

# Outcomes of Individualized Personal Training Programs for Three Adult Siblings with Autism

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## Abstract

The purpose of this study was to assess the efficiency of three 6-week individualized personal training programs for three adult brothers who have autism. Using a single subject design, physical activity levels, basic fitness measures, and interviews were used to construct three individualized training programs to fit the subjects needs. Findings from this study can guide professionals in the adapted physical activity field who work with adults who have autism. Individualized personal training programs may provide an avenue for treatment or behavior modification for adults with autism.

In conclusion, the benefits of individualized personal training programs for adults with autism are not well established. However, the results of this study indicated that providing adults with autism with an individualized training program can be beneficial for the individual in more ways than one way. All three subjects saw improvements upon starting the program.

## Introduction

Each single subject will take part in a 6-week individualized personal training program based on personal goals. However, the training of each subject will be introduced at different times to measure the effect of individualized programming. The dependent measures include muscular strength and endurance.

Subject 1 is nonverbal, hypersensitive to the environment and was active prior to the program He walked an average of 5 hours /day, 7 days/week at a low intensity. His mood is inconsistent, therefore depending on what kind of day he was having determined the type and time of workout he did.

Subject 2 is verbal, always has headphones in, has limited social skills and was inactive prior to the program. He takes instructions best with hand signals and mirrors actions well.

Subject 3 is verbal, has basic social skills, will do most of what he is asked and was active prior to the program. His program consisted of resistance machines that were an add on to his sustained 2 year, hour long moderate intensity treadmill walking program.

	Blood Pressure	Body Weight	Body Fat%
Subject 1	126/84	154.8	14.7%
Subject 2	132/74	182.6	16.6%
Subject 3	138/88	191.6	18.2%

Table 1.1 Pre-assessment results

	Blood Pressure	Body Weight	Body Fat%
Subject 1	124/84	152.9	14.6%
Subject 2	126/74	180.1	16.0%
Subject 3	136/84	191.0	17.8%

Table 1.2 Post-assessment results

## Methods

Each subject worked out twice a week with researcher and was evaluated on independent and dependent measures. The subjects were introduced 10 days apart to measure the impact of the independent measure.

The format of each workout will begin with a warm-up that focuses on basic body movements. At the end of the workout a cool down activities and /or stretches will be performed. Proper warm-up, cool-down, and stretching procedures will be followed, which help decrease the risk of musculoskeletal injuries.

Subject 1 walked everyday and was considered moderately active prior to program. The pool and gym equipment were utilized for resistance and cardiovascular benefits. His workouts varied due to his mood and lasted from 35-130 minutes. The key to making his workout successful was to make the activity engaging and interactive.

Subject 2 walked occasionally and was at a low activity level prior to program. A workout DVD, designed for individuals with autism and Down syndrome, was utilized for the program. Each workout includes a warm-up, main activity and a cool down, totaling 30 minutes. Subject 2's favorite workout was kickboxing.

Subject 3 was on a 60 minute treadmill walking program and was considered moderately active prior to the intervention. Following the ACSM guidelines for the intellectually disabled, 8 resistance machines at the YMCA were used for the resistance training program.

- First week- 1 set of 12 repetitions
- Remainder of weeks- 2 sets of 8 repetitions at 70% of 3RM
  - Increased weight as needed

## Results

A total of 3 brothers with autism started and finished a 6 week individualized personal training program.

The subjects started the program 10 days apart to better measure the independent measures of the study.

A variety of assessments were given before and after the training program to measure the dependent measures of the study.

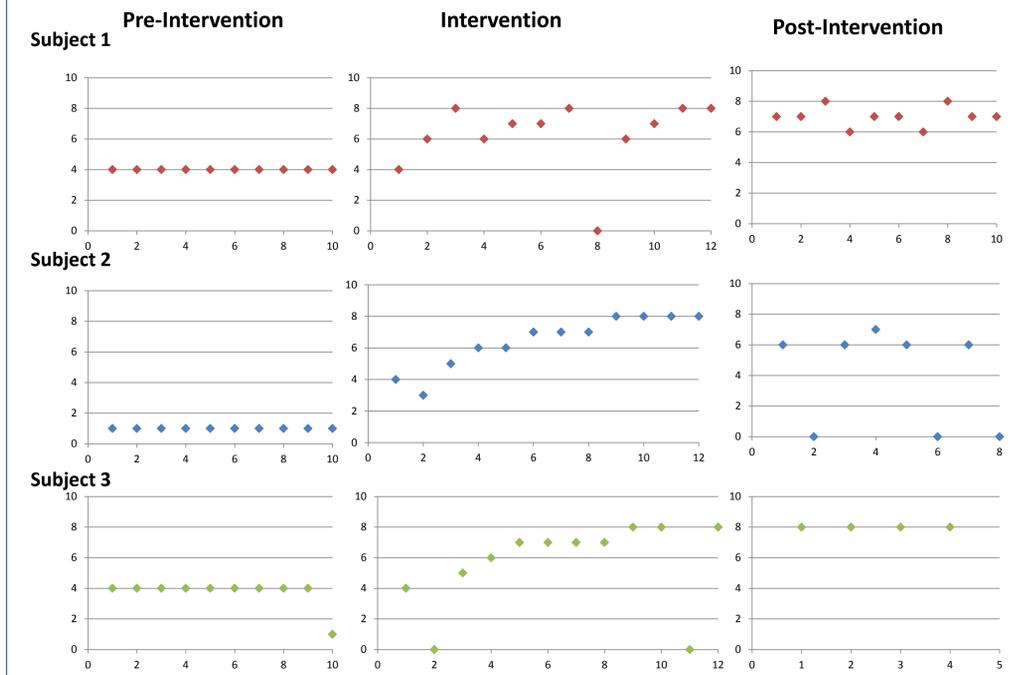
All three subjects showed signs of improvement in dependent and independent measures.

The results of this study describe what it means to participate in an individualized personal training program that is designed to meet the subjects ability levels.

Table 1.1 shows the 3 common test results amongst all 3 siblings before beginning the 6 week program.

Table 1.2 shows the 3 common test results after the 6 week program.

## Effectiveness of Exercise



## Discussion & Conclusions

The above graphs indicate the overall effectiveness of each subjects' workouts before, during and after the intervention.

Subject one's effectiveness was based on how active each workout was, how many prompts were needed and the amount of time exercised.

Subject two's effectiveness was based on how many prompts were needed during the workout.

Subject three's effectiveness was based on how many machines needed to be demonstrated and how many prompts were needed during each workout.

All three subject's have benefited and continued their individualized training program.

These findings can influence future exercise opportunities for individuals with autism. Specifically, personal trainers, physical educators, direct support professionals, behavior specialists and rehabilitation specialists who develop adapted physical activity programs for individuals with autism.

Further research is needed on similar programs being held in various locations in order to validate these results.

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