EFFECTS OF ASYNCHRONOUS MUSIC ON THE MOOD STATES OF TAEKWONDO EXPONENTS

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Introduction
Music is an integral part of our culture, and it is becoming a part of peoples’ everyday lives [12]. Most of the time when someone listens to music, they would most likely say that they do it because it relaxes them, puts them in a good state of mind, reminds them of happy memories, or organizes their thoughts and helps them be productive [12]. An asynchronous music is no conscious synchronisation between movement and music tempo. Asynchronous music serve to enhance athletic performance by triggering emotions and cognitions associated with flow states [7].

Music has an effect on mood which is a commonly accepted knowledge in our society [5]. It can serve many different purposes. Some of these operate at the level of the individual; others are an integral part of our social lives. For the individual, music can provide as an outlet for emotional expression, enables mood change, facilitate relaxation, provide stimulation and be a source of comfort. It can also be used in therapy. Music can entertain, provide aesthetic enjoyment and enhance the impact of the other arts [12]. Besides that, music has also been widely used to accompany exercise and athletic activity. It has been used to enhance the psychological state of the participants, to establish an effective mindset, to sustain motivation and to resist mental and emotional fatigue, and it may even facilitate physical and athletic performance [5].

The perception of effort, fatigue or force during exercise may be influenced by the situation in which the exercise is being performed and by the disposition of the exerciser [6]. Situational and dispositional factors such as personality type, level of motivation, and focus of attention can influence the perception of exertion during exercise. The same factors that can affect the perception of exertion may also affect the degree to which exercise can be considered tolerable or the manner in which it is enjoyed. It is suggested that using music to change the context in which physical work or exercise is performed may be a viable way of positively influencing an individual’s disposition during exercise, thereby enhancing the enjoyment of the experience. Szmedra and Bacharach [8], suggested that music has the ability to interfere with unpleasant stimuli and sensations associated with exercise as it can ‘dampen’ some of the byproducts of high level exercise by influencing on the metabolic and hemodynamic components during the exercise session.
MULTI-STAGE SHUTTLE RUN USE AS A TRAINING TOOL TO IMPROVE VO2 MAX

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Introduction
Cardiorespiratory (CR) fitness is one of the five basic components of physical fitness. It is a condition in which the body’s cardiovascular (circulatory) and respiratory systems function together, especially during exercise or work, to ensure that adequate oxygen is supplied to the working muscles to produce energy [22]. It is widely recognized that the most valid physiological indicator of an athlete’s cardiovascular function is a laboratory determination of Maximal oxygen uptake (VO2Max) [2]. In aerobically trained individuals, VO2Max has been used to monitor the cardiorespiratory adaptations from aerobic training programs, prescribe the intensity of exercise for aerobic training, and predict performance in endurance sporting events [17]. Thus individual with high VO2Max values have been regarded traditionally as possessing “endurance fitness” or “cardiorespiratory fitness” [23].

The 20-m multi-stage shuttle run design by Léger and Lambert [16] is the most common field-based continuous running test that is used extensively in many sporting and occupational health settings to predict Maximal oxygen uptake [28]. This test, which is normally administered indoors, is progressive in nature and utilizes a pre-recorded sound signal to dictate running speed [21]. The 20m multi-stage shuttle run test was conducted with the participants’ running back and forth between two lines, spaced 20-m apart, in time with the “beep” sounds from a compact disc [16]. Each successful run of the 20-m distance was a completion of a shuttle. The “beep” sounded at a progressively increasing pace with every minute of the test and correspondingly the participants must increase his running speed accordingly. The participants were warned if they did not reach the end line in time once [1]. The test was terminated when a) they could not follow the set pace of the “beeps” for two successive shuttles or; b) he stops voluntarily.

Aerobic power is usually defined in terms of Maximal oxygen uptake (VO2Max). Maximum oxygen uptake was defined as the greatest amount of oxygen that can be used at the cellular level for the entire body [10] and was determined during continuous incremental exercise test to exhaustion while running on a motorized treadmill (Figure 1). Maximal oxygen uptake was expressed relative to body mass for each participant. Relative performance was derived using the ratio standard where VO2Max (ml/min) was divided by body mass (ml/kg/min) [7].

It is suggested that training at or near VO2Max (≥ 95% VO2Max) is optimal for enhancing VO2Max [15, 19]. Wenger and Bell, [27] concluded that the enhancement of VO2Max was positively related to exercise intensity in the range of 50% to 100% VO2Max, irrespective of duration and frequency. Tabata et al. [26], found that 6 weeks of aerobic training at 70% of VO2Max improved the VO2Max by 5 to 7 ml/kg/min in moderately trained young men.