

Using Martial Arts to Address Social and Behavioral Functioning in Children and Adolescents with Autism Spectrum Disorders

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Years: 2005 - 2015

Databases: Academic Search Premier, CINAHL, EBSCOhost, ProQuest, PsychINFO, SPORTDiscus

Number of Articles: 6

Summary of Research Findings

Autism Spectrum Disorders (ASD) are the second most common developmental disability in the United States, and prevalence is rising (Paul, 2011). Individuals with ASD commonly experience a variety of symptoms that impact social and behavioral functioning. Social impairments may include problems initiating and maintaining social interactions, difficulty interpreting both verbal and non-verbal communication, lack of smiling, inadequate eye contact, and the tendency to dwell on certain topics (Movahedi, Bahrami, Marandi & Abedi, 2013). Behaviorally, individuals may have difficulty regulating their actions and/or engage in stereotypy behaviors that may include repetitive, rigid, maladaptive and self-stimulating movements such as flapping or rocking arms (Bahrami, Movahedi, Marandi & Abedi, 2012). Recently, several different martial arts have been explored as interventions that can lead to positive social and behavioral outcomes in children and youth with ASD.

To learn more about how martial arts might be used as part of an intervention for children and adolescents with ASD, a literature review was conducted focusing on the social and behavioral benefits of participation. Of the six articles reviewed, four summarized research studies that utilized quantitative (Bahrami et al., 2012; Chan, Sze, Siu, Lau & Cheung, 2013; Movahedi et al., 2013) and qualitative (Milligan, Baldali & Spiroiu, 2013) methods. The remaining two articles were descriptive overviews focused on providing guidelines for designing outcome-focused martial arts programs for children and adolescents with ASD (Scott, Kozub & Goto, 2005) and offering suggestions for curriculum development and instruction (Paul, 2011) for this population.

In the articles reviewed, a variety of martial arts interventions were described that incorporated Aikido (Paul, 2011), Tae Kwan Do (Scott et al., 2005), Kata techniques (Bahrami et al., 2012; Movahedi et al., 2013), Nai Yeng Gong (Chan et al., 2013) and mindfulness martial arts (MMA) (Milligan et al., 2013). Individuals participated in sessions that lasted 30-90 minutes (Bahrami et al., 2012; Chan et al., 2013; Milligan et al., 2013; Movahedi et al., 2013; Scott et al., 2005). Overall programs lasted either 4 weeks (Chan et al., 2013), 5-12 weeks (Paul, 2011), 14 weeks (Bahrami et al., 2012; Movahedi et al., 2013) or 20 weeks (Milligan et al., 2013). While positive outcomes were recorded in all programs regardless of length, one study specifically noted that both participants and their parents did not start noticing benefits until after 13 weeks of participation had been completed (Milligan et al., 2013).

Participation in martial arts interventions resulted in significant improvements in both social and behavioral functioning. Individuals with ASD experienced decreased social dysfunction (Movahedi et al., 2013) and stereotypic behavior (Bahrami et al., 2012). They also had better self-control (Chan et al., 2013), and were significantly less impulsive in problem solving (Chan et al., 2013). Interventions that also incorporated mind-body techniques led to increased calmness, self-understanding, communication, tolerance of discomfort, and decreased behavioral issues (Milligan et al., 2013). Some improvements were maintained at a one month follow up even without continued practice (Bahrami et al., 2012; Movahedi et al., 2013).

Children and adolescents involved in the programs reported their goals for being involved were development of skill, mastery in martial arts, and improving their emotional well-being and peer relations (Milligan et al., 2013). Parents reported that martial arts participation enhanced their child's persistence and willingness to persevere through challenges (Milligan et al., 2013). Additionally, Scott and colleagues (2005) indicated that parents reported improvements in social and athletic performance in their children. This included an expressed desire to expand social circles, as well as an increased openness to mainstream activities that had previously been avoided. Parents received benefits themselves, as it was also observed that the social interaction with other parents during martial arts events served as an important support network for them (Scott et al., 2005).

In order for children and adolescents to have positive experiences with martial arts, appropriate instructional ratios and supports should be in place. Scott and colleagues (2005) recommended a maximum of 15 students per class with a 1:1 instructional ratio for children and adolescents with ASD through the use of trained helpers. Instructors should teach content in small, sequential steps that cater to the individual needs of the students (Paul, 2011). Physical touch, standing next to the student and/or repeating their name may be necessary to re-focus individuals who are easily distracted. While a variety of exercises can be utilized, moves that are recognizable (e.g. seen in movies or video games) may be more readily accepted and fun for participants (Paul, 2011).

