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Cal State University Stanislaus Professors Publish Revealing Report on Methods for Treating Autism

TURLOCK, Calif., Aug. 5 (AScribe Newswire) -- A California research team that includes a pair of California State University, Stanislaus psychology professors has taken a significant step in what most experts predict will be a long journey in developing effective treatment for autism. They were part of a team of psychologists who conducted a study that dispels some popular notions about how to treat autism.

Autism is a disorder of brain development characterized by deficits in language, learning and social interaction. It typically appears during the first three years of life and affects males about four times more often than females across all income strata and ethnic groups. Genetics seems to be a contributing factor, but the specific causes of autism have not yet been identified.

The National Institutes of Health note that prevalence studies have been done in several states and also in the United Kingdom, Europe, and Asia. Prevalence estimates range from 2 to 6 per 1,000 children. Most individuals with autism who do not receive effective treatment are unlikely to live independently as adults.

The California study found that intensive Applied Behavior Analysis (ABA) was a substantially more effective treatment for a group of preschool children with autism than the mixture of methods that is provided in many education and treatment programs. ABA emphasizes breaking skills down into small parts and building them systematically through repetition and positive reinforcement. At the same time, behaviors that are harmful or that interfere with learning are analyzed carefully and are not reinforced. The long-term goal is to help each child be as successful and independent as possible at school, at home and in the community.

The pioneering study was completed by CSU Stanislaus psychology faculty members Dr. Jane Howard and Dr. Harold Stanislaw and their colleagues Coleen Sparkman, Director of The Kendall School in Modesto; Dr. Howard Cohen, Clinical Director of Valley Mountain Regional Center in Stockton; and Dr. Gina Green of San Diego, a nationally known researcher and consultant in the field of autism.

"This study corroborates earlier studies showing the power of early intensive behavior analytic intervention," said Howard, the study's principal investigator. "It is important because it is one of only a few studies in which the ABA intervention was delivered through a community-based, rather than a university-affiliated program. These results signal the potential for delivering effective intervention without the resources of a university-based clinic."

Howard noted that this aspect is important because there are too few university-affiliated programs capable of providing ABA intervention for the growing number of children diagnosed with autism spectrum disorders.

"The study is also noteworthy because it is only the second one to compare the common practice of combining multiple treatment approaches ("eclectic" treatment) with a cohesive approach based on the science of applied behavior analysis," Howard said.

The report indicates that most autism experts agree that the earlier the intervention is delivered, the better the outcomes. It also questions the suitability of treating children with autism using a variety of intervention methods.

Although it may seem reasonable to many parents and professionals to use a mixture of treatment methods, the researchers note that this practice has not been carefully evaluated.

Co-researcher Green noted that scientific studies of "eclectic" treatment are necessary because funding treatments that have not been scientifically validated waste scarce resources and costs these children the opportunity to realize their full potential.

"Although ABA methods have proven effective for building skills in people with autism of all ages, it is not clear that effective intervention provided later in life can have the same impact as it does in the preschool years," Green said.

According to information provided by the California Department of Developmental Disabilities, the cost of providing basic services to adolescents and adults with autism throughout the lifespan is substantially more per person than the cost of comparable services for individuals with other developmental disabilities.

The authors noted in their article that "eclectic" or mixed-method treatment approach is often recommended for children with autism by consultants, educators and clinicians. It is widely used in both public and private schools. Eclectic treatment for children with autism often include the Picture Exchange Communication System (PECS), sensory integration therapy, speech and language therapy, discrete trial training, play therapy, and techniques drawn from the Teaching and Education of Autism and related Communication handicapped Children (TEACCH) program developed in North Carolina.

Green noted that some of these techniques, such as sensory integration therapy, have not been shown through sound research to produce measurable improvements in useful skills or reductions in problem behavior.

"Children with autism may appear to enjoy participating in some of these therapies, but to date, there is no strong evidence that they benefit in any meaningful, lasting way from participating in them," Green said.

The CSU Stanislaus study put eclectic and ABA-based interventions to the test over a 14-month period with three groups of pre-school children with autism who were similar when they entered the study. A total of 61 children who were under the age of 4 when they were diagnosed and began treatment for their autism participated in the study, which was conducted in Stanislaus, San Joaquin, Sacramento, Placer and Nevada counties.

