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Shivamurti

Lecture, Narendra College of
Physical Education,
Vijayapur, Karnataka, India

Chikkanarti

Lecture, Narendra College of
Physical Education,
Vijayapur, Karnataka, India

Influence of music on physical activity

Shivamurti and Chikkanarti

Abstract

Music and sports are different disciplines, but they are interlinked each other. According to Justine Timberlake, music and sports are natural complements to each other as suits and ties.

Music helps sportsmen to develop their concentration and performance. Hence, many researchers like Atkinson G, Wilson D and Priest and others are doing research on this topic.

Music is a pervasive presence in society and is routinely used to influence human behavior in a variety of settings and for a variety of purposes including exercises behaviors and physical education classes.

Karageorghis, Terry and Lane (1999) conducted much of the research in connections with music in sport and exercises. They presented a conceptional frame work predicting the effects of asynchronous and motivational music in the context of exercise and sport.

From the previous studies, it is found that four factors have been identified that contribute to the motivational qualities of a given piece of music rhythm response; musicality, cultural impact and association. Rhythm response is the response to the rhythmical elements of music- the key characteristic of music for eliciting bodily response. Musicality is the response to the Pitch related elements of music such as hormone and melody. Cultural impact is the pervasiveness of the music within society. The association factor is the personal music association that may evoke bodies to be physically active. The four factors were different in the extent to which they contributed to the motivational qualities of music with rhythm response found to exert the greatest influence on bodily responses and association the least.

Karageorghis *et all* (2006) proposed that asynchronous motivational music leads to three psychological responses, namely arousal control, reduced ratings of perceived exertion (RPE) and improved mood. They also provided guidelines to the practitioners to facilitate the prescription of music that may ultimately impact exercise.

Keywords: music, physical activity, sport, exercise and relaxation

Introduction

The use of music at sporting events is thousands of years old, but has recently had rebirth as a noted phenomenon. Earlier music and sports were developed as independent disciplines. But the recent researches proved that there is a relation between the music and performance or physical activity. Some other researchers have made the presentation of music very specific to the teams even to particular players. Music may be used to build the energy of the fans and may also be introduced in ways that are less directly connected with the action in a sporting event.

Statement of the topic.

Influence of music on physical activity.

Definition of terms.

Music: It is science or art of ordering tones or sounds in succession, in combination and in temporal relationships to produce a composition having unity and continuity.

“Music gives a soul to the universe, wings to the mind, flight to the imagination and life to everything”

“The only truth is music” -Jack Kerouac.

It is the vocal, instrumental or mechanical sounds having rhythm, melody or harmony.

Physical Activity: Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure.

Correspondence

Shivamurti

Lecture, Narendra College of
Physical Education,
Vijayapur, Karnataka, India

“Physical activity has been identified as the fourth leading risk factor for global mortality causing an estimated 3.2 million deaths globally”.

WHO physical activity

www.who.int/topics-physical-activity.

Physical activity simply means movement of the body that uses energy walking, gardening, briskly pushing a baby stroller, climbing the stairs, playing soccer or dancing the night away are all good examples of being active. For health benefits, physical activity should be moderate or vigorous intensity.

Sport: An activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment.

Sport is an athletic activity requiring skill or physical prowess and often of a competitive nature.

Exercise: Exercise is an activity requiring physical effort, carried out to sustain or improve health and fitness”

- An activity carried out for a specific purpose
- Exercise is physical activity that is planned structured and repetitive for the purpose of conditioning any part of the body.
- Exercise is used to improve health, maintain fitness and is important as a means of physical rehabilitation.

Relaxation: The state of being free from tension and anxiety.

Relaxation is a way of spending time in which you rest and feel comfortable.

History of music on physical activity

At the opening ceremony of 1st Modern Olympic Games held in the year 1896 was incorporated music into the festivities surrounding the competitions. On March, 25 of that year, “the philharmonic orchestra played the National Anthem and the First Olympic Hymn, written by poet Kostis Palamas and the music was composed by well known Greek composer Spyridon Samaras.”

It is a common saying in ancient Greek times was exercise for the body and music for the soul.

The ancient Greeks internally tied the performance of music to sporting events, particularly at their quadrennial Olympic games. The extent to which cultural elements were included in the Pan Hellenic Games is enlightening. At several festivals, including Delphi, Isthmia and Athens, music played prominent role in the athletic contests.

Music and performance of physical activity

Physical activities whether aerobic or anaerobic are helpful for improving the physical qualities like endurance, strength, agility etc.

“Endurance is the ability to do the exercise for a longer time without undue fatigue”. Karageorghis of Brunel University U.K. has recently published a study that shows, using the right music before and during workout can boost your performance by as much as 20 percent (2010).

Mohammed Ghaderi, Mohammed Ali and Rehimimi had conducted research and proved that listening relaxation music reduces physiological and psychological arousal during aerobic performance.

Studies investigating the effects of music on exercise performance have revealed inconsistent data. Music accompaniment has been shown to improve muscular endurance in the performance of junior high school students doing situps (Chipman 1966) and college women doing push

ups (Koschak, 1975), while it did not enhance the running speed of female youth (Leslie, 1967). In contrast, college aged males and females were able to walk farther and with less effort when exercising to music as compared to no music (Beckett, 1990).

Deutsch (2008) ^[5] for example, investigated the effects of music on elementary aged students being tested during the Progressive Aerobic Cardio Vascular Endurance Run (PACER) test. Sixty nine fourth and fifth grade students (37 boys and 32 girls) participated in this study. The PACER test is an age and developmentally appropriate aerobic capacity fitness test recommended for all ages, but particularly for elementary aged students. The Cooper Institute (2005) produced a C.D. that has three versions of the test; one with faster tempo music, one with a mild tempo and one version without music. The results indicated that PACER scores increased in boys and girls when administered with music. Boys performed better with mild tempo music and girls with the faster tempo music. Further more students comments indicated that they enjoyed participating more when music accompanied the test.

However, although it is hoped that the use of music in elementary physical education will elicit specific behavioral responses in students (e.g. increased physical activity), it is most often used simply as an element of the content e.g. the music that accompanies a dance or the timed music that assists in the time management of a fitness routine. Pangrazi, (2007) ^[7]. Although it appears that including music can affect physical education students physical activity behaviour in the PACER, its effects on physical activity behaviour throughout a lesson remain unexamined.

Therefore, David Barney and Keven A. Prusak conducted a study to examine the effects of using music on the physical activity rates (measured via pedometry) of elementary school children during entire physical education lesson.

Conclusion

Many researchers have conducted the tests on PACER and found that boys and girls students scores increased with music, whereas in the study conducted by David Barney, and Keven A. Prusak, music may also be used throughout the lesson, resulting in increased physical activity outcomes. Although music is somewhat common as an occasional curricular element in the public school setting and even more so in elementary physical education. Its effects on students behavior such as physical activity throughout the lessons were conducted with and without music and this revealed important insights about the effects of music on physical activity rates.

Regardless of the activity, students in lessons with music were more active. The study conducted by Karageorghis recently found that using the right music before and during workout can boost the performance by as much as 20 percent.

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