



Thompson Center

For Autism & Neurodevelopmental Disorders



Special points of interest:

- Dr. Mazurek's R01 Research Grant
- Clinical Views of DSM-5
- Transition Services for ASD Youth
- IMFAR 2013
- Research Spotlight
- SCI Curriculum

Research Newsletter

Winter 2013

Dr. Mazurek Awarded \$3.8 Million NIH Grant for Autism Impact Measure



Micah Mazurek, PhD, has been awarded a 3-year R01 research grant for more

than \$3.8 million by the National Institutes of Health. Due to the increasing prevalence of Autism Spectrum Disorder (ASD), there is a need for effective treat-

ments; however, determining treatment efficacy has been limited by a lack of appropriate outcome measures. Thus, the Autism Impact Measure (AIM) was developed in order to assess improvement in both frequency and impact of core ASD symptoms. Unlike existing ASD measures, the AIM is designed to track incremental change over shorter periods of time, as well as allow clinicians to target and track symptoms with the

greatest influence on actual functioning. The AIM is an easily administered, parent report measure that uses a 2-week recall period and a 5-point response format. The current study seeks to further evaluate the AIM through examination of the measure's construct validity and sensitivity to change following treatment. In collaboration with multiple sites nationwide, data will be collected at the beginning, during, and end of three different

well-established treatments for ASD. The AIM is a novel measurement approach in the field of autism and has the potential to inform both treatment outcome research and clinical practice. The development of a valid treatment outcome measure will contribute to the progression of current treatments and interventions in order to improve the lives of children with ASD.

Clinical Views of the DSM-5

New versions of the Diagnostic and Statistical Manual of Mental Disorders (DSM) have always been highly critiqued and controversial, and the DSM-5 is no exception. One major change in the DSM-5 is the replacement of specific diagnoses (e.g., PDD-NOS, Asperger's Syndrome) with a single diagnosis of Autism Spectrum Disorder (ASD). In addition, the two previously separate problematic areas for children with ASD (social skills and communication) have been combined into one core symptom of social communication. Stephen Kanne, PhD and Executive Director

of the Thompson Center, believes such changes include better ways to identify a child's skill level, allowing for a level of personalization which may provide a more individualized and descriptive diagnosis. Dr. Kanne and other clinicians see the new DSM-5 as a vast improvement over the older version.



Accessibility of Services for Youth with ASD

Health care transition (HCT) services support youth in the transition from pediatric to adult health care services and encourage independent management of health care needs. HCT services are crucial for those with special health care needs, yet unfortunately little is known about accessibility to HCT services for youth with ASD. Dr. Nancy Cheak-Zamora and a team of researchers examined the prevalence of receiving HCT services among youth with ASD and other special health care needs, as well as charac-

teristics that influence the acquisition of HCT services. Overall, youth with ASD received fewer transition services compared to those with other special health care needs. Youth with ASD were half as likely to receive HCT services, and a third as likely to receive encouragement from a provider to take on appropriate responsibility for his/her health care needs. Additionally, youth with comorbid conditions were less likely to receive transition services, with more complex conditions associated with less HCT service-

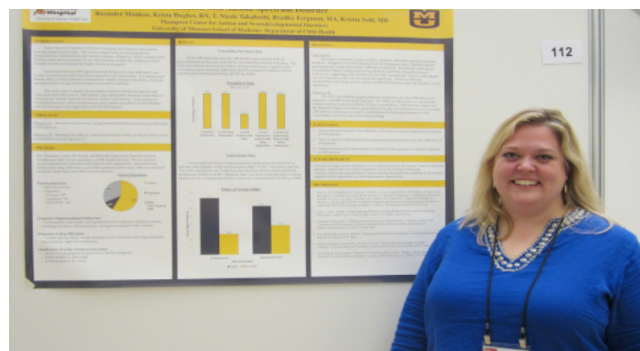
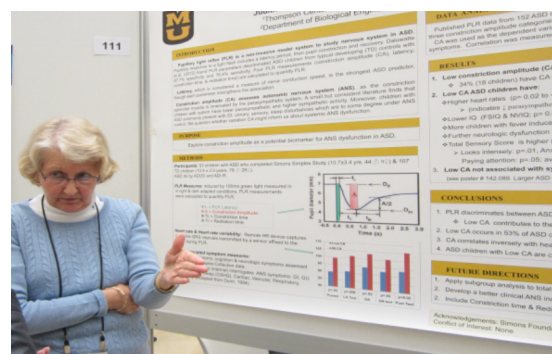
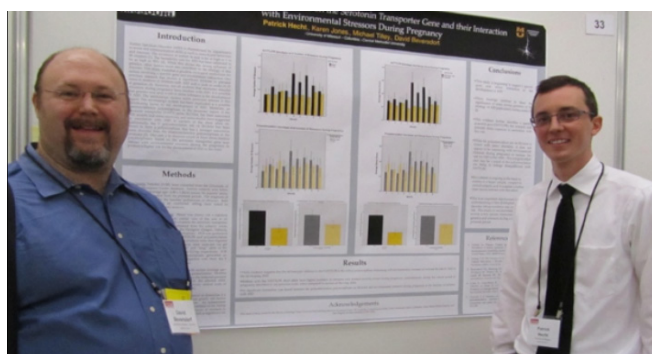
es. This is the first study to investigate access to HCT services comparing youth with ASD and youth with other special health care needs. Further research is needed to understand why this disparity of accessibility exists between both populations, in addition to what interventions may improve access to HCT services for youth with ASD. Such knowledge is important in order to maximize social integration and quality of life for youth with ASD and all other special needs.

