



Reliability of the Croatian Version of Motivation Scale for Free Time

Vanja Blažun¹, Vesna Mijoč², Tamara Fehervari³

¹Faculty of Kinesiology, Zagreb, Croatia, ²Catholic University of Croatia, Zagreb, Croatia, ³Karlovac University of Applied Sciences, Karlovac, Croatia

Key words

Reproducibility of results; Croatia; students; motivation; leisure activities

Abstract

Aim: The Motivation scale for free time was developed to measure motivation for activity of population in their free time. The aim of this study was to determine test-retest reliability of Croatian version of Motivation scale for free time on students. **Subjects and Methods:** The sample consisted of 97 students of Karlovac University of Applied Sciences (64 men and 33 women). Study was conducted on two occasions and there were 137 students in first measurement and 97 students in second. The response rate to the second measurement was 70,8 %. Statistical data analysis was performed with the software package SPSS 23.0. The normality of the distribution was checked by the Kolmogorov - Smirnov test to justify the use of parametric procedures. The asymmetry coefficient ranged from +/- 3, and the flattening coefficient from +/- 10, and the distribution is considered normal, so the use of parametric procedures is allowed. The validity was checked in the form of correlations of individual particles with the total result in both measurements. **Results:** The validity in both measurements proved to be statistically significant. In the first measurement, the correlation range of each particle with the total score on the scale ranged between 0.4 to 0.74, which was statistically

significant at a risk level of less than 1 %. In the second measurement, the correlation range of each particle with the total score on the scale ranged between 0.31 to 0.73, which was statistically significant at a risk level of less than 1 %. **Conclusion:** The results showed satisfactory reliability of Croatian version of motivation scale for free time on students.

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Introduction

Sport can be called a universal world language that has the ability to attract students and young people regardless of age, gender, nationality, race and other differences. Recreational sport is an expression of an individual's free will to satisfy his need for physical activity of his choice in his free time to relax, socialize, enjoy, develop physical abilities, improve sports skills, increase social acceptance, become part of a team, make new friends or control their body weight [1,2]. Adolescents and young people today are primarily motivated to meet their social needs in their free time, i.e. for making friendships, acquaintances, fun, love and travel and for all activities related to meeting the above needs, and significantly less to include recreational activities in their free time [3]. Motivation can be described as an internal and / or external influence responsible for the activation, direction,

Correspondence to:
Vesna Mijoč
Catholic University of Croatia
Ilica 242, 10 000 Zagreb, Croatia
E-mail: vesna.mijoc@unicath.hr

intensity, and maintenance of a particular behaviour [4]. The decision of a young person to spend part of his free time on recreational sports is influenced by various factors. Deci and Ryan divided the factors that can influence behaviour into external and internal, and described their relationship from two aspects [4]. External motivation, in their view, is represented by medals, awards, money or privileges and it can have a manipulative effect on the internal. A young person can engage in recreational sports only because of rewards and benefits, if they are absent, they are no longer motivated to continue the activity, so the internal motivation of such a person did not even exist. For some young people, a reward or benefit may provide a sense of competence, i.e. they already have a high internal motivation to engage in recreational sports, and external motivation acts on them from the information aspect. Dalgarn, Forrester and associates believe that intrinsic motivation is related to achievement, i.e. one's own perception of oneself [5,6]. In early childhood, the child looks at the achievement in relation to his earlier attempts and concludes that he will achieve better results if he invests more effort and work. At that age, the environment is not a relevant source of motivation because the child is goal-oriented (better task performance - high internal motivation). Upon entering adolescence, the child begins to compare his success with the success of other children and is no longer satisfied if he has achieved the goal, but was better than others (ego orientation - low internal and high external motivation). Orientation to accomplish a set task or ego orientation are the fundamental reasons why young people engage in sports activities, and both reasons are the bearers of satisfaction. A recreational athlete can be task-oriented and ego-oriented at the same time. If an individual recreationally plays tennis, he is focused on performing the task (exercise backhand, forehand and service), and at the same time he is motivated to beat his partner in the game. Defeating opponents is the essence of every game and most students choose to engage in recreational sports to improve sports skills and fitness, socialize, relax and enjoy, get rid of tension and stress, and at the same time make better use of the little free time he has [2,7]. One internal motive, or possible combination of desires and needs that cause a person to act, or is the reason for his behaviour to engage in recreational sports, may be obesity - body mass index greater than 30 or more [8]. Physiological motive - the desire for health, a common internal motive in young people. Psychologically - enjoying the challenge and excitement provided by competition, a sense of freedom and achievement - learning new skills and improving existing ones. Social - involvement in recreational sports due to the need for friendship and creating interpersonal relationships with other people, as well as the need for respect and better acceptance in society. Avoidance - a person thinks that

