THE SUBJECTIVE EXERCISE EXPERIENCES OF RHYTHM ACCOMPANYING EXERCISE – GENDER DIFFERENCES

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Abstract
Music is one of the most popular factors that increase motivation. The practical question is can we improve motivation for aesthetic exercise with accenting rhythm during learning new aesthetic elements and is there any gender differences in subjective exercise experience while learning new rhythmic gymnastics elements. It is supposed that learning strategies targeted with rhythm accompanying exercise can improve active involvement of the learner. Forty one students of physical education and sport participated in this study. The aim of the present research was to: (1) identify the differences in SEES between male and female university students involved in learning rhythm based aesthetic elements; (2) identify possible changes in SEES subscale before and after rhythm accompanying exercise. Subjects were asked to complete the SEES questionnaire prior and after an exercise trial by circling the number on a seven-point scale next to each item (great, awful, drained, etc) to indicate the degree to which they are experiencing each feeling at a certain point of time. To determine the differences between groups before and after physical activity in SEES subscales we use T-test for dependent groups, and to determine the gender differences T-test for independent groups. Significant differences before and after physical activity for SEES subscales in both groups were not found, but gender differences were noted in Positive Well-Being after activity in favour of male student and in Fatigue before and after physical activity in favour of female students.

Key words: students, rhythmic gymnastics, Subjective Exercise Experiences Scale

Introduction
Rhythm and character of music play significant role in exercising and could be increasing factor of motivation (Priest & Karageorghis, 2008). In physical education (PE) classes it is extremely beneficial to evoke pupils' enjoyment, especially when exercises are obligatory part of the PE curricula.

Previous investigations have already detected that carefully selected music improves exercise performance (Atkinson, Wilson & Eubank, 2004; Elliott et al 2004) and just rhythmical elements of music are identified as a key characteristics of music causing bodily response (Karageorghis & Terry, 1997; Karageorghis, Jones & Low, 2006). It is well known that boys and girls prefer different physical activities. Mazzardo (2008) states that the main reason for the existence of significant differences between genders is the fact that boys, in general, choose activities that develop manipulative, but also locomotor skills (basketball, handball, soccer), while the girls mostly choose to participate in activities that have great potential for development of the locomotor skills (gymnastics, swimming, dancing). Therefore, it could be expected that girls will favour aesthetic activities more than boys in PE but allowing boys not to learn aesthetic movement at all could produce alienation for aesthetic movements in general.

Nilges (2000) encourages physical education teachers to pay serious attention to how gender identity and meaning is constructed within and around body movement and devises teaching strategies that promote new degrees of equity and self–identification for all individuals.

The practical question is can we improve motivation for aesthetic exercise with accenting rhythm during learning new aesthetic elements and is there any gender differences in subjective exercise experience while learning new rhythmic gymnastics elements. It is supposed that learning strategies targeted with rhythm accompanying exercise can improve active involvement of the learner. And active involvement of the learner is the basis of expressive performance characteristic for aesthetic activities. Emotionally experienced activity will dominate in the expressive performance (Miletic et al., 2012).

Subjective Exercise Experiences Scale – SEES (designed by McAuley & Courneya, 1994) was chosen
for current investigation because of relative shortness in final version and the way in which the initial construction of this measurement was made (Whissel et al., 1986).

In the final stage of construction, 7 expert judges, all doctoral level researchers in the area of psychosocial responses to exercise and physical activity indicated the suitability for each item as a subjective experience likely to be positive or negative influenced by exercise participation. New 46 chosen items were identified by at least six of the seven judges. After that, 46 items were administrated to 454 university students enrolled in 13 physical activity classes.

Factor analysis emerged three-factor structures: Positive Well-Being (PWB); Psychological Distress (PD) and Fatigue (F) aspects of the exercise experience. According to these results, authors reduced the final SEES scale on 12 items (four items that had the strongest loadings on each factor).

The aim of the present research was to: (1) identify the differences in SEES between male and female university students involved in learning rhythm based aesthetic elements; (2) identify possible changes in SEES subscale before and after rhythm accompanying exercise.

Methods

The subjects were divided in two subgroups: female (N=18) and male (N=23), intended the rhythmic gymnastics first level course consisted of basis body elements and apparatus manipulation. During learning process, an effort was made to accent rhythm of performance and to focus learners on rhythmically performance of new learned elements.

