A Yoga Program for Adolescents with Autism Spectrum Disorder and its impact on Lower Extremity Flexibility and Time-On-Task

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An Interprofessional Yoga Program for Adolescents with Autism Spectrum Disorder and its Impact on Time-on-Task in a Group Setting vs. One-on-One

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Abstract

Autism spectrum disorder (ASD) is a group of varying complex developmental disabilities, where the main areas of difficulty are in social communication, social interaction and restricted or repetitive behaviors and interests. Some typical behaviors associated with ASD include delayed speech, difficulty making eye contact or holding a conversation, poor motor skills, sensory sensitivities and unusual self-stimulatory repetitive behaviors. A few common repetitive behaviors include hand flapping, jumping, rocking, echolalia, etc. In order to cope with these behaviors, complementary and alternative medical (CAM) treatments are frequently sought out for children with autism spectrum disorders. One form of a CAM is yoga. According to a study published by the International Journal of Yoga Therapy, evidence shows a positive correlation between the core areas of yoga (the combination of breathing techniques, movement and body awareness) and attentiveness in children with ASD. The more attentive a child is the less self-stimulating behaviors they will engage in. Furthermore, this study and displays data that suggest yoga is a more favorable CAM, because not only does it increase the attentiveness of the child, but it also increases a sense of personal control, awareness and decreases anxiety and self-stimulatory actions. This study examined the prevalence of time-on-task skills of a 18-year-old non-Hispanic, black male, diagnosed with ASD in both a group and a one on one setting after participating in a 5-week yoga program. In both scenarios time-on-task progressively increased throughout the sessions, thus showing that yoga may be implemented and used as a coping mechanism/CAM for this specific subject.

Subject

The subject was a non-medicated, apparently healthy 18 year-old non-Hispanic, black male who was diagnosed with ASD. The subject frequently uses self-stimulatory behaviors such as hand flapping/waving, aimless noises, vocalization, and echolalia, throughout his day, which in turn affects his time-on-task skills in school. The participant had no physical limitations that prevented him from fully participating in a yoga program.

Methods

Group Yoga:

To measure time-on-task the subject participated in a 5 week yoga program, during his weekly physical education class time, with 4-5 peers. The yoga curriculum followed a progressive sequence, as found in Yoga Therapy for Children with Autism and Special Needs. The yoga curriculum progressed from level 1 (fewest poses) to level 9 (most poses), with each level incorporating a combination of seated, balancing, supine, prone and relaxation postures. To remind the subject of the different poses that were about to be performed, cue cards with pictures of the poses were used throughout each weekly yoga session.

One-on-One Yoga:

To measure time-on-task in a one on one setting, the subject participated in a separate 2 week pilot program that followed a different yoga curriculum called The Yogi Breaks Yoga Curriculum. This yoga program was comprised of 3-4 yoga poses per session, incorporating relaxation and calming techniques such as breathing patterns, and had greater emphasis on the affective component of feelings, emotions and reactions to stress.

All yoga sessions were held at Cooperative Educational Services (CES) in Trumbull, CT. Yoga session were approximately 30 minutes long, and taught by either an exercise science professor or student. A separate member of the exercise science program observed the subject’s time-on-task, while using a stopwatch to start/stop the time when the subject engaged in self-stimulatory behaviors resulting the subject to be off task from the yoga program. The total amount of time the subject was fully engaged in the yoga program and not performing self-stimulatory behaviors was divided by the total time of the yoga session, to get the percentage that the subject was involved in the yoga session.

Results

Time-on-task in a one-on-one setting ranged from 81.67% in session 1, to a 94.64% in session 6, with the highest time-on-task percentage being 99.39% in session 3.

Discussion

• Time-on-task in a one-on-one setting was significantly higher in a group setting, due to the sheer fact that there were more distractions in this setting. Such as; other students, teachers/aux, loud noises from the gym or hallway, etc. Where as the one-on-one setting had little to no room for distractions.

By the end of the yoga program the participant was able to remain quiet for the entire 60 seconds of the last pose of every yoga program, “floating on a cloud”

References