recreational sports are a better place for him to spend his free time, because if he did not go to recreation he would probably be in a cafe, and he considers this harmful to his health [9]. Due to importance of recreational sport in all ages, it is important to search for motivational reasons for doing sports in free time. That is why it is inevitable to research and to have reliable instrument for measuring motivation. That is the one of the reasons and aims of this article.

Subjects and Methods

The study involved 137 first and second year students of professional studies in Hospitality, Hunting and Nature Protection, Mechatronics and Mechanical Engineering at the Polytechnic of Karlovac. Students completed the Croatian version of the questionnaire The Motivation scale for free time in two time points during January 2020. In the final data processing of 137 students, 97 students (64 M, 33 F) who participated in both measurements were included. The response rate was 70.8 %. The first survey was conducted in the first week of January and the second in the third week. The average age of students is 19.71 ± 1.17 years, while for female students 20.03 ± 0.88 . Participation in both measurements was voluntary.

Student motivation was measured using the free time Motivation scale (LMS), and it was derived from Maslow's hierarchy of needs by Bearda and Ragheb [10]. The motivation scale consists of 48 questions that a respondent can answer by rounding a score of 1 to 5 for each question (Grade 1 - Never true, 2 - rarely true, 3 - sometimes true 4 - often true, 5 - always true). The questions raised describe the reasons for taking part in leisure activities and are classified in four main categories: intellectual, sociological, competitive and avoiding stimulating. Particles from 1 to 12 relate to intellectual, from 13 to 24 on sociological, from 25 to 36 to competitive and from 37 to 48 to the avoidance incentive component.

The variables sex and year of the examinees and the data of the scale subscales in the first and second measurements were processed using the methods of descriptive statistics and the results were expressed as the arithmetic mean \pm standard deviation, minimum and maximum. The reliability of the motivation variable was calculated using the test-retest method with the Spearman correlation coefficient with an error interval of 5 %. The internal reliability coefficients of the subscales in the first and second measurements were calculated using Cronbach α . The normality of the distribution was checked by Kolmogorov - Smirnov test to justify the use of parametric procedures. Since some data deviated significantly from the normal distribution, their asymmetry and flatness were calculated, which ranged in a range that allows the use of parametric statistics. The asymmetry coefficient ranged from ± 3 , and the flattening coefficient from ± 10 , and the distribution is considered normal, so the use of parametric procedures is allowed [11]. Statistical analysis of the data was performed with the software package SPSS 23.0.

Table 1. Reliability test and retest measurements scales to test exercise motivation

	First measurement	Second measurement	r
Intellectual claims	3.79 ± 0.64	3.82 ± 0.69	0.78**
Sociological claims	3.59 ± 0.79	3.56 ± 0.76	0.82**
Competitive claims	4.03 ± 0.66	4.05 ± 0.66	0.82**
Avoiding incentive claims	3.5 ± 0.66	3.63 ± 0.75	0.67**

*p < 0,05; ** p < 0,01

Results

Spearman's correlation coefficient for motivation categories ranges between 0.67 and 0.82. In the categories of Sociological and Competitive Claims, the highest correlation coefficient between the first and second measurements was recorded and amounts to 0.82. The correlation coefficient for the category Intellectual Claims is 0.78, while the lowest correlation coefficient was recorded in the category Avoiding Incentive Claims and is 0.67 (Table 1).

