

# Cognitive Development in Autism Through Music Therapy

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## METHOD

This study involved the observation of 100 children with autism from *Little Flowers of Hope Center for Children with Special Needs and The Magic of Music* class. The participants are both male and female children under the age of 18, so a parent/guardian consent form was required before proceeding with the test. The participants performed a game that allowed them to talk and think. Afterwards, the children attended a music class that exercised the brain and relaxed them by singing and conducting music with instrument sticks. After the music class, the former game that was played before the music class was played again in attempt to see how much more functional the children were able to play the game.

### **Materials**

Since the children are under the age of 18 years old, a parental/guardian consent form was signed. The instruments that used in this study were instrument sticks to conduct music in beats, as well as a laptop and a speaker. Each music class lasts for about 20 minutes with changing variations of songs. The genre of music played was nursery rhymes, dance line, and top hits. The activity test conducted before and after the music class assessed the attentiveness and functionality of the children with autism.

## DISCUSSION

The sample size of this study was accurate in representing the target population goal. The tested age range included children between the ages of 6-17 years old. The male to female ratio was 49 to 51, which is nearly 50:50. Although not operationalized, the children observed had confirmed (varying) levels of autism. After testing the children with autism before and after the music class, the results confirmed the hypothesis that the music classes would increase the cognitive function level of the students by relaxing them and easing them into the comfortability to enjoy the exercise more. Out of the 100 children tested, only 20 of them showed a decrease in cognitive function after the class was complete. Overall, through banging two instrument devices together to follow the music being played, the motor skill movements of the children were stimulated, ultimately improving their cognitive function.

The music classes also showed that children with autism are more likely to accept being a part of an activity with music involved, especially since they are able to enjoy every aspect of it. Most students had a great amount of improvement in attentiveness and willingness to work on the activity when introduced to music. The children that remained constant throughout the music classes proved to have a bigger increase in functionality.

## INTRODUCTION

Autism, a disorder that affects 1.4% of children in the United States, impacts the development of social interaction skills in verbal and nonverbal communication. Studies have shown that children exposed to music training leads to improvement in the cognitive development of those with autism (Pellicano, 2007). Children exposed to learning a new instrument showed higher scores on a music aptitude test along with a motor skills test (Ho, Cheung, Chan, 2003; Rose, Bartoli, Heaton, 2018; Schellenberg, Mankarious, 2012; Pfeiffer, Sabe, 2015). Children with autism are also more likely to feel a sense of ease to do an activity or learn easily after enjoying time with music rather than going straight into an activity or a teaching lesson. The current study will investigate if exposing children with autism to learning music or a musical instrument will increase their cognitive skills. These children will be led to interact in an activity before and after a music session to be evaluated in their retention and ability to cooperate.

### **T-Test Paired Samples Statistics**

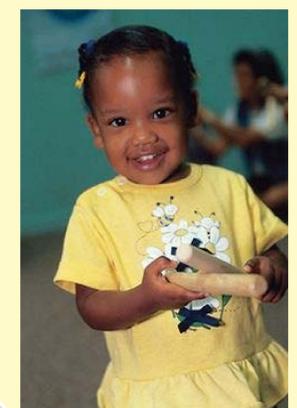
Pair 1	Mean	N	Std. Deviation	Std. Error Mean
Before Music Group	1.8300	100	1.35628	.13563
After_Music_Group	2.9200	100	1.73310	.17331

### **Paired Samples Correlations**

Pair 1:	N	Correlation	Sig.
Before Music Group & After_Music_Group	100	.364	.000

### **Paired Samples Test**

Pair 1: Before Music Group - After_Music_Group	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				LOWER	UPPER			
	-1.09000	1.77009	.17701	-1.44123	-.73877	-6.158	99	.000



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