PERCEIVED EXERTION IN WATER AND LAND-BASED PHYSICAL ACTIVITIES
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Introduction
Water based activities (WA) have become, in the last years, very popular. They are, now, one of the possible alternatives among the traditional physical activities for well-being and health.

Monitoring the exercise intensity during WA and, therefore, the evaluation of their effectiveness is more difficult compared to physical activities performed on land (LA) due to:

a) technical challenger posed by environment (i.e. absence of specific and validated tests, difficulty to use common monitoring equipment in water);

b) the teacher’s perception of effort, because teacher and client move in different environments (air vs water).

The rate of perceived exertion (RPE) is commonly implied as an indicator of cardiovascular effort in LA and could be a valuable help in the evaluation of the effectiveness of WA and their use for different types of individuals.

Aims
The aims of research are: a) to establish if the RPE, monitored during WA and LA performed at the same rhythm, are analogous; b) to verify if teachers can estimate correctly the workload.

Subject
This study involved 61 groups of 17 different PA for a total of 510 healthy female (Age= 43.3±14.8). Classes were taught by 61 teachers with a uniform specific experience (years of teaching 7±4.6).

All subjects involved in this study participated at only one of collective PA performed in water or on land. Subject divided in two groups for different types of activity. LA involved 400 subjects (44.0±15.7y); WA involved 100 subjects (40.5±10.4); unfortunately age shows a significant difference between the two groups (p=0.03).

Materials and Methods
All lesson, (time 45-50 minutes) was performed at two different rhythm: speed 1 (120-129 bpm of music) and speed 2 (130-140 bpm). All subjects compiled Borg’s scale immediately at the end of activity using a questionnaire given in conducted form. The teachers compiled Borg’s scale too writing which average effort experienced by their classes.

Heart rate was measured in 58 subjects (HR WA= 29, HR LA=29) using polar heart rate monitor.

Results
RPE was higher in WA compared to LA (LA= 14.4±2.4; WA= 12.8±2.0; p<0.001). Analysis of RPE at different work’s rhythm shows the same results. In fact, for speed 1:WA=13.3±1.0; LA=12.8±1.3; p= 0.05; for speed 2: WA=14.8±2.6; LA=13.2±2.1 p< 0.01.

The teachers of WA given a RPE not different compared to their subjects (14.3±1.2; p>0.05).

The HR reserve measured in HRWA and arranged of 7-13 bpm according to literature, is not different compared to HRLA (61.4±14.7 vs 64.1±11.8; p>0.05).

Conclusion
The results show that RPE perceived in WA is higher compared to RPE perceived on LA although the HR reserve is similar. The teachers which train WA assess exactly the effort perceived from their clients but both teachers and client seems declare too much high intensity.

Keywords: Water, Assessment and Evaluation, Fitness