After 14 months of intervention, most children participating in intensive ABA for 25 to 40

hours a week had made substantial improvements in most skill areas, according to numerous standardized evaluations conducted by professionals who were not affiliated with any of the treatment programs. Many of those children actually had accelerated rates of development in language, cognitive and self-help skills.

One group of preschool children with autism received intensive "eclectic" intervention in specialized classrooms for 30 hours per week. That intervention featured combinations of methods designed for children with autism customized to each child and delivered in a format in which one trained adult worked with 1 to 2 children. Another group participated in early intervention programs for children with various developmental delays, also utilizing a combination of methods for 15-20 hours per week. Both of those groups also received 14 months of intervention.

Despite its widespread availability and popularity, "eclectic" intervention proved comparatively ineffective. The two groups whose treatment consisted of a combination of methods made negligible gains in some skills, and lost ground in others. Their rates of development remained largely unchanged.

Although the intellectual functioning of the children in the 3 groups was similarly delayed when the study began, 16 of 29 children in the intensive ABA group, tested within the normal range at the end of the study. In contrast, only 5 of 32 children in the two "eclectic" treatment groups combined had normal intellectual functioning after 14 months of intervention.

Similarly, children who received intensive ABA treatment had gains on standardized language tests that were more than double those of the children who received "eclectic" intervention. In fact, at the end of the 14-month intervention period, the ABA group had an average rate of language development that was greater than that of typically developing preschoolers.

According to the researchers, the accelerated rates of development mean that these children are positioned to catch up to their typically developing peers if they continue to receive intensive ABA intervention for another 1-2 years. The prognosis, for the children who received "eclectic" treatment was, on the whole, substantially less promising.

"This study suggests that the 'shot gun' approach to autism intervention, where children receive a little bit of everything -- including interventions that have yet to demonstrate their effectiveness -- needs to be examined critically," Howard said.

Similar findings were reported in 2002 by Norwegian researcher Svein Eikeseth and his colleagues. They compared intensive ABA with intensive "eclectic" treatment in a study involving children of elementary age with autism. Eikeseth and colleagues also found that intensive behavior analytic intervention was superior to one that utilized mixed methods, even though both groups of children received one-to-one instruction for 30 hours each week for a year.

"The popular notion that virtually any intervention can produce meaningful benefits for children with autism if it is provided intensively has not been confirmed by two controlled studies that addressed that hypothesis," the CSU Stanislaus researchers and colleagues noted in their report.

The study conducted by Howard and her colleagues, titled "A comparison of intensive

behavior analytic and eclectic treatments for young children with autism," is published in the July/August issue of the Journal of Research and Developmental Disabilities. The article can be purchased online at: www.sciencedirect.com.

The study was partially supported by grants from California State University, Stanislaus and Valley Mountain Regional Center.

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ABOUT THE RESEARCH TEAM:

"A comparison of intensive behavior analytic and eclectic treatments for young children with autism"

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Jane S. Howard, Ph.D. is a Professor of Psychology at California State University, Stanislaus. She trains undergraduate and graduate students from psychology and special education in the applications of empirically- validated interventions to special needs populations. Dr. Howard's focus over the past several decades has been child clinical problems in social, developmental, behavioral, and academic domains. She founded and co-directed the Center for Direct Instruction, a university clinic that provides intensive academic remediation to school age children. She is also a licensed psychologist and a Board Certified Behavior Analyst. Her primary area of research involves identification of variables related to effective treatment, focused especially upon young children diagnosed with autism spectrum disorders.

Dr. Howard is also a co-founder and co-director of Therapeutic Pathways and The Kendall School in Northern California. Both agencies provide intensive behavior analytic intervention to young children with autism spectrum disorders through either home or center-based delivery models. In addition, to being a co-author of the textbook, *Human Behavior: Research and Practice*, Dr. Howard has published in such peer-reviewed publications as *The Journal of Applied Behavior Analysis*, *The Behavior Analyst*, *Research in Developmental Disabilities*, and *The Analysis of Verbal Behavior*.