2013 International Meeting for Autism Research

The International Meeting for Autism Research (IMFAR) is an annual scientific meeting which promotes exchange and discussion of the latest findings regarding the nature, causes, and treatments for ASD among worldwide researchers and trainees. IMFAR is sponsored by the International Society for Autism Research, a professional organization devoted to advancing

knowledge of ASD. This past May, IMFAR was held in San Sebastián, Spain. Out of about 2,000 researchers from around the world, more than a dozen Thompson Center faculty and staff attended and presented research findings at this event. Such research included investigations of pupillary light reflexes, verbal abilities, sleep habits, and challenging behaviors of

children with ASD, in addition to other topics. IMFAR 2014 will be held in Atlanta, Georgia, where many Thompson Center researchers plan to present new findings in order to contribute to the latest research in ASD, as well as stimulate research progress among scientists across disciplines.



RESEARCH SPOTLIGHT

Catatonia & Down Syndrome

Investigation by Dr. Judy Miles



Catatonia describes a type of regression which starts gradually, usually with slowing of daily motor activities, such as walking or eating. Speech and conversation slows, and can be accompanied by loss of interest, enjoyment and daily living skills. For years, Catatonia was considered a complication

of psychiatric disorders, such as schizophrenia. In the last decade, it was recognized to affect about 15% of teens and young adults with autism. Dr. Judy Miles, who directed a Down syndrome (DS) clinic for many years, recently discovered that young people with DS are also at risk for Catatonia, with preliminary data suggesting Catatonia may develop in at least 5% of these individuals. This diagnosis has rarely been made, and families were often told the regression was due to early Alzheimer's. Fortunately,

Catatonia is a treatable cause of regression with symptoms generally responding well to medication and/or electroconvulsive therapy. With only two cited cases of Catatonia in individuals with DS, this association is a new territory of research. This groundbreaking investigation will expand current medical providers' knowledge of Catatonia, allowing them to determine the cause of teenage regression seen in both DS and autism and provide appropriate treatment.

Phase 2 of Gastrointestinal Disorder and Stress Study Underway

After an initial study examining the effects of stress on gastrointestinal (GI) disorders in children and adolescents with ASD, Dr. David Beversdorf and his graduate students found results that suggest children and adolescents with ASD and GI problems may have a greater response to stress than those with ASD alone. Specifically, they found individuals with ASD and GI problems showed increased stress when resting, as well as in response to a sensory stressor (e.g., vibrations to the hands). The current follow-up, multi-site study

seeks to determine if the increased stress response in those with ASD and GI problems also causes an immune system reaction throughout the body. Additionally, they seek to find out if levels of serotonin and cortisol, which are also related to the stress response, are increased. During a visit for this study, small sensors are attached to the child's fingers and chest to monitor their heart rate and amount of skin sweat. Mild stressors given to the child include vibrations on their hands and placing their hands in cold water. Saliva samples and

blood samples are also taken. Brad Ferguson, Project Coordinator and Neuroscience Graduate Student at MU explains, "We hope this study will reveal some answers as to why a significant portion of children and adolescents with autism have GI problems. If the problem is stress, we have ways to reduce the stress which will have downstream effects on other problem behaviors that commonly occur in those with ASD and GI problems."



Results of Screen-Based Media Use Study

Dr. Micah Mazurek and postdoctoral research fellow, Dr. Chris Engelhardt investigated the effects of electronic screen-based media (e.g., TV, video games, computers) in boys (ages 8-18) with ASD compared to those with

ADHD or typical development (TD). Results from this study indicated that boys with ASD spent more time playing video games than boys with TD, and boys with ASD and ADHD had greater problematic video game use.

In addition, bedroom media access was associated with reduced sleep among boys with ASD. Such findings suggest the need for heightened awareness of problematic video game use and access for boys with ASD.

Social Competence Intervention



The Social Competence Intervention (SCI), created and directed by Dr. Janine Stichter, is a social skills learning program for individuals with high functioning autism and similar social skill deficits. This group-based program provides teachers, parents, and students with specific targeted tools to achieve

necessary social competence for success. Participants practice skills such as recognizing facial expressions, communicating ideas, understanding emotions, problem solving and more. The SCI curriculum has been adapted to fit a wide range of ages, with programs available for elementary, adolescent, and high school-aged individuals during their school day. The curriculum is also offered through an interactive, online program, called iSocial. Over the past eight years, about 100

individuals have participated in the SCI curriculum. Dr. Stichter explains, "The data has indicated a positive change in the general measures of social competence, as well as specific areas targeted. More importantly, parents, teachers and students have shared the ongoing positive impact of the curriculum." With such positive outcomes thus far, the SCI program has a promising outlook in changing the lives of individuals with ASD and similar social skill deficits.

RESEARCH OPPORTUNITIES

Help Us Search for Answers!

Call or email: Jill Akers
573-884-6092 • akersji@missouri.edu

Current Studies:

- AIM: A new tool to measure autism symptom improvement
- Pupillary light reflex study
- Relationship between gastrointestinal disorders and stress in ASD
- Reactions to screen-based media
- Interaction of genetics and stress on the development of autism

For more detailed information on research studies or services provided by the Thompson Center visit:
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