Knowledge Translation Plan

Based on the findings above, martial arts should be considered as an evidence-based treatment modality in recreational therapy practice. Given the variety of martial arts available, the recreational therapist (RT) should begin by gaining familiarity of different martial arts techniques and the positive

outcomes associated with each in order to best match the intervention to an individual client's needs. The goals and interests of the child should feature prominently in the decision making process.

Recognizing that most recreational therapists will not have specialized martial arts training that would qualify them to serve as a martial arts instructor, in most cases the primary roles of the therapist will be providing leisure education and access to resources, supporting participants in community martial arts classes or programs, and/or interacting with instructors on how to best support individuals with ASD participating in their classes/programs.

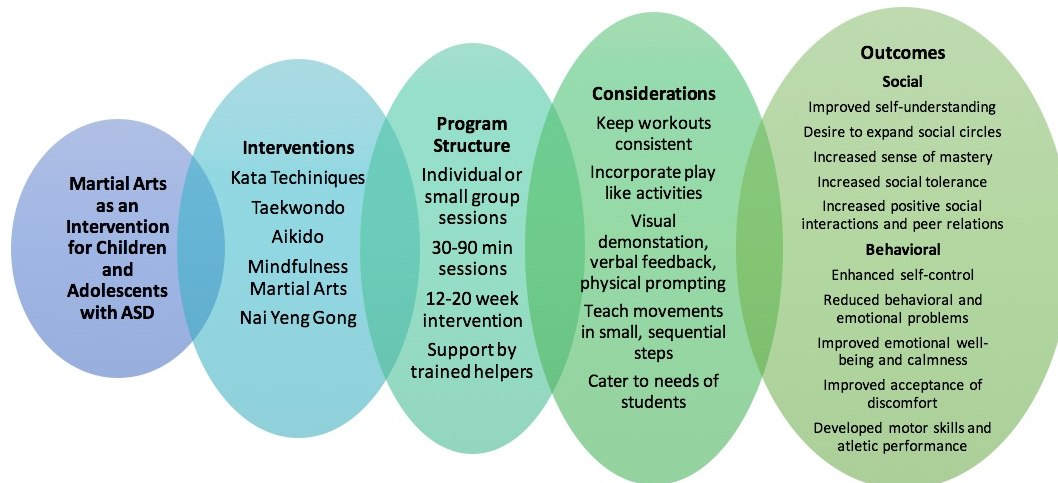
Regardless of the form of martial arts selected, when a therapist is supporting a client, he/she should take an active role in ensuring that the martial arts instructors and trainers have appropriate martial arts training while also assessing their general disability awareness and experience working with individuals with ASD. In cases where the instructor or trainer lacks knowledge and experience working with children and adolescents with ASD, the RT can assist by providing information on symptomatology and behaviors common with ASD. The RT can also offer facilitation suggestions in terms of best practices for teaching physical exercises to this population (Paul, 2011). If the client is participating in a martial arts program that involves children and adolescents without disabilities, discussing general inclusive principles with program staff is another way the RT can contribute to positive experiences for all involved.

The RT can share general guidelines with program staff including recommendations that instructors should utilize a strengths based approach during interactions with children, and that helpers should be selected who are highly social and are comfortable managing behaviors and physically assisting children (Scott et al., 2005). Instructors should also be aware of any individuals with sensitivity related to lights, noises, colors, or physical contact (Paul, 2011).

In looking for feasible options for promoting martial arts participation in children with ASD, the RT can consider partnering with already existing martial arts programs within the child's community at organizations such as the YMCA (Scott et al., 2005). The RT should consider starting children in a program where they are matched with others based on age, gender and autism severity (Bahrami et. al, 2012; Movahedi et al., 2015). Once the child has gained a sense of mastery in the martial art intervention, moving them into an inclusive martial arts class with children without disabilities would be ideal (Scott et al., 2005). If this level of programming is reached, it is imperative for the RT to provide peer orientation during the child's first day. In cases where the child is having difficulty adjusting with martial arts, the RT should recommend mixed martial arts that incorporate a meditation and mindfulness component (Chan et al., 2013; Milligan et al., 2013).

Parents are important resources, thus it is prudent that parents are involved in the program as well. The RT should encourage practice of martial arts at home and provide families with written materials or a CD that guides and supports practice at home (Scott et al., 2005). Additionally, therapists can encourage parents and other family members to learn basic martial arts techniques in order to promote family physical activity outside of classes and programs (Scott et al., 2005).

Given the limited research currently available in this area, recreational therapists should also consider ways they can formally document the experiences of children and adolescents in martial arts programs by tracking outcomes and adding to the evidence-base.



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