

## EFFECTS OF PHYSICAL ACTIVITY INTERVENTIONS AND MUSIC THERAPY ON MENTAL HEALTH

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### Abstract

This study aimed to evaluate the effects of music therapy and physical activity interventions on mental health. Thirty-six girls, ages 21 to 26, from the Department of Physical Education at Guru Nanak Dev University, Amritsar, participated in the study. Arun Kumar Singh and Alpana Sen Gupta's Mental Health Battery was used to administer the test and gather results. The analysis of covariance (ANCOVA) was used. A significance level of 0.05 was chosen. It is evident from the results that no significant differences were noted between pre-test and post-test of experimental group (i.e., Physical Activity Interventions) on the variable Emotional Stability, Over-All Adjustment, Autonomy, Security-Insecurity, Self-Concept, Intelligence and Mental Health. It is evident from the results that no significant differences were noted between pre-test and post-test of experimental group (i.e., Music Therapy) on the variable Over-All Adjustment, Autonomy, Security-Insecurity, Self-Concept, Intelligence and Mental Health. It is evident from the results that significant differences were noted between pre-test and post-test of experimental group (i.e., Music Therapy) on the variable Emotional Stability.

**Keywords:** Physical Activity, Music Therapy, Mental Health.

### INTRODUCTION

Mental health isn't a new topic of conversation, but it's one that's become easier to talk about in recent years. For far too long, mental health has been held back by a thick layer of stigma and discrimination. It's time to let it out. There are currently an estimated 450 million people living with mental or behavioural disorders. According to the World Health Organization's (WHO) Global Burden of Disease 2001, the majority (33%) of people living with long-term disability (LD) are suffering from neuropsychiatric conditions, with the remainder (2.1%) suffering from intentional injuries. 13% of DALYs are due to neuropsychiatric conditions; 3.3% are due to intentional injuries; and 6% are due to HIV/AIDS. Each of these conditions has a behavioural component related to mental health. And behind these repetitive numbers lies tremendous human suffering. In terms of mental health, mental health problems began in the 1960s when efforts were made to reduce stigma [1,2]. Health is not a medical concept associated with the absence of disease, but rather a philosophical concept that requires an explanation of the good life - one in which a person has a sense of purpose, is committed to quality relationships [3]. In addition, all health problems must be considered within the cultural and developmental context, as well as within the social structures of childhood and youth [4]. Inactivity is a modifiable risk factor for cardiovascular disease and many other chronic diseases, including diabetes, cancer, obesity, hypertension, bone and joint disease, and depression [5,6]. Music therapy refers to the evidence-based use of music interventions to achieve clients' goals with the help of music therapists who have completed a music therapy program [7].

## MATERIAL AND METHODS

### SAMPLE

Thirty-six girls, ages 21 to 26, from the Department of Physical Education at Guru Nanak Dev University, Amritsar, participated in the study. Subjects were divided into three groups: Group A: Physical activity ( $n_1=10$ ), Group B: Music therapy ( $n_2=10$ ) and Group C: Control ( $n_3=10$ ).

**Table-1: Subjects' demographics.**

| Variables | Total (N=30) | Physical Activity (N <sub>1</sub> =10) | Music Therapy (N <sub>2</sub> =10) | Control (N <sub>3</sub> =10) |
|-----------|--------------|----------------------------------------|------------------------------------|------------------------------|
| Age       | 17.03±0.67   | 17.3±0.82                              | 17±0.47                            | 16.8±0.63                    |
| Height    | 167.96±4.64  | 168.5±4.06                             | 168.9±4.62                         | 166.5±5.27                   |
| Weight    | 60.63±3.37   | 61.7±2.83                              | 60.7±3.49                          | 59.5±3.71                    |

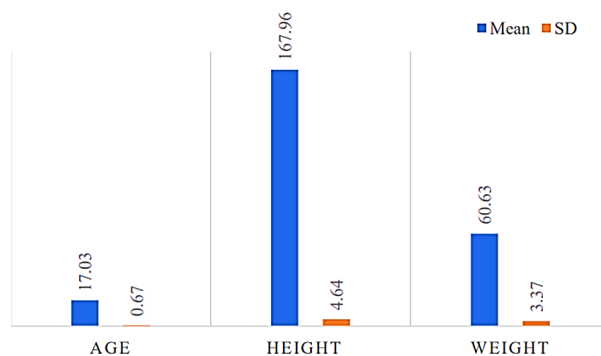


Figure-1: Graphical illustration of Subjects' demographics.

### RESEARCH DESIGN

Subjects in Group-A were subjected to Physical Activity. Subjects in Group-B were subjected to Music Therapy and Subjects in Group-C acted as Control one.

