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Effects of Warming Up With Music on Moods and Training Motivation among Athletes

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Abstract

The purpose of the present study is to review the effects of warming up with music on moods and training motivation among Kurdistan province's female handball players0 for this purpose, 24 handball players of premier league of Kurdistan province were selected as the research subjects through a random sampling method. In this study a pretest-posttest design is applied by which 12 subjects have been selected as control group and 12 as experimental group. The latter group performed warm ups free from music. For the purpose of estimation of motivation of subjects, the questionnaire of sports motivation was made use of. In addition, for investigation of the moods variable, the questionnaire of athletes' moods was used. Research results using the statistical test of Mann-Whitney showed that no significant difference existed between the experimental and control groups' motivation and moods after performance of the warming up program (P: 0.124). This was while there was a statistically significant difference between the experimental and control groups' moods prior and post to execution of Training program (P= 0.003). In general, it may be concluded that playing music doesn't have any significant effects on athletes' motivation while their moods can undergo significant changes through listening to music during warming up.

Keyword: Warming Up; Music; Moods; Training; Athletes.

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Introduction

When human attends to a kinetic activity in face the entire cognitive, physical and psychological domains are incorporate synchronously. On this basis in order to obtain an effective recognition and to make an effective use of the entire components of a movement, one must be prepared for that movement in terms of physiology, psychology and nerve and muscles. In fact mankind has revealed the motivational role of music on performance of different moves centuries ago. Many of athletes of track and field, ice skiing, cycling and etc. are occasionally observed wearing earphones or headphones while being focused on potential events (Keihani and Shariatpanahi, 2008). Results of the recent studies show that music is applied in sports in four main ways including: 1) simultaneous with performance of activity; 2) asynchronous with performance of activity; 3) prior to performance of activity and while warming up and 4) music therapy.

With respect to the great effects of warming up on performance of athletes, researchers have been continuously endeavoring to find solutions for improvement of quality of warming up. As it was mentioned, one of these methods which have been significantly employed during the past few years is using music while warming up. Lanzino et al, (2001) used applied playing music while warming up on optimization of athletes' mental states prior to main events. As another instance, Bishop et al, (2007) implemented a music integrated warming up program for imagination of designated movements and facilitation of mental training.

Different types of music differ in genre, rhythm, intensity and pitch and therefore attention is advised while selecting music for each training variable. For those who are new to sports programs, music might be a distraction and it also may cause increased excitement. However, the entire most recent studies have revealed a calming effect for music. In addition it has been turned out that music can create a state of awareness and motivation for those who play sports that require less focus, attention and free from distractibility. Considering the motivational role of music, subjects take more joy from exercising and also the former increases the athletes' interest in participation in exercises that require more strength and power (Crust and Clough, 2006). In spite, there are still a few researches which have investigated the effects of music on moods and training motivation. This trend cannot be helpful for development of related fields of study and

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therefore, the present research is aimed providing answer to this question: What are the effects of listening to music while warming up on moods and training motivation among athletes?

Methods

Method and Sample

The population of the present study is consisted of the entire female handball players of premier league of Kurdistan Province. Among this population, a few individuals including 24 randomly selected athletes were selected as the research sample. The sample was further divided into two equally 12 membered groups named as experimental group and control group. The entire subjects were checked for perfect mental and physical health and were labeled as professional athletes.

Tools

Two questionnaires including the questionnaire of moods and the questionnaire of training motivation were used in present study for measurement of research variables.

Questionnaire of moods: this research has made use of the questionnaire of moods developed by Brooms for investigation of athletes' moods. The Persian version of the former questionnaire was validated by sport experts. This questionnaire includes 32 questions and eight components named as stress, liveliness, confusedness, fatigue, happiness, calamity, depression and anger. The former questionnaire's answers are also based on a five degrees Liker scale ranging from never to seldom, usually, often and very often. In terms of the Persian version of the questionnaire, aforementioned researchers have incorporated the ides of three experts of the field of sports psychology. In addition the confirmatory factor analysis method was used for determination of construct validity of the former. Furthermore, the internal consistency of the questions of moods questionnaire was reported as 0.78. This value shows that the index is verified as approved.

