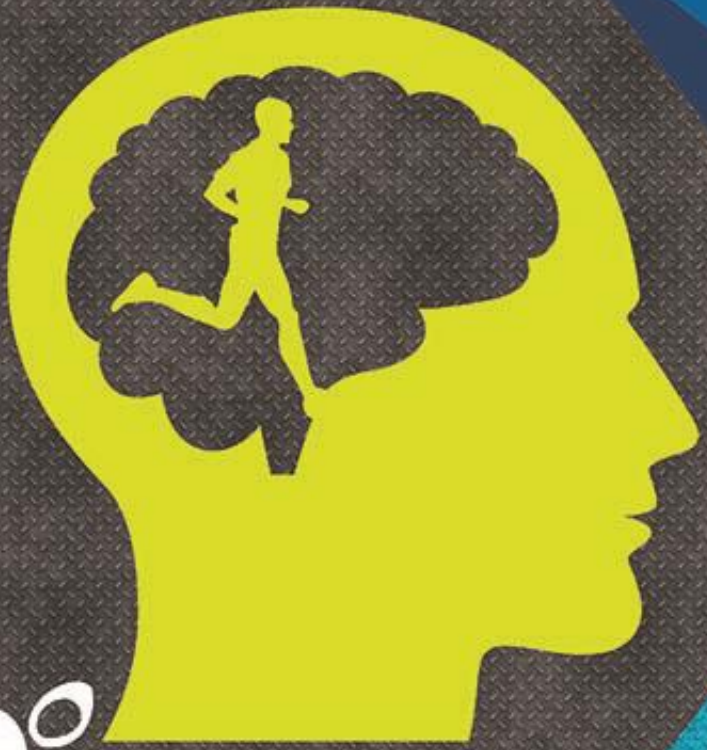
οργάνωση:

ΕΡΓΑΣΤΗΡΙΟ ΨΥΧΟΛΟΓΙΑΣ ΤΗΣ ΑΣΚΗΣΗΣ
& ΠΟΙΟΤΗΤΑΣ ΖΩΗΣ
ΤΕΦΑΑ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΘΕΣΣΑΛΙΑΣ

ΕΤΑΙΡΙΑ ΑΘΛΗΤΙΚΗΣ ΨΥΧΟΛΟΓΙΑΣ

Υπό την αιγίδα:

ΤΜΗΜΑ ΠΟΛΙΤΙΣΜΟΥ
& ΑΘΛΗΤΙΣΜΟΥ
ΔΗΜΟΥ ΤΡΙΚΚΑΙΩΝ



13ο ΣΥΝΕΔΡΙΟ ΑΘΛΗΤΙΚΗΣ ΨΥΧΟΛΟΓΙΑΣ

ΤΡΙΚΑΛΑ
6&7 ΔΕΚ 2014

ΠΝΕΥΜΑΤΙΚΟ ΚΕΝΤΡΟ ΔΗΜΟΥ ΤΡΙΚΚΑΙΩΝ

Με την υποστήριξη:

ΟΛΥΜΠΟΣ

Η ΑΘΛΗΤΙΚΗ ΨΥΧΟΛΟΓΙΑ ΣΤΗΝ ΕΚΠΑΙΔΕΥΣΗ ΚΑΙ ΣΤΟΝ ΑΘΛΗΤΙΣΜΟ

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13^{0} ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΑΘΛΗΤΙΚΗΣ ΨΥΧΟΛΟΓΙΑΣ ΜΕ ΔΙΕΘΝΗ ΣΥΜΜΕΤΟΧΗ

Η Αθλητική Ψυχολογία στον Αθλητισμό και την Άσκηση

ΠΡΑΚΤΙΚΑ ΣΥΝΕΔΡΙΟΥ

Επιμέλεια έκδοσης: Διγγελίδης Νικόλαος, Παπαϊωάννου Αθανάσιος

Διοργάνωση: Εταιρία Αθλητικής Ψυχολογίας
Εργαστήριο Αθλητικής Ψυχολογίας, Σχολής Επιστήμης Φυσικής Αγωγής και Αθλητισμού, Πανεπιστημίου Θεσσαλίας

Υπό την Αιγίδα του Τμήματος Παιδείας-Πολιτισμού-Αθλητισμού &

Νεολαίας του Δήμου Τρικκαίων

Validation evidence of the scale "self-efficacy in teaching physical education curriculum standards".

