

Κολοβελώνης, Α., Γούδας, Μ., Δημητρίου, Ε., & Γεροδήμος, Β. (2006). Η επίδραση ενός προγράμματος διδασκαλίας δεξιοτήτων ζωής στον αυτοκαθορισμό των μαθητών. *Αναζητήσεις στη Φυσική Αγωγή & τον Αθλητισμό*, 4, 379-389.

(Kolovelonis, A., Goudas, M., Dimitriou, E., & Gerodimos, V. (2006). The effect of a life skills training program on students' self-determination. *Inquiries in Sport & Physical Education*, 4, 379-389.)

Abstract

The purpose of this study was to examine the effect of a life skills training program taught in physical education on students' self-determination. Of the 73 7th grade students, 35 comprised the initial experimental group and 38 the initial control group. After the implementation of the program with the initial experimental group, the groups were reversed and the initial control group went on to receive the program. The life skills program included goal setting and positive thinking / self-talk and was carried out in connection with a program for the development of the students' physical fitness. To assess students' self-determination, the self-determination questionnaire in physical education (Goudas, Dermitzaki & Bagiatis, 2000) was used. The results showed that students' self-determination increased in both groups after the intervention in each phase of the study and the improvement was retained in the initial experimental group in the second phase of the study. In conclusion, teaching life skills through physical education can improve students' self-determination.

Key words: Life skills, physical education, self-determination

Introduction

Recently it has been proposed that physical education can be used as a vehicle for teaching skills which students could use in other life domains. Examples of these skills, named life skills (Danish, 2000), are goal setting, positive thinking, problem solving. Physical education is considered to be an appropriate context for teaching life skills because students learn in a pleasurable environment. Moreover life skills and sports skills are taught using similar methods including description, demonstration, practice and evaluation (Danish, Petitpas & Hale, 1992).

Papacharisis, Goudas, Danish and Theodorakis (2005) evaluated a life skill program, which included goal setting, positive thinking and problem solving, in a sport context, and found a positive effect on young athletes' performance in soccer and

volleyball tests, as well as in their knowledge about life skills. In addition, O'Hearn and Gatz (2002) found that teaching life skills resulted in higher levels of attendance in school, decrease in violence and behavior problems, while students found the life skills program useful, enjoyable and important. These results indicate that teaching life skills is associated with positive outcomes in physical education.

Apart from the above named outcomes, motivation for participating in physical education is also important. Self-determination theory (Deci & Ryan, 2004) is an appropriate framework to examine students' motivation in physical education settings. It distinguishes among intrinsic motivation, four types of extrinsic motivation (integrated, identified, introjected and external regulation) and amotivation. These different types of motivation differ in the degree of self-determination and can be placed along with the self-determination continuum.

A large number of studies have yielded that self-determined motivation (intrinsic motivation and identified regulation) are associated with positive outcomes in physical education, such as higher interest (Goudas, Biddle & Fox, 1994) better performance, effort and intentions for participating in physical activity in the future (Hagger, Chatzisarantis & Biddle, 2002; Ntoumanis, 2001). Moreover, interventions in physical education (Jaakkola, 2002; Wang, 2004) have showed that students' self-determination can be increased, if an appropriate program is implemented.

Until now, no study has examined the effect of a life skills program in students' self-determination. So the purpose of the present study was to examine the effect of a life skills program, taught in connection with a program for the development of students' physical fitness, in students' self-determination.

Method

Participants and procedure

Participants were 73 7th grade students (M_{age} : 12.31, SD : .34). Thirty five of them consisted the initial experimental group and 38 the initial control group. After the implementation of the intervention with the initial experimental group, the groups were reversed and the initial control group went on to receive the intervention. This design was used in order to strengthen the validity of the study and for ethical reasons regarding equal treatment of all participants. The self-determination questionnaire was administrated three times: pre and post the first intervention and after the second intervention.

Measures

The self-determination questionnaire (Goudas, Dermitzaki & Bagiatis, 2000), which consists of 4 subscales (intrinsic motivation, identified, introjected and external regulation) was used. Responses were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The relative weight of these subscales (+2, +1, -1, -2 accordingly) resulted in self-determination index.

Description of the life skills program

The life skills program included the goal setting and the positive thinking / self-talk and consisted of 10 lessons. In the first lesson the students were evaluated on a modified push-ups test and on the seat and reach test and were informed about goals. In the second lesson the students were taught the definition and the importance of setting goals and set personal goals for the strength and flexibility tests. In the next lessons, they were taught the characteristics of reachable goals and how to make a plan to reach a goal, the self-talk and positive thinking and how they could use all these during practice and in circumstances out of school. In the tenth lesson the students were evaluated on the same test for the second time. The control group was taught various lessons about obesity, doping and Olympic Games.

The program for the development of the students' physical fitness was exactly the same for the two groups. It consisted of exercises for all major muscles and was applied using alternative teaching styles, such as reciprocal and self-check style.

Results

Means and standard deviations for the self-determination index are presented in Table 1. The internal consistency of the four questionnaire's subscales was satisfactory (Cronbach's α ranged from .65 to .83). Correlations between different motivational regulations confirmed the existence of the self-determination continuum, which means that the self-determination index could be used¹.

Table 1.

Means and standard deviations of self-determination index for the two groups in all measures

	Self-determination index					
	Measure 1		Measure 2		Measure 3	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Initial experimental group	2.66	2.77	3.74	2.84	3.32	3.10
Initial control group	3.23	2.37	3.97	2.42	4.82	2.98

¹ Data are available on request

The two groups did not differ significantly, $t(71) = 0.94$, $p = .35$, in the first measure on the self-determination index. In order to examine the effect of the intervention in self-determination in the first part of the study, MANOVA, 2 (group) X 2 (measure) with repeated measures was conducted. There was a non significant, $F(1, 71) = 1.02$, $p = .31$, $\eta^2 = .00$, group and measure interaction. That is, the self-determination index did not change differently in the two groups after the first intervention. However, it was found a main effect for measure, $F(1, 71) = 9.05$, $p < .01$, $\eta^2 = .11$. Follow up paired samples t - test showed significant differences, $t(34) = -2.29$, $p < .05$, $ES = .39$, for the first experimental group between measure 1 and 2 and no differences for the initial control group. That is, the self-determination index improved after the intervention in the initial experimental group but not in the initial control group.

In order to test whether the gains in the initial experimental group were maintained and whether there were improvements in the initial control group, after the intervention in the second part of the study, repeated measures ANOVAs were conducted over all three measures, separately for the two groups. For the initial experimental group no significant differences, $F(2, 33) = 2.60$, $p = .09$, $\eta^2 = .14$, between three measures were found. On the other hand, significant differences, $F(2, 36) = 6.43$, $p < .01$, $\eta^2 = .26$, were found for the initial control group. Follow up paired samples t - test showed significant differences between measure 2 and 3, $t(37) = -2.21$, $p < .05$, $ES = .35$, and measure 1 and 3, $t(37) = -3.63$, $p < .001$, $ES = .67$, but no differences between measure 1 and 2. These results indicated that the self-determination index was improved after the intervention in the initial control group.

Discussion

The aim of the present study was to examine the effects of a life skills training program taught in physical education settings, in students' self-determination. As the results indicated, self-determination improved significantly in students who had received the program in