

The Effects of Martial Arts On the Behavior of Boys with Attention Deficit Hyperactivity Disorder (AD/HD)

Overview

Attention Deficit Hyperactivity Disorder (AD/HD) is the most commonly diagnosed disorder of childhood. The National Institute of Mental Health (2003) estimated three to five percent of all American children have AD/HD. This equates to 1 in 82 or 3.3 million children in the U.S.

Study Objective:

The (2004) study measured the effects of a Martial Arts Intervention Program and the effects of an Exercise Intervention Program on the academic and behavior performance of 'non-medicated' boys with AD/HD.

Areas Measured:

Effectiveness in decreasing maladaptive behaviors such as leaving the seat in class, redirection to task and outbursts in class.

Effectiveness in increasing adaptive behaviors such as percentage of completed homework, improved academic performance and frequency of following instructions.

Study Methodology

Participants were eighteen 'non-medicated' boys ages 8 to 11, diagnosed with AD/HD.

Participants were organized into Three Groups over a 12-week study period:

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|---|---|
| Martial Arts Intervention Group: | Six Boys participating in Martial Arts Intervention Program twice a week. |
| Exercise Intervention Group: | Six Boys participating in an Exercise Program twice a week. |
| Control Group: | Six Boys participating in a Control Group with No Intervention. |

Schoolteachers completed a **Behavior Checklist** both before and during the 12-week study:

- Percentage of Homework Completion
- Number of Class Rules Broken
- Number of Inappropriate Call-Outs in Class
- Number of Times Leaving Seat
- Percentage of Academic Performance
- Percentage of Redirection to Task
- Percentage of Classroom Preparation

Study Results & Conclusions

Results were determined by a comparison between pre and post scores on a rating scale.

The study lends empirical support to Martial Arts as a Positive Non-Medication Intervention for boys with AD/HD.

Martial Arts were shown to Substantially Increase the percentage of:

- Homework Completion
- Academic Performance
- Classroom Participation

Martial Arts were shown to Substantially Decrease the:

- Number of Classroom Rules Broken
- Times Inappropriately Leaving Seat
- Call Outs in Class

Martial Arts Intervention Program scored higher in the study, than an Exercise Intervention Program.

Specific Results & Hypothesis

As measured by the Behavior Checklist in the study, it is hypothesized that in children with AD/HD a **Martial Arts Program two-times per-week will:**

- **Increase the percentage of Completed Homework**
 - 36% to 85.7% TSK Martial Arts Intervention Group (Effect Size: 1.547)
 - ♣ 35% to 52.8% Exercise Program Group (Effect Size: 0.688)
 - ♣ 42% to 37.1% Control Group (Effect Size: 0.293)
- **Decrease Lack of Classroom Rule Compliance**
 - 40 times to 15 times weekly - TSK Martial Arts Intervention Group (Effect Size: 8.937)
 - ♣ 30 times to 20 times weekly - Exercise Intervention Group (Effect Size: 2.812)
 - ♣ 38 to 37 weekly - Control Group (Effect Size: .3539)
- **Decrease the Number of Inappropriate Call-Outs in Class**
 - 62 times to 25 times weekly – Martial Arts Intervention Program (Effect Size: 4.674)
 - ♣ 23.4 times to 14.5 times weekly - Exercise Intervention Group (Effect Size: 7.835)
 - ♣ 35.8 times to 34.9 times weekly - Control Group (Effect Size: 0.189)
- **Decrease the Number of Times participant Inappropriately Leaves Seat in Class**
 - 37 times to 20 times weekly - Martial Arts Intervention Group (Effect Size: 7.241)
 - ♣ 20.4 times to 12.7 times weekly - Exercise Intervention Group (Effect Size: 1.336)
 - ♣ 23.2 times to 25.7 times weekly - Control Group (Effect Size: .3642)
- **Improve Academic Performance**
 - 45.2% to 81.6% weekly - Martial Arts Intervention Group (Effect Size: 15.97)
 - ♣ 56.6% to 61.1% weekly - Exercise Intervention Group (Effect Size: 0.677)
 - ♣ 37.8% to 39.6% weekly - Control Group (Effect Size: 0.216)
- **Decrease Redirection to Task**
 - 53.7% to 40.2% weekly - Martial Arts Intervention Group (Effect Size: .6809)
 - ♣ 55.3% to 35.8% weekly - Exercise Intervention Group (Effect Size: 3.338)
 - ♣ 73.6% to 71.9% weekly - Control Group (Effect Size: .3312)
- **Improve Classroom Preparation**
 - 47.0% to 87.4% weekly - Martial Arts Intervention Group
 - ♣ 50.0% to 67.4% weekly - Exercise Intervention Group
 - ♣ 27% to 34.8% weekly - Control Group

Effects of Martial Arts

Martial Arts differ from other physical activities in their effect on AD/HD children as there is:

- Systematic influence of Meditation, Rhythmic Breathing and Relaxation amounting to or simulating self-hypnosis
- Step-by-step repetitive movement instruction
- Multi-level personal attention and positive reinforcements
- Adherence to etiquette
- Constant group reinforcement
- Mutual help and encouragement
- Sense of Group Cohesion with shared goals and ideology.