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Abstract

Research in education consistently shows that teachers' self-efficacy beliefs are instrumental for their teaching behavior and students' achievement. Teachers' self-efficacy towards the successful implementation of curriculum goals and standards may determine the acceptance or rejection of curriculum various parts. Thus, self-efficacy assessment seems very important for the design of teacher training and the adoption of any reform effort. The purpose of the present study was to evaluate the factorial validity and reliability of a newly developed self-efficacy instrument, measuring Physical Education (PE) teachers' personal efficacy in teaching the six basic standards of the new national Greek PE curriculum (i.e., reform effort "New School- the school of the 21st century", 2011-2012 school year). The instrument was developed by a panel of experts experienced with self-efficacy measures. Following Bandura's guidelines (2006) a 22-item instrument was constructed, divided in six subscales (3-4 items each) corresponding to the six basic standards of the new curriculum. Participants were 149 in-service PE teachers (83 males, 66 females/ 74 primary, 75 secondary school) who responded voluntarily in anonymous questionnaires. Reliability of the scales was evaluated with Cronbach's alphas yielding satisfactory values for every subscale (>.74). To examine construct validity confirmatory factor analysis was conducted producing acceptable goodness-of-fit indices supporting the initial 22 item 6-factor correlated model (TLI= 0.912, CFI= 0.926, RMSEA= 0.86, χ^2 =406.6, *df* =194, χ^2/df=2.1). However, modification indices inspection indicated that the model fit could further improve. Thus, an alternative shortened 18-item model (3 items per factor) was tested yielding a significantly better model fit (TLI: 0.950, CFI: 0.960, RMSEA: 0.69, χ^2 =204.53, *df* =120, χ^2/df=1.70). Overall our analyses produced preliminary evidence of validity for this new instrument which may prove a useful tool to monitor physical educators' self-efficacy regarding the latest PE curriculum reform.

Introduction

Research in education has been consistently showed that teachers' self-efficacy beliefs are instrumental for their teaching behavior and students' achievement(Ashton & Webb, 1986; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Teachers' self-efficacy is concerned

with their capability beliefs to organize and execute a given educational task or goal successfully in a specific school context (Bandura, 1997; Tschannen-Moran et al., 1998). According to self-efficacy theory (Bandura, 1997) teachers' self-efficacy beliefs are main determinants of the choices they make in every day routines, their persistence in specific goals and the resistance they present in the face of difficulties. Indeed, in the Greek physical education (PE) context, these kind of teacher cognitions have been related to different use of teaching styles (Stephanou & Tsapakidou, 2008), level of implementation, attitudes and intentions towards a newly introduced curriculum (Gorozidis & Papaioannou, 2011; Gorozidis, Tzioumakis, & Papaioannou, 2011). It seems that teachers' self-efficacy in applying and implementing curriculum goals and standards during their teaching is of great significance for the adoption of any reform effort. The **purpose** of this study was to evaluate the factorial validity and internal consistency for the Greek version of the of a newly developed self-efficacy instrument, measuring PE teachers' personal efficacy in teaching the six basic standards of the new national PE curriculum (i.e., reform "New School- the school of the 21st century", 2011-12 school year) (http://ebooks.edu.gr/info/newps/Φύση και Άσκηση/ΠΣ για Φυσική Αγωγή — Πρόλογος.pdf)

Methods

Participants-Procedure: Firstly, a purposeful recruitment was made through the training program held by the Ministry of Education about the new innovative PE curriculum (2011-2012 school year). The initial number of PE teachers who replied was 92 (48 males, 44 females/ 53 primary, 39 secondary school) and used to test the reliability of the instrument which was satisfactory (α>.70), and to examine differences in self-efficacy between groups of teachers (see Gorozidis, Papaioannou, & Diggelidis, 2012). Next, a supplement sample of 57 in-service PE teachers (35 males, 22 females/ 21 primary, 36 secondary school) was included in the sample of the study, in order to accumulate the appropriate amount of answers to conduct confirmatory factor analysis (CFA). Thus the total sample of the study consisted of 149 in-service Physical Educators (83 males, 66 females/ 74 primary, 75 secondary school) who responded voluntarily in anonymous questionnaires.