SEES questionnaire has 12 items chosen to assess three-aspects of exercise experience: Positive Well-Being (PWB); Psychological Distress (PD) and Fatigue (F).

Subjects were asked to complete the SEES questionnaire prior and after an exercise trial by circling the number on a seven-point scale (with 1 I feel not at all; 4 I feel moderate and 7 I feel very much so) next to each item (great, awful, drained, positive, crummy, exhausted, strong, discouraged, fatigued, terrific, miserable, and tired) to indicate the degree to which they are experiencing each feeling at a certain point of time.

Student T-test for dependent groups was used to determine the differences between groups before and after physical activity in SEES subscales: fatigue, positive well-being and psychological distress.

Student T-test for independent groups was used to determine the gender differences.

Results and Discussion

Student T-test for dependent groups was used to determine the differences between groups before and after physical activity in SEES subscales: fatigue, positive well-being and psychological distress. Significant differences before and after physical activity for SEES subscales (graph 1 and 2) in both groups were not found.

This is a pilot study for tracking effects of rhythm accompanying exercise on subjective exercise experience of learner. In previous investigations aimed to measuring subjective exercise experience (Abazović Miletic & Kovacic, 2014; Miletic, 2012.) the questionnaires were provided to learners before and after one training unit. In this investigation, students were learning new elements, and most of them were focused on learning new techniques of movements.

It could be presumed that their subjective exercise experience was correlated more with their technical mastery more than with experience of rhythm. Therefore, future investigations with more training units that can allow learners to fill the rhythm more than thinking of mastering new skill are necessary to determine effects of rhythm based learning process.

Gender differences, according to Student t-test (Table 1), were noted in Positive Well-Being after activity in favour of male student and in Fatigue before and after physical activity in favour of female students. Increase of after activity Positive Well-Being among male students are in accordance with previous investigations (Miletic, 2012) confirming that male students who participated in aesthetic classes had generally positive attitude for participation in this classes. Bozanic & Miletic (2011) founded that male aesthetic performance does not different from that of the females given the same training. Along with results obtained in this study, they should be encouraged to participate in aesthetic activities. Consequently, rhythm accompanying learning classes can increase good mood and improve motivation for aesthetic activities.

Not-increased Positive Well-Being among female students after activity is probably caused with extraordinary experience of Fatigue before and after training unit and significantly higher than male students.
Pronounces subjective experience of Fatigue among female student is an after effect of coeducation in university curricula and according to post interview, correlated with before investigation overload experience.

Table 1 Descriptive statistics and Student t-test (gender differences)

<table>
<thead>
<tr>
<th></th>
<th>Fatigue PRE</th>
<th>Fatigue POST</th>
<th>Positive well-being PRE</th>
<th>Positive well-being POST</th>
<th>Psychological distress PRE</th>
<th>Psychological distress POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (N=18)</td>
<td>24.2±4.1**</td>
<td>22.9±5.2**</td>
<td>13.3±6.9</td>
<td>13.0±6.3*</td>
<td>13.5±7.5</td>
<td>11.3±6.9</td>
</tr>
<tr>
<td>Male (N=23)</td>
<td>14.6±6.3</td>
<td>14.0±4.9</td>
<td>16.0±5.9</td>
<td>17.7±5.2</td>
<td>9.8±5.9</td>
<td>10.5±6.9</td>
</tr>
</tbody>
</table>

Legend: PRE (before physical activity), POST (after physical activity)

Graph 1. Student t-test differences calculated before and after rhythm accompanying exercise in Fatigue (F), Positive well-being (PMB) and Psychological distress (PD) for females

Graph 2. Student T-test differences calculated before and after rhythm accompanying exercise in Fatigue (F), Positive well-being (PMB) and Psychological distress (PD) for males
Nevertheless, future investigation of self experience of fatigue should be accompanied with measurable variables for training load. Also, further investigations on children are needed to improve PE curricula with involving more obligatory aesthetic activities for both genders.

In conclusion, increasing of Positive Well-Being after rhythmic gymnastics activity suggested positive affect of rhythm accompanying exercise.

In spite of general opinion that male students did not enjoy rhythmic gymnastics classes, the results obtained suggested that it is possible that music and rhythm increased emotionally experienced activity and contributed to better physical well being.

References


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