner to Discovery!"

Loews Vanderbilt Hotel
6:30-9 p.m.

Sponsorship levels for tables of 10 with increasing
recognition at each level

- Visionary Sponsorship \$25,000
- Innovator Sponsorship \$10,000
- Pioneer Sponsorship \$5,000
- Explorer Sponsorship \$3,000
- Discoverer Sponsorship \$1,500

Live and silent auction

Proceeds support Discovery Grants

Tickets available for purchase \$150/couple
Contact kc@vanderbilt.edu
(615) 343-5322

Discovery is a quarterly publication of the Vanderbilt Kennedy Center designed to educate our friends and the community, from Nashville to the nation. The Center is committed to improving the quality of life of persons with disabilities of thinking, learning, perception, communication, mood and emotion caused by disruption of typical development. The Center is a university-wide research, training, diagnosis, and treatment institute. It is a national Mental Retardation and Developmental Disabilities Research Center funded by the National Institute of Child Health and Human Development, and a University Center for Excellence in Developmental Disabilities (UCEDD) funded by the Administration on Developmental Disabilities.

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Discovery

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Summer 2006 Calendar of Events

Unless otherwise noted, events are free and open to the public. Events are subject to change. Please check the calendar on our website kc.vanderbilt.edu or call (615) 322-8240 or toll-free (1-866) 936-VUKC [8852]. For disability-related training and other events statewide and nationally see www.disabilitytrainingtn.org.

September

SEPTEMBER 6

Developmental Disabilities Grand Rounds Attention Deficit Hyperactivity Disorder and Medication

R. Steven Couch, M.D., Assistant Professor of Pediatrics

Light breakfast provided

Co-sponsor Center for Child Development

Wednesday 8 a.m., Room 241

Vanderbilt Kennedy Center/MRL Building

SEPTEMBER 8

Community Advisory Council Meeting

University Center for Excellence

Friday 9 a.m.-1 p.m., Fireside Room,

Peabody Education Library

Contact (615) 936-5118

SEPTEMBER 13

Fall Leadership Council Meeting

Thursday 10 a.m.-1 p.m., Room 241

Vanderbilt Kennedy Center/MRL Building

By invitation; contact (615) 343-5322

SEPTEMBER 13

Special Lecture on Family Research Involvement of Adult Siblings in Future Planning

Tamar Heller, Ph.D., Professor & Head,

Department of Disability and Human

Development; Director, Institute on Disability

and Human Development (UCEDD);

Director, Rehabilitation Research and Training

Center on Aging with DD

Wednesday 3:10 p.m., Room 241

Vanderbilt Kennedy Center/MRL Building

SEPTEMBER 13

Family Research Program Poster Session

Wednesday 4:15 p.m., Room 241

Vanderbilt Kennedy Center/MRL Building

SEPTEMBER 18

Lectures on Development and Developmental Disabilities

Making Maps of the Mind:

From Stem Cells to Complex Architecture

Pasko Rakic, M.D., Ph.D., Duberg Professor of

Neurobiology and Neurology; Chairman,

Department of Neurobiology; Director, Kavli

Institute of Neuroscience, Yale University

Monday 4:10 p.m., Room 1220 MRB III



LYNNETTE SWINFORD

The Youth Leadership Forum (YLF) will be among several programs represented at the Family ReUnion gathering "Youth Engagement as a Strategy for Youth Development and Community Change." YLF is an annual program of the Tennessee Council on Developmental Disabilities.

SEPTEMBER 28-29

Vanderbilt Kennedy Center Conference Integrating Auditory Perception, Processing, and Comprehension: Models and Evidence

Thursday-Friday, Room 241

Vanderbilt Kennedy Center/MRL Building

October

OCTOBER 5

Forum on Postsecondary Education for Students with Developmental Disabilities

Co-sponsors Tennessee Council on

Developmental Disabilities, Down Syndrome

Association of Middle Tennessee, and The Arc of

Williamson County

Thursday, Room 241

Vanderbilt Kennedy Center/MRL Building

OCTOBER 11

Developmental Disabilities Grand Rounds Effective Writing Instruction: Findings from the Writing Next Meta-Analysis

