associated with more gains in productive language. Response to joint attention was the only significant predictor of gains in both language comprehension and production.

105.052 52 Advancing the Measurement of Receptive Language in Nonverbal Individuals with Autism. L. V. Van Droof*, K. Ledoux, E. J. Pickett, E. Buz, N. M. Billings and B. Gordon, *Johns Hopkins Medical Institutions*

Background: Many individuals affected by autism fail to develop useful speech, and many of these individuals never learn to express themselves in any functional way. An important question about such individuals is whether this lack of expressive ability is accompanied, or perhaps even caused, by deficits in receptive language knowledge. However, because of the general problems that such individuals have with responding, this question has been difficult to address. Nonetheless, there is considerable (albeit usually anecdotal) evidence from families and therapists that such individuals may actually have greater receptive capabilities than is evidenced by traditional measures. We have used eye movements, pupillary dilation, and the N400 component of event-related potentials (ERPs) as measures of receptive vocabulary knowledge in three populations (normal adults, normally developing children, and high-functioning individuals with autism) in which self-report and behavioral accuracy served as measures of comparison (Ledoux et al, 2009).

Objectives: To test whether eye movements, pupillary dilation, and the N400 component of ERPs could provide evidence of single-word comprehension in nonverbal individuals with autism.

Methods: Participants included three low-verbal or nonverbal males between 15 and 21 years of age who met criteria for ASD based on the Autism Diagnostic Interview Revised (ADI-R) and the Autism Diagnostic Observation Schedule (ADOS). Caregivers completed the MacArthur-Bates Communicative Development Inventory and other checklists. These sources were used to determine stimuli that were expected to be known receptively by the participants; unknown stimuli were drawn from a pool of items developed for other subject populations (Ledoux et al., 2009). Training programs were implemented on an individual basis to acclimate the participants to our experimental tasks and equipment. There were two tasks: forced choice recognition and congruity. During the *forced choice recognition* task (throughout which we simultaneously collected eye movement and pupillary dilation data), four pictures (either all known or all unknown) were presented simultaneously on a computer screen, along with an auditory token that named one of the objects/concepts pictured. ERPs were recorded during the *congruity task*, in which single pictures were presented on the computer screen, accompanied by the auditory presentation of a word that either matched (congruous condition) or did not match (incongruous condition) the name of the pictured item. The congruous and incongruous conditions were equally matched in number of known and unknown words. Participants were not required to make behavioral responses for either task.

Results: As predicted, differences were observed for all three measures between the known and unknown word conditions. Specifically, eye movements were faster to named pictures for known words, and fixations at the end of each trial were on the named picture more frequently for known words than unknown words. Pupillary dilation from baseline was greater in the unknown condition. An N400 congruency effect was observed for known words, but not for unknown words.

Conclusions: Eye movements, pupillary dilation, and the N400 component of ERPs differentiated known from unknown words, suggesting that these may be valid measures of single-word comprehension in otherwise "nonverbal," non-responding, low-functioning individuals with autism.

105.053 53 Comparison of Children with Autism Spectrum Disorders and Developmental Language Disorders On Measures of Language Impairment. L. M. Black*, J. van Santen, M. K. August, B. Langhorst and R. Sanger-Hahn, *Oregon Health & Science University*

Background:

Children with autism spectrum disorders (ASD), whose core symptoms include impairments in communication, social interaction, and repetitive, stereotyped behaviors, are typically distinguished from