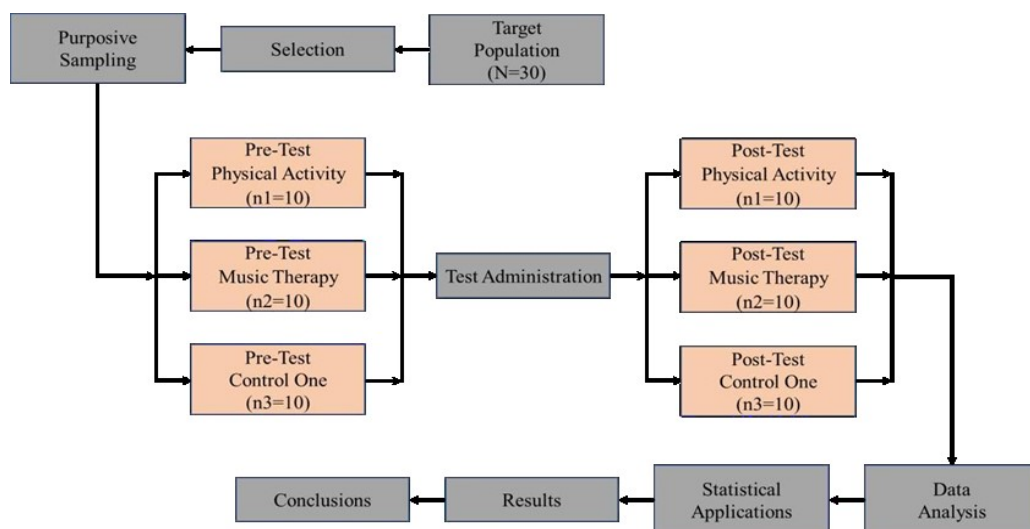


Figure-2: Study design.

**Table-2: Training protocol.**

| Weeks                | Schedule  | Time      | Duration  |
|----------------------|-----------|-----------|-----------|
| 1 <sup>st</sup> Week | Warm up   | 5 Minute  | 40 Minute |
|                      | Run/Walk  | 30 Minute |           |
|                      | Cool down | 5 Minute  |           |
| 2 <sup>nd</sup> Week | Warm up   | 5 Minute  | 50 Minute |
|                      | Run/Walk  | 40 Minute |           |
|                      | Cool down | 5 Minute  |           |
| 3 <sup>rd</sup> Week | Warm up   | 5 Minute  | 60 Minute |
|                      | Run/Walk  | 50 Minute |           |
|                      | Cool down | 5 Minute  |           |

Music intervention techniques include receptive music listening (Raag Darbari Kanada on flute by Pt. Hariprasad Chaurasia) were administered.

**Table-3: Full protocol of 3-weeks music therapy.**

| Weeks                | Therapy       | Duration  |
|----------------------|---------------|-----------|
| 1 <sup>st</sup> Week | Music Therapy | 40 Minute |
| 2 <sup>nd</sup> Week |               | 50 Minute |
| 3 <sup>rd</sup> Week |               | 60 Minute |

#### **MENTAL HEALTH PARAMETERS MEASUREMENT:**

Arun Kumar Singh and Alpana Sen Gupta's Mental Health Battery was used to administer the test and gather results.

- Emotional Stability
- Over-All Adjustment
- Autonomy
- Security-Insecurity
- Self-Concept
- Intelligence

#### **STATISTICAL ANALYSIS**

The analysis of covariance (ANCOVA) was used as statistical analysis. A significance level of 0.05 was chosen for the present study.

## RESULTS

**Table-4: Analysis of covariance (ANCOVA) statistics.**

| <b>Emotional Stability</b> |          |             |                            |
|----------------------------|----------|-------------|----------------------------|
| <b>Variable</b>            | <b>F</b> | <b>Sig.</b> | <b>Partial Eta Squared</b> |
| Physical Activity          | 4.358    | .052        | .204                       |
| Music Therapy              | 19.318   | .000*       | .532                       |
| <b>Over-All Adjustment</b> |          |             |                            |
| Physical Activity          | .870     | .364        | .049                       |
| Music Therapy              | 1.539    | .232        | .083                       |
| <b>Autonomy</b>            |          |             |                            |
| Physical Activity          | .347     | .564        | .020                       |
| Music Therapy              | 1.225    | .284        | .067                       |
| <b>Security-Insecurity</b> |          |             |                            |
| Physical Activity          | .294     | .594        | .017                       |
| Music Therapy              | .136     | .717        | .008                       |
| <b>Self-Concept</b>        |          |             |                            |
| Physical Activity          | 1.415    | .251        | .077                       |
| Music Therapy              | 2.993    | .102        | .150                       |
| <b>Intelligence</b>        |          |             |                            |
| Physical Activity          | 1.797    | .198        | .096                       |
| Music Therapy              | .538     | .473        | .031                       |
| <b>Mental Health</b>       |          |             |                            |
| Physical Activity          | .017     | .898        | .001                       |
| Music Therapy              | .538     | .473        | .031                       |

It is evident from the results that no significant differences were noted between pre-test and post-test of experimental group (i.e., Physical Activity Interventions) on the variable Emotional Stability, Over-All Adjustment, Autonomy, Security-Insecurity, Self-Concept, Intelligence and Mental Health. It is evident from the results that no significant differences were noted between pre-test and post-test of experimental group (i.e., Music Therapy) on the variable Over-All Adjustment, Autonomy, Security-Insecurity, Self-Concept, Intelligence and Mental Health. It is evident from the results that significant differences were noted between pre-test and post-test of experimental group (i.e., Music Therapy) on the variable Emotional Stability.

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