Instrument development: The instrument was developed by a panel of experts experienced with self-efficacy measures. Following Bandura's guidelines (2006) a 22-item instrument was constructed, divided in six subscales (3-4 items each) corresponding to the six basic standards of the new curriculum (see Table 1). Following the stem "In your school, how confident are you that you can help all students…" participants responded in items such as "…develop basic sports skills" (Std.1, 3 items), "…learn how to promote physical fitness and health" (Std.2, 4 items), "…set and reach goals of regular physical activity outside of school settings" (Std.3, 4 items), "…gain positive experiences from their participation in sports & physical activities" (Std.4, 4 items), "…understand and respect individual differences" (Std.5, 4 items), "…demonstrate responsible sports & social behavior" (Std.6, 3 items). Answers were given

on 11-point scales ranging from 0-100% (0%=not confident at all, 100%=absolutely confident).

Statistics: CFA was conducted with the AMOS 16 statistical package, using maximum likelihood estimation method. Internal consistencies were examined with Cronbach's α.

Results

CFA produced acceptable goodness-of-fit indices supporting the structure of the initial 22 item 6-factor correlated model (Figure 1) TLI= 0.912, CFI= 0.926, RMSEA= 0.86, χ^2 =406.6, *df* =194, χ^2/df=2.1. Internal consistency of the instrument were verified with acceptable Cronbach's α >.74 for every subscale (Table 1).

Modification indices inspection indicated that the model fit could further improve. Thus, an alternative shortened 18-item 6-factor correlated model (3 items per factor) was tested yielding a significantly better model fit (Figure 2). TLI: 0.950, CFI: 0.960, RMSEA: 0.69, χ^2 =204.53, *df* =120, χ^2/df=1.70. Internal consistency again, was satisfactory, with Cronbach's α >.77 for every subscale.

Table 1. Alphas, means standard deviation and number of items per scale (Full version instrument)

Variables - Self-efficacy in developing…	**Cronbach's *α***	***M***	***SD***	**items**
Standard 1 (…motor & sports skills)	**.74**	**9.05**	**1.39**	**3**
Standard 2 (…knowledge acquisition from sports science)	**.83**	**8.56**	**1.51**	**4**
Standard 3 (…fitness level & exercise self-regulation)	**.94**	**7.23**	**1.99**	**4**
Standard 4 (…positive experience from sports– sociability)	**.92**	**8.46**	**1.83**	**4**
Standard 5 (…understanding-respect for peoples' diversity)	**.94**	**8.44**	**1.71**	**4**
Standard 6 (…responsible sporting and social behavior)	**.90**	**8.18**	**1.73**	**3**