Athletes' motivation questionnaire: this research has made use of the questionnaire of moods developed by Platier et al. (1995) for investigation of training motivation among athletes. This questionnaire comprises 28 questions; two aspects (internal motivation and external motivation) and seven components including awareness,

success, and experience of motivation (internal motivation), identity, Projection, external regulations and lack of motivation (external motivation). The former questionnaire's answers are also based on a five degrees Liker scale ranging from never to seldom, usually, often and very often. The validity of the former questionnaire was approved by the developers and the total reliability of sports motivation is reported as 0.83.

Conduction of Research

This research implements a pretest-posttest design and a control group. The following provides information on type of selected music and manner of playing for subjects. In addition the warming up program is described with full details.

Statistical Methods

Data analyses have been performed at two levels of descriptive and inferential. In terms of descriptive statistics, indexes including average and standard deviation have been made use of. Furthermore, in terms of inferential statistics, the data were hypothetically considered as normally distributed and therefore the Covariance analysis method was applied. The entire statistical analyses performed in this study were based on an error value of 0.05 and test ability of 50%. It should also be mentioned that the entire operations of statistics have been performed within the SPSS v.22.0 software.

Results

Figure 1 shows the average value of training motivation for both control and experimental groups in posttest and pretest

Figure 1. Average Differences for Motivation Before and After Execution of Program

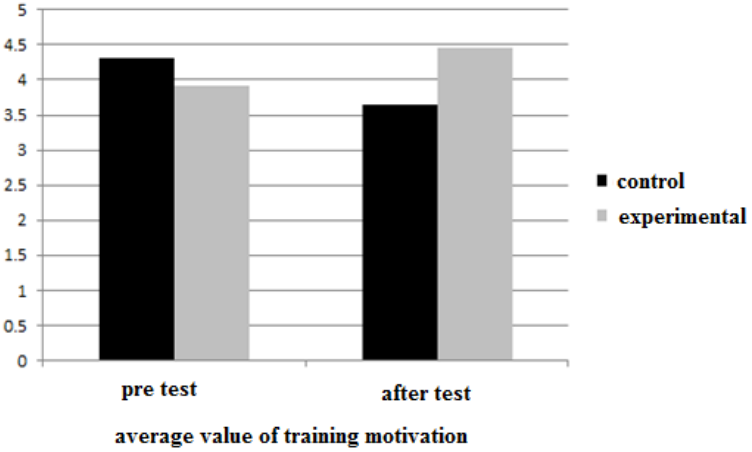
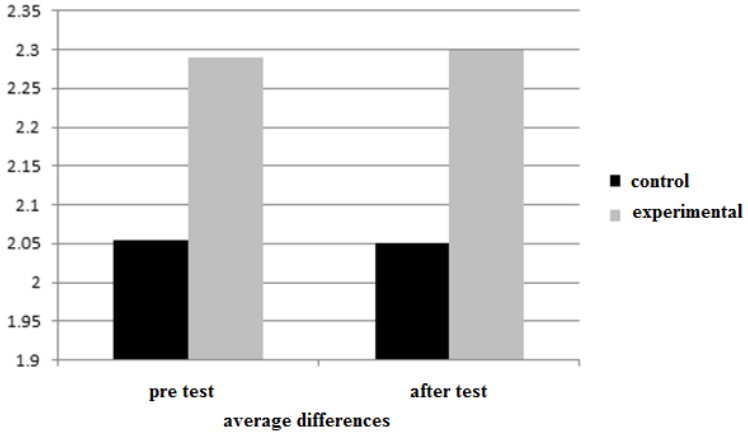


Figure 2. Average Differences for Moods Prior and Post to Execution of Program



In figure 2, the average moods value of both experimental and control group are shown for posttest and pretest

In table 1 you can see the results of the Mann-Whitney statistical test. This test is administered for investigation of average differences between posttest and pretest values of the variable of training motivation. As it is shown, no significant difference existed between the experimental group's value and control groups' before and after execution of the program (P: 0.143).

Table 1. M-W Test Results for Training Motivation

number	Training motivation
Mann-Whitney	46.000
Wilcoxon	124.000
Z statistic	-1.503
Sig.	0.143

On the other hand, results of the Mann-Whitney statistical test have shown that there existed a significant difference between average differences of experimental and control groups prior and post to execution of the program (P: 0.003).