Validity was checked in the form of correlations of individual particles with the total result in both measurements. The validity in both measurements proved to be statistically significant. In the first measurement, the correlation range of each particle with the total score on the scale ranged between 0.4 to 0.74, which was statistically significant at a risk level of less than 1 %. The two particles correlated with a total score of 0.23 and 0.37, however, and this correlation was statistically significant at a risk level of less than 5 %. One particle did not correlate statistically significantly with the overall score ($r = 0.05$; $p = 6.39$).

In the second measurement, the correlation range of each particle with the total score on the scale ranged be-

tween 0.31 to 0.73 which was statistically significant at a risk level of less than 1 %. One particle correlates with the total result $r = 0.2$, but this correlation is also statistically significant at the level of 5 %. There is no particle that does not have a statistically significant correlation with the overall score. The total result of the internal reliability coefficients of the subscales in the first and second measurements is $\alpha = 0.95$. Based on this result, we can conclude that students' leisure time motivation, assessed using the LMS questionnaire, can be measured with a high level of reliability (Table 2).

Discussion

In this study, it is aimed to create the Croatian version of "Leisure Motivation Scale" (LMS) to determine the factors motivating university students to participate in the leisure activities.

To achieve this objective, we translated the English version of the free time Motivation scale (LMS) and tested it among students of professional studies in Hospitality, Hunting and Nature Protection, Mechatronics and Mechanical Engineering at the Polytechnic of Karlovac. All students accepted the questionnaire and filled it without significant problems.

Gungormus concluded that the Turkish version of "Leisure Motivation Scale" (LMS) could be used as valid and reliable to evaluate individuals' motivation levels of participation in leisure activities with total Cronbach's alfa 0.80 [12]. Furthermore, Cronbach's alpha was used to estimate the reliability of the Chinese version of LMS which shows that Cronbach's alpha coefficients were 0.88 in intellectual motivation, 0.85 in social motivation, 0.87 in competence mastery, and 0.81 in stimulus avoidance. The coefficient of the overall method was 0.93. The reliability coefficients of all the LMS dimensions exceeded 0.80; therefore, the dimensions can be regarded as very dependable [13].

The present study has very good test-retest reliability, based on the Spearman's correlatin coefficients, which

Table 2. Internal reliability coefficients of subscales in the first and second measurements (Cronbach α)

	First measurement	Second measurement
	α	α
Intellectual claims	0.87	0.92
Sociological claims	0.90	0.91
Competitive claims	0.89	0.92
Avoiding incentive claims	0.85	0.91
Total	0.94	0.95

clustered between 0.67 and 0.82. Also, validity in both measurements provide to be statistically significant. The total result of the internal reliability coefficients of the subscales in the first and second measurements is $\alpha = 0.95$. We can conclude, based on this results, that students' leisure time motivation can be measured with a high level of reliability.

The study has few limitations. First of all, the sample was not representative for the student population in Croatia. Second, the reliability of this questionnaire contains the error rate during the measurement. In the new studies that will be made in the future would be helpful to test the validity and reliability of the scale on different sample groups and determination of individuals' motivation levels of participation in recreational activities.

Despite these limitations, we showed the importance of a structured and precise translation process to get a version that exactly matches the purpose of the original self-administrated questionnaire. This research provides an instrument of high reliability for kineziologist, which is important for them to know motivational reasons for doing sports in free time.

The Croatian version of the LMS questionnaire is a reliable measuring instrument for assessing the motivation for physical activity of young people. The reliability of this questionnaire is not maximum and it also contains the error rate during the measurement. When interpreting the results of the research in which this questionnaire is used, the level of error that occurs in such research should be considered. The advantage of this method of research is that it easily covered a large number of respondents and no high financial resources were spent.

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Conflict of Interest

None to declare.

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