Note: in parenthesis is a short title of each standard

Figure 1. CFA full instrument

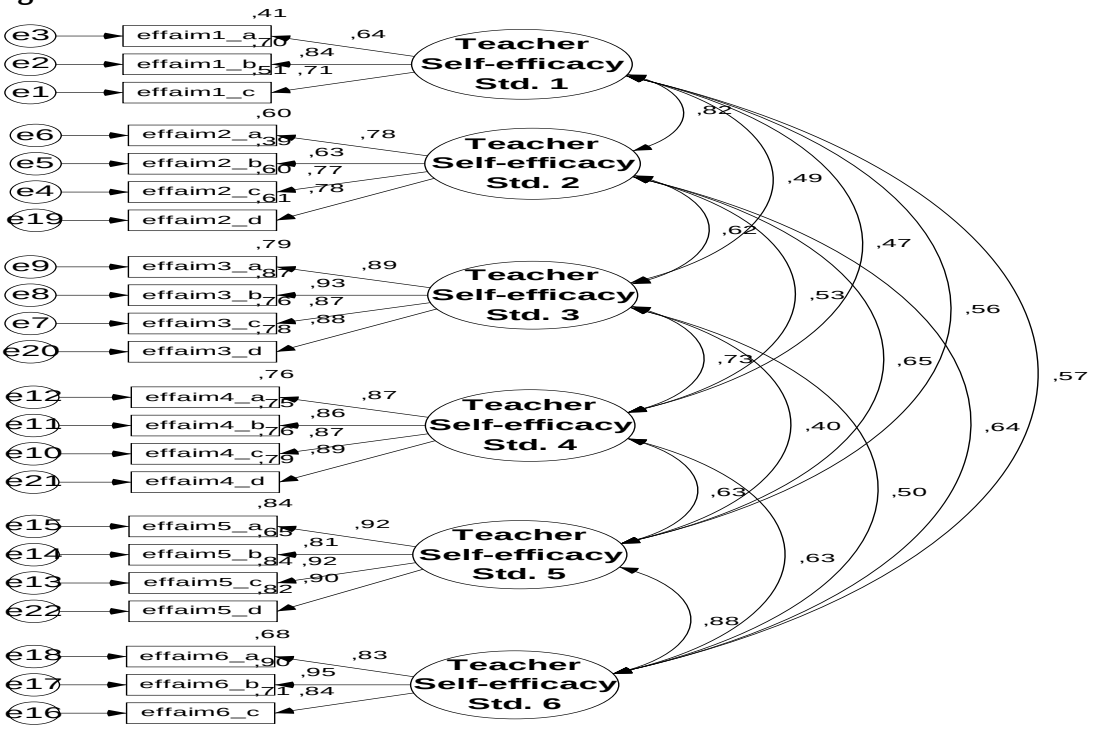
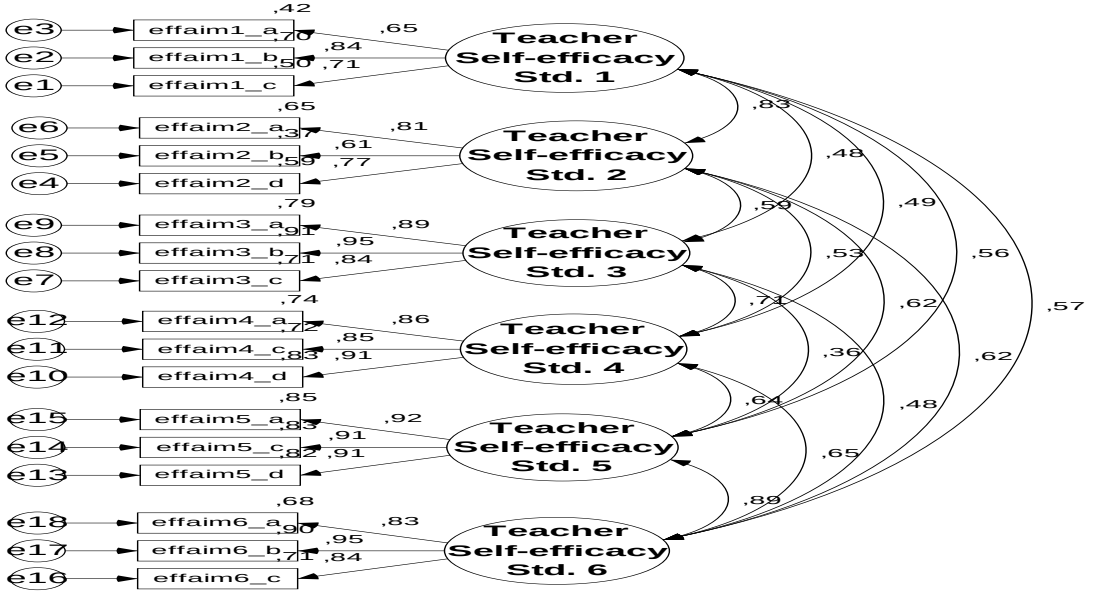


Figure 2. CFA shortened instrument



Discussion-Conclusion

Means & sd inspection suggest that participants PE teachers held relatively high self-efficacy beliefs to implement most of the standards. The overall fit was good, both for the full version and for the shortened version of the instrument (Hu & Bentler, 1999).

Our analyses provide promising evidence supporting the validity and reliability of this new instrument. This kind of measurement may prove useful in monitoring physical educators' self-efficacy regarding the latest PE curriculum reform. Because instrument development is a process, it is recommended in future studies to use it in combination with well established measures of other psychological constructs, in order to establish the external validity of the instrument which was not examined here.

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