Table 2. M-W Test Results for Moods

number	Moods
Mann-Whitney	22.000
Wilcoxon	100.000
Z statistic	-2.899
Sig.	0.003

Discussions and Conclusion

Nowadays most people are aware of the effects of music and musical activities. During the past two decades, many researches have been performed in this field mostly having elaborated on effects of music on increased precision and concentration and amplification of small and huge movements. Each and every one of these researches and studies has pointed out that music and musical activities are crucial for individuals. During the past few decades significant importance has been given to musical activities for everyone and especially for children. This issue is extended to the point that our current knowledge is actually trying to make use of music for curing or healing several diseases. In fact each piece of music has certain emissions based on their rhythms. These emissions tickle the nervous cells and result in either amplification of a feeling or motivation, or degradation of it. In addition the musical aspect of human language is not only for aesthetics, it's rather the element of conveyance of notions and meanings. In addition, results of previous studies also show that usually music is a pure source of inspiration in sports. For this reason, the present study has tried to investigate the effects of listening to music while warming up on moods and training motivation among female handball players.

One of the results of this study was that warming up with music has no effects on training motivation among athletes. In fact it was revealed that the average differences between the control and experimental group did not differ before and after execution of the training program administered in this study. Therefore considering this result the effect of warming up with music cannot be generalized to training motivation among female handball players. It is also possible that this result may be due to specific population

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of the study. In addition it also seems that nature of research variables are also related to obtaining this result. In this regard many of researches performed regarding the context of sports have pointed out that music has effects on sports. However the domains which have yielded the results differ. For an instance, Barzegar et al, (2015) carried out a study named as "effects of music on metabolic responses of males while increasing sports activities'. They concluded that listening to fast music during increasing sports activities results in significant increases in respiration, production of carbon-dioxide, minute based ventilation and number of breathes per minute while significantly decreasing the index of perception of pressure as well as lack of significant changes in consumption of oxygen and fatigue time. On the other hand, Koc and TurchIan (2009) conducted a review study and investigated the effects of music on performance of athletes. Results of this study showed that music can leave certain positive effects physiological effects along with mental impacts.in addition it seems that fast and slow music types are each associated with a different impact on performance. In addition, Karageorghis and Jones (2006) carried a study aimed at determination of the relation between heartbeat rate and music beat rate. By this study it was concluded that those music which possess a faster or mid-range beat rate are more effective compared to those with slower beat rates. In another study, Sabaghian and Hafezi (2013) carried out a study named as effects of motivational music during exercising on performance of teenage swimmer females. They investigated the effects of motivational music on performance of 30 elite female swimmers and concluded that no significant difference existed among the experimental and control group in terms of performance. Understanding the mechanisms used by human body for reacting to music can show the application of music in sports. Studying the majority of articles that were written in this context shows that music can increase attention in sports such as track and field and cycling which don't require much intensity. This results in reduced overburden and in fact it's a technique that many athletes have been using. This is also known as segregation. Segregation is defined as concentration on motivations other than sport activities. Some athletes for example would rather prefer looking at surrounding views or thinking about other things. In this regard, music is one of the most interesting and effective segregation methods. Segregation can take the mind of the athlete away from fatigue and exhaustion and make a positive change in the mind of athletes. On the other

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hand, music can change undesirable physiological and mental states and therefore it can be considered as a type of motivation tool that is used prior to events. The present study has elaborated on mental and motivational needs and since the former and latter have two completely different natures, therefore it can be concluded that music has certain effects on sports. Based on the results obtained in the present study, music has no significant effects on training motivation and motivation for participation in sports.

Another result that was yielded by the present study was that warming up with music has significant effects on moods of athletes. In fact this result has shown that there exists a significant difference between the average values of variable of mood for control and experimental groups prior and post to execution of the training program. In this regard it can be referred to the study performed by Torabii et al (2012). They investigated the effects of music on moods and throwing precision among basketball players. Here it can be seen that even effects of different types of music have been investigated and since each different piece of music has its specific and different tone, rhythm and pitch, every piece of music has a different type of effect. With respect to effects of each of the aforementioned factors on effectiveness of music on sports it seems that the former relation holds while music with higher tempos and motivational music have evidently resulted in optimized moods. In general, in terms of effects of music on moods and training motivation we have concluded that the experimental group subjects have benefitted from music although that levels of motivation did not differ for experimental and control groups.

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