Coleen R. Sparkman, M.A. received her undergraduate and graduate training in Communicative Disorders from California State University, Fresno. Ms. Sparkman is a licensed speech and language pathologist and holds the Clinical Certificate of Competence (CCC) from the American Association of Speech, Language, and Hearing. She is the co-founder and co-director of Therapeutic Pathways and The Kendall School. Both Therapeutic Pathways and The Kendall School are located in northern California and provide intensive behavior analytic intervention to young children with autism spectrum disorders. Ms. Sparkman's work has been presented at numerous professional meetings including the Governor's Conference, the California Association for Behavior Analysis, and Association for Behavior Analysis International. Her work with children with pervasive developmental disorders is recognized throughout the western United States; over the past 20 years she

has provided direct services and consultation to more than 500 children diagnosed with autism spectrum disorders.

Howard G. Cohen, Ph.D. is the Director of Clinical Services at Valley Mountain Regional Center. Dr. Cohen received his B.A. in Psychology from UCLA and a Ph.D. in Psychology from Kansas State University. He also completed a post doctoral internship at Ohio State University. Dr. Cohen is a licensed psychologist with a long time interest in research based practices and service delivery models for individuals with special needs. He was a key contributor of the Northern California Autism Collaborative and helped develop the AUTISTIC SPECTRUM DISORDERS: Best Practice Guidelines for Screening, Diagnosis and Assessment for California's Department of Developmental Disabilities. He was also a contributor to the (2003) book by Ivar Lovaas: Teaching Individuals With Developmental Delays: Basic Intervention Techniques. In that chapter, Dr. Cohen describes the unique collaborative he helped establish among families, schools, private agencies, and regional centers to utilize scientifically based practices to identify and address the needs of individuals with autistic spectrum disorders.

Gina Green, Ph.D. received a Ph.D. in Psychology (Analysis of Behavior) from Utah State University in 1986 following undergraduate and master's degree studies at Michigan State University. She has been a faculty member in Behavior Analysis and Therapy at Southern Illinois University; Director of Research at the New England Center for Children in Southborough, Massachusetts; Associate Scientist at the E.K. Shriver Center for Mental Retardation in Waltham, Massachusetts; and Research Associate Professor of Psychiatry and Pediatrics, University of Massachusetts Medical School. Dr. Green is currently in private practice in San Diego as a consultant and is on the faculty at San Diego State University and the University of North Texas. She has authored numerous publications on the treatment of individuals with developmental disabilities and brain injuries, as well as the experimental analysis of behavior. Dr. Green co-edited the books Behavioral Intervention for Young Children with Autism and Making a Difference: Behavioral Intervention for Autism. She serves or has served on the editorial boards of several professional journals in developmental disabilities and behavior analysis. Dr. Green also serves on the Board of Trustees and the Autism Advisory Group of the Cambridge Center for Behavioral Studies, the Board of Directors of the Behavior Analyst Certification Board, the Board of Directors of the California Association for Behavior Analysis, and the advisory boards of several autism programs and organizations. She is a Board Certified Behavior Analyst, former president of the Association for Behavior Analysis, and a Fellow of the American Psychological Association and the Council for Scientific Medicine and Mental Health. Psychology Today named her "Mental Health Professional of the Year" in 2000. Dr. Green lectures and consults widely on autism and related disorders, behavioral research, and effective interventions for people with disabilities.

Harold Stanislaw, Ph.D. is a Professor of Psychology and the Psychology Undergraduate Program Coordinator at California State University, Stanislaus. He earned a B.A. in Psychobiology from Yale University, an M.A. in Comparative Psychology from the University of California, Riverside, and an M.A. and Ph.D. in Cognitive Psychology from UCLA. His primary areas of expertise are research methodology and statistical analysis, as well as applied cognitive psychology. Prior to joining the CSU Stanislaus faculty, Dr. Stanislaw was at the University of New South Wales in Sydney, Australia, where he helped establish a graduate program in applied psychology.

Dr. Stanislaw is co-holder of a U.S. patent and has more than 30 publications in peer-reviewed journals. He has consulted on projects for the U.S. Coast Guard, the New South Wales (Australia) Roads and Traffic Authority, the Center for Oral Health for People with

Special Needs, the California Department of Developmental Services, and the California Department of Health Service among others. Dr. Stanislaw has performed statistical analyses for applications in such diverse fields as aerospace engineering, psychophysiology, obstetrics and gynecology, traffic safety, visual psychophysics, literacy, and most recently autism intervention.

ON THE WEB:

www.sciencedirect.com.

The report can be found on line on the CSU Stanislaus web site at:

<http://www.csustandur.com/newsline/index.php3?pid=646&action=detail&table=press>

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