Effects of Martial Arts - continued

It has been found that children who engage in martial arts as opposed to exercise, improve in social behaviors, as martial arts are a socialization process that can become a socialization agent and a therapeutic activity. The novice martial artist acquires a new social identity, learns appropriate role behavior and conforms to expectations of the group through a process of interactions.

New physical skills, values and beliefs are fostered thru a regimented schedule of instruction, modeling, imitation, positive reinforcements and observation.

The readjustment of social skills, meditation to clear ones mind to focus and physical exercise, may make for a multifaceted program to treat maladaptive behaviors found in children with AD/HD.

Important is martial arts affect on concentration. The martial art itself will teach the practitioner to:

- Focus; Relax; Communicate; Become Self-Aware
- Integrate the Mind & Body (minimizing fear & anger; maximizing focus & concentration)

Choice of Tiger Schulmann's Karate

Tiger Schulmann's Martial Arts Program is multifaceted, creating what is known as a three dimensional-workout. The program is geared toward attaining results, enjoyment, and a repertoire of practical self-defense moves. The program is meant not only to be stimulating to the cardiovascular system, but stimulating mentally as well. The martial arts intervention program is consistently followed as a fixed curriculum.

Tiger Schulmann's Karate program was chosen as the Preferred Martial Arts Intervention because it employs a **Hybrid Style of Karate**. It includes **Karate** (empty hand) which builds on the student's ability to defend themselves by learning defensive and offensive techniques of different body parts.

The second style is **Jujitsu** (the art of gentleness). Mostly on the ground fighting/wrestling involving submission maneuvers, disengaging from an attacker, and locking up small joints and body parts so they cannot be effectively used against someone else's offense.

Finally **Aikido** (the blending inner force) utilized to use an opponent's strength and energy to your own advantage.

Tiger Schulmann's Hybrid Form of Marital Arts was used because past studies have concentrated on only one form of martial arts, limiting the generalization of the results to that form particularly and not to martial arts in general. The Hybrid Style, allowed to generalize the intervention program to the 'overall' martial arts discipline, as opposed to just one specific discipline. It also provided a more well rounded curriculum of movement drills, focusing on different aspects of skill development.

Tiger Schulmann's Karate Marital Arts Program provided an intervention program that is highly structured and disciplined. The atmosphere was one of tradition, coupled with discipline, so the participant was empowered to act with self-discipline.

Choice of Tiger Schulmann's Karate -continued

Tiger Schulmann's Karate Program Components include:

- Highly Structured Environment
- Clear Rules & Realistic Goals
- Achievement Recognition / Positive Reinforcement
- (Hybrid Style) Mixed Martial Arts Program (Core, Kickboxing, Grappling)
- Intensive / Progressive Martial Arts Drills (Series of hand and foot techniques; retaining and tying series of movements together)
- Development of Mixed Martial Arts Self-Defense Skills
- Motor Skill / Coordination Development
- Muscular Development
- Physical Fitness Ability Development
- Enhanced Self Confidence
- Focus Development / Minimized Distractions
- Self-Discipline (Discouraged from attending to physical discomfort and external stimuli)
- Retention of Material Presented
- Sharpening of Strengths & Improvement of Weakness
- Strive to do better / to achieve. Do not accept mediocrity. (TSK Non-Quitting Spirit)
- Organized and repeated lesson plans
- Meditation (turn the body inward)
- Sit at Attention / Listen to Instructor / Put into Practice What Is Demonstrated

Tiger Schulmann's Karate Mixed Martial Arts Curriculum

- Physically Active and Improvement Driven
- Varied curriculum. (Core, Grappling, Kick-Boxing)
- Teaches Specific Movements both individually and in combination, helping to focus participant's attention to something specific and engage the participant in two and three step tasks. As combination moves increase in difficulty, the more attention a participant needs.
- Many different movement combinations with varied focus development, thru Tiger Schulmann's mixed martial arts curriculum.
- Sitting still and at attention in between movement drills teaches children to pay attention to their instructor and to respect their fellow martial artist.
- Working one-on-one with a partner, fostering interpersonal relationships, social skills, social interactions, respect for and working with others.

Study Conclusion Summary

This scientific study provides empirical data indicating that a Hybrid Style Martial Arts Program performed two-times per week is effective at increasing adaptive behaviors and decreasing maladaptive behaviors in non-medicated boys with AD/HD.

The results suggest the need to continue research in the field of marital arts and AD/HD in an effort to create non-medication interventions in the school system. This research is a starting point toward satisfying the need to establish efficacious (non-medication) methods to treat AD/HD symptoms.