Stephen Graham, Ed.D., Professor of Special

Education and Curry Ingram Chair in Special

Education

Light breakfast provided

Co-sponsor Center for Child Development

Wednesday 8 a.m., Room 241

Vanderbilt Kennedy Center/MRL Building

OCTOBER 15-16

Family ReUnion 12: Families and Education

October 15—Sunday

Youth Engagement as a Strategy for Youth Development and Community Change

Vanderbilt Law School Flynn Auditorium and Atrium

Sunday 1:15 p.m.-8 p.m.

By invitation; contact kc@vanderbilt.edu,

(615) 322-8240

Co-sponsors Vanderbilt Child and Family Policy

Center, Tufts University Applied Developmental

Science Institute, Vanderbilt Law School,

Peabody College Department of Human

Organization and Development, Vanderbilt

Center for Health Policy, Oasis Center, Tennessee

Council on Developmental Disabilities

October 16—Monday

Family Reunion 12: Families and Education

Tennessee high schools and the challenges they

face in preparing young people for the future

8 a.m.-5 p.m.

Information www.familyreunion.org, contact

(615) 322-8505

Co-sponsors Vanderbilt Child and Family Policy

Center, Tufts University Applied Developmental

Science Institute, Annie E. Casey Foundation

OCTOBER 19

Special Lecture

Can Risk for the Development of Dementia in Down Syndrome Be Modified?

Warren B. Zigman, Ph.D., Head of Laboratory of

Community Psychology and of Laboratory of

Cognitive Psychology, Institute for Basic

Research in Developmental Disabilities, Staten

Island, New York

Thursday 4:10 p.m., Room 241

Vanderbilt Kennedy Center/MRL Building

OCTOBER 25

Neuroscience Graduate Seminar Series

Multisensory Integration in Humans and

Simians: A Multi-Methodological Approach

John J. Foxe, Ph.D., Director, Cognitive

Neurophysiology Laboratory; Professor, Program

in Cognitive Neuroscience, City College of the

City University of New York

Co-Sponsor Vanderbilt Brain Institute

Wednesday 4:10 p.m., Room 1220 MRB III Lecture Hall

November

NOVEMBER 1

Developmental Disabilities Grand Rounds

Imaging Brain Connectivity in Williams

syndrome, Learning Disabilities, and

Schizophrenia

Adam Anderson, Ph.D., Associate Professor of

Biomedical Engineering and Radiology &



Radiological Sciences
Wednesday 8 a.m., Room 241
Vanderbilt Kennedy Center/MRL Building

NOVEMBER 15

Vanderbilt Kennedy Center Leadership Dinner "From Dinner to Discovery!"

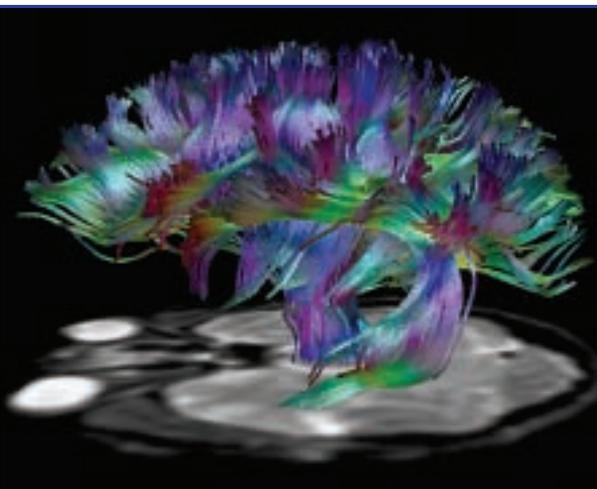
Honoring leadership volunteers and members of the Nicholas Hobbs Donor Society
By invitation; contact (615) 343-5322
Wednesday 6:30 p.m.
Loews Vanderbilt Hotel

NOVEMBER 29

Neuroscience Graduate Seminar Series Construction and Plasticity of GABAergic Circuits in the Mammalian Brain

Z. Josh Huang, Ph.D., Associate Professor of Neuroscience, Brandeis University
Co-Sponsor Vanderbilt Brain Institute
Wednesday 4:10 p.m. Room 1220
MRB III Lecture Hall

VANDERBILT UNIVERSITY INSTITUTE OF IMAGING SCIENCE



Side view of fiber bundles in the brain (in color) reconstructed using MRI (Magnetic Resonance Imaging) data and shown in relation to a conventional (grayscale) MRI image. Measurements of fiber structure provide a new window on developmental disabilities and the effects of brain injury.

