THE „MOTIVATIONAL CLIMATE IN PHYSICAL EDUCATION SCALE” IN GREEK EDUCATIONAL CONTEXT

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ABSTRACT

The principal aim of this study was to confirm the “Motivational Climate in Physical Educational Scale” (Soini, et al, 2014) in a Greek elementary school context. The internal consistency of the MCPES was also examined. 184 students of the last two grades of primary schools were participated the survey. The Greek version (Masadis, et al, 2019) of MCPES was used. The validity and reliability of the questionnaire were checked by performing a confirmatory factor analysis and an internal consistency analysis. Also, descriptive statistics, T-test and One-way Anova analysis were used. From the analysis we came to the following conclusions: a. the Cronbach’s α values were high and the loadings of the confirmatory factor analysis supported the factors of the original scale. b. The factor “task involving” presents the highest M while the factor “ego involving” the lowest. c. Gender turns out an element that differentiates the factors “task involving”, “autonomy” and “ego involving”.

Keywords: *confirmatory analysis, reliability analysis, elementary school, psychometric properties*

INTRODUCTION

Physical Education is an invaluable subject in primary and secondary school curriculum because of its great potential for students’ physical, mental, emotional and social development (Bournelli et al, 2012). Despite tangible benefits that derive from Physical Education and after-school sport activities students, as they grow older, become more reluctant to participate and gradually spare no effort during Physical Education lessons (Iconomescu, Mindrescu, Popovici, 2018). It is, therefore, crucial the school climate and the rapport teachers build up with students.

The principal aim of this study was to confirm the “Motivational Climate in Physical Educational Scale” (Soini, et. al, 2014) in a Greek elementary school context. The internal consistency of the MCPES was also examined.

METHODOLOGY

Participants

184 students of the last two grades of primary schools were participated the survey from ten (4) elementary school entire Greece (Imathia, Chanea, Kozani, Rhodes). The selection of schools was random.

Measurement

The Greek version (Masadis, et al, 2019) of Motivational Climate in Physical Educational (Soini, et al, 2014) was used. The questionnaire consists from eighteen (18) items researching the four parameters (Autonomy, Social relatedness, Task involving and Ego involving) of motivational climate during the lesson of physical education.

Procedure

The survey organizers had to ask for permission from the Ethics Committee of Democritus University of Thrace and the Minister of Education in order to carry out the survey at schools. Approval was granted by the University in February 2019 and by the Ministry of Education a month later.

Data analysis

The validity and reliability of the questionnaire were checked by performing a confirmatory factor analysis and an internal consistency analysis. Also, descriptive statistics, T-test and One-way Anova analysis were used.

RESULTS

Confirmatory analysis

A confirmatory factor analysis was performed on the

four subscales of the (MCPES). The method of estimating parameters is that of maximum likelihood (Bentler, 1990). The hypothesized model consists of four latent variables, namely “Autonomy”, “Social relatedness”, “Task involving” and “Ego involving”.

The fit indices which were considered and their acceptable values are: namely minimum discrepancy

(CMIN or χ^2), degrees of freedom (D.F), minimum discrepancy divided by the degrees of freedom ($\chi^2/\text{d.f.}$) <5 , Root Mean Square Error of Approximation (RMSEA) $<.08$, Standardized Root Mean Square Residual (SRMR) $<.05$, incremental indices Comparative Fit Index (CFI) $>.90$, and Normed Fit Index (NFI) $>.90$ (Bentler, 1990; McDonald & Marsh, 1990) and Goodness of Fit Index.

Table 1. *Model Fit Indices*

	N	X ²	DF	X ² /DF	NFI	CFI	RMSEA	SRMR	GFI
Model	184	189.96	129	1.47	.94	.98	.046	.041	.90

The results of the confirmatory factor analysis demonstrated that the hypothesized model produced a significant chi-square, χ^2 (189.96, 129) = 1.47, $p < 0.05$. The NFI and CFI were found to be .94 and .98 respectively. The RMSEA was also considered to assess the degree of fit of the model. The RMSEA value for the hypothesized model was found to be .046 and SRMR=.041 (Table 1).

Reliability analysis

Factors' reliability control was carried out by calculating the values Cronbach's α , for each factor. As appears in table 3, the values of the factors were satisfactory ($\alpha > .85$).

Means and standard deviations of the main variables for overall sample, as well as for males and females are shown in Table 2. Generally, students perceived a high task-involving climate, relatively positive autonomy climate, moderate relatedness and weak ego-involving.

Table 2. *Mean, Standard Deviation, Cronbach's α & gender differences*

	Overall n=184		Male n=101		Female n=83		Gender differences			alpha
	M	SD	M	SD	M	SD	F	p	n2	
Task	4.03	.94	3.81	1.05	4.29	.69	12.8	.001	.08	.89
Autonomy	3.24	1.02	3.44	.99	2.99	.99	9.40	.001	.05	.89
Relatedness	3.08	1.12	2.75	1.13	3.49	.98	22.4	.001	.11	.90
Ego	2.43	1.07	2.78	1.20	2.02	.71	24.6	.001	.12	.85

Differences according to gender

To check whether there were statistically important differences on gender, T-tests for independent samples were performed. Follow-up t-test showed that male students reported higher autonomy and ego involvement compared to female students. Female students reported higher task involving climate and relatedness (Table 2).

DISCUSSION AND CONCLUSION

The aim of this study was to *confirm* the questionnaire “Motivational Climate in Physical Educational” (MCPES) (Soini, et al., 2014) in Greek educational context. Another objective was to look into gender as a differentiation factor of motivational climate.

Regarding the validity of the factors and the struc-

ture itself, the “Motivational Climate in Physical Educational” has shown a structure of four oblique factors, coinciding with the findings of Soini, et al. (2014). As far as reliability is concerned, results have shown the required internal consistency and temporal stability of the scale, with results similar to the findings of Soini, et al. (2014) and Jaakkola, et al (2015).

The gender proves a differentiation factor of motivational environment. Males, in particular, are more independent and self-oriented unlike females who are more sociable and task-oriented.

From the analysis we came to the following conclusions:

- a. the Cronbach's α values were high and the loadings of the confirmatory factor analysis supported the factors of the original scale.

- b. The factor “task involving” presents the highest M while the factor “ego involving” the lowest.
- c. Gender turns out an element that differentiates the factors “task involving”, “autonomy” and “ego involving”.
- d. Class attendance does not constitute differential factor.

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