

Shakespeare and Autism: A Waitlist-Control Trial

A Shakespearian Social Skills Intervention for Children with ASD

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Introduction

The core features of autism include qualitative impairments in social engagement and communication and presence of restricted interests and repetitive behaviors. Teaching social skills has been shown to be an effective intervention for children with autism spectrum disorders (ASD; Chung, Reavis, Mosconi, Drewy, Matthews, & Tassé, 2007). Drama-based intervention may be a good vehicle to teach many social and communication skills that can benefit children with ASD. Drama intervention offers a structured approach to enabling and motivating hard-to-reach children to participate more meaningfully in a social world (Peter, 2003). Enabling children with ASD to engage in playful activity can strengthen those aspects of brain functioning necessary for more flexible thinking, with associated benefits in communication skills and greater sensitivity in social interaction (Sherratt & Peter, 2002).

The Hunter Heartbeat Method, developed by Kelly Hunter of the Royal Shakespeare Company, has been used with children with ASD for the past 20 years. Over the years, teaching strategies and intervention methods have been refined and have been anecdotally effective in improving social and communication skills with children of all ages and abilities.



Hunter Heartbeat Method

The Hunter Heartbeat Method is a Shakespearian based theatre intervention developed by Kelly Hunter of the Royal Shakespeare Company based around the rhythm of iambic pentameter. Games based on Shakespeare's *The Tempest* are introduced to the children allowing them to progress through the basic plot while emphasizing the themes of the eyes, mind and heart. Games target skills such as eye contact, turn taking, facial emotion recognition and production, imitation, improvisation, basic play humor, and communication in a playful manner. Children learn the games while seated in a large group circle through imitation and observation rather than explicit instruction. Children have an opportunity to play the games one on one with an actor, and then have an opportunity to enter the middle of the circle and show their interpretation of the work to their peers. Additionally, the Hunter Heartbeat Method emphasizes a low actor-to-child ratio to offer Individualized attention and modeling opportunities to enhance social skills learning.



Study Design

28 children ages 9-14 were recruited to participate in the study through local area public schools. Children were selected based on the presence of an ASD diagnosis and absence of severe behavior problems (screened for with Nisonger Child Behavior Rating Form).

Actors facilitating the intervention were selected from The Ohio State University Department of Theatre and received training in the Hunter Heartbeat Method as well as basic education in Autism Spectrum Disorders. Prior to participating in the Shakespeare intervention, pre-test evaluations were conducted to obtain baseline information for each child. Subsequently, children from all three participating schools were divided into treatment and waitlist conditions based on school of attendance and scheduling considerations.

Children in the treatment condition participated in the intervention one hour per week during during the school day. During the summer interim period and at the end of the intervention period, post-test evaluations were conducted to measure potential change in ability. At the conclusion of the study, parents and teachers were also asked to complete a brief questionnaire regarding their impression of the intervention, whether or not their child/student found the intervention enjoyable, and whether they noticed any progress in social skills, communication, or behavior.

Measures

Test	Skills Assessed	Pre-Test	Post-Test
Autism Diagnostic Observation Schedule (ADOS)	Core Symptoms of Autism (Social Skills, Communication, Repetitive Behavior)	X	
Nisonger Child Behavior Rating Form (NCBRF)	Problem behavior	X	X
Penn Emotion Recognition Test	Facial Emotion Recognition	X	X
Vineland Adaptive Behavior Scales Second Ed. (Vineland II)	Adaptive Behavior; specifically communication and socialization domains	X	X
Social Skills Improvement System (SSIS)	Social Skills and related behaviors	X	X
Social Validation Questionnaire	Parent/Teacher/Child's general impression of intervention; anecdotal report change in skills		X



Study Timeline

	August 2012	September	October	November	December	January 2013	February	March	April	May	June	July	August	September	October	November	December	January 2014	February	March	April	May	June	July
Intervention planning and collaboration with Columbus City Schools																								
Recruitment and pre-test																								
Intervention for treatment group																								
Interim measurements in both intervention and waitlist groups																								
Intervention for waitlist condition																								
Post-test measurement																								



Results

Pre-test measures (Autumn 2012) compared to interim measure (Summer 2013) indicate improvement in social functioning as measured by the SSIS and Vineland as well as improvements in overall adaptive functioning (Vineland Composite Score).Improvements were noted in pre-post and intervention-control comparisons.

- Vineland Composite Score**
- Intervention Group:** Effect Size (Parametric and Non-Parametric) z-score = 1.997 Asymptotic significance (2-tailed) **p = .046**
 - Effect size **r = .53**(GREATER Vineland Composite scores after intervention); Cohen's **d= 0.31**; Glass's Δ = 0.26
 - Wait-list Group:** Effect Size (Parametric and Non-Parametric) z-score = .730; Asymptotic significance (2-tailed) **p = .465**
 - Effect size **r = .23**(greater scores without intervention, but no statistically significant)

- Vineland Interpersonal Score**
- Intervention Group:** Effect Size (Parametric and Non-Parametric) z-score = 1.983; Asymptotic significance (2-tailed) **p = .047**
 - Effect size **r = .47**(GREATER Vineland Interpersonal scores after intervention) Cohen's **d= 0.56** ; Glass's Δ = 0.47
 - Wait-list Group:** Effect Size (Parametric and Non-Parametric) z-score = .00; Asymptotic significance (2-tailed) **p = 1.000**
 - Effect size **r = .000** (no effect); Cohen's **d= 0.07**; Glass's Δ = 0.07