October 25-28

Southeast College Art Conference & Mid-America Art Association

For artists, art historians, and visual arts professionals
Vanderbilt Student Life Center, Ingram Studio
Arts Center, Vanderbilt Holiday Inn
Includes a session on arts and disabilities
Registration fee
Contact michael.aurback@vanderbilt.edu,
(615) 343-7241

ASMT Events

Autism Society of Middle Tennessee

www.autismmidtenn.org
ASMT event information (615) 385-2077
Registration is requested for all events
ASMT members free; nonmembers \$5/family

SEPTEMBER 21

Autism Orientation

Thursday 6:30-8:30 p.m., Room 241
Vanderbilt Kennedy Center/MRL Building

SEPTEMBER 28

Techniques to Help Your Nonverbal Child Communicate

Jennifer Nietfeld, M.A.
Thursday 6:30-8:30 p.m., Room 241
Vanderbilt Kennedy Center/MRL Building

OCTOBER 21

ASA Regional Mini-Conference Building Successful Inclusive Programs in Schools

Paula Kluth, Ph.D., Independent Education Consultant and Scholar
www.paulakluth.com
Saturday, Nashville Convention Center

DSAMT Events

Down Syndrome Association of Middle Tennessee

www.dsamt.org
DSAMT event information (615) 386-9002

SEPTEMBER 23

Fall Fiesta

A fundraising event with a silent and live auction.
Tickets \$100

OCTOBER 14

Buddy Walk

Band Shell at Centennial Park
Family day of raising awareness and funds
Games, food and music!
Registration and sponsorship (615) 386-9002,
sara_dsamt@bellsouth.net

Family Survey

Tennessee families of children and youth (birth to age 22) who have disabilities, chronic illnesses, or genetic conditions are invited to participate in the comprehensive family survey available online at <http://webapps.nursing.vanderbilt.edu/surveys/familyvoices>

A project of Family Voices of Tennessee, Vanderbilt University School of Nursing, the Tennessee Maternal and Child Health Division; funded by the Health Resources and Services Administration

Take Part in Research

Children and adults, with and without disabilities, are invited to take part in research. See kc.vanderbilt.edu/studyfinder
Contact Lynnette Henderson (615) 936-0448; tollfree (1-866) 936-VUKC [8852]

Disability Pathfinder

Phone, web, print resources
www.familypathfinder.org
English (615) 322-8529,
(1-800) 640-INFO [4636]
Español (615) 400-4422, (615) 322-7830

Sibshops

A Vanderbilt Kennedy Center for Excellence in Developmental Disabilities program for siblings of children with special needs, ages 6-12 years. Games, friends, discussion.
Saturdays, dates to be announced, Room 241
Vanderbilt Kennedy Center/MRL Building
Advance registration required
Contact teresa.turnbo@vanderbilt.edu,
(615) 936-5118

Arts & Disabilities

Vanderbilt Kennedy Center Exhibits

Monday-Friday 7:30 a.m.-5:30 p.m., Lobby
Vanderbilt Kennedy Center/MRL Building

• August 7-October 13

"Why Possum's Tail Is Bare"

Artists of Pacesetters, Inc.

• October 23-December 31

Creative Expressions XII

Co-sponsor Mayor's Advisory Committee for People with Disabilities

October 6-7

Arts and Employment Conference

Sponsors Tennessee Arts Commission and VSA Arts of Tennessee
Friday-Saturday
Middle Tennessee State University
Contact info@vsaartstennessee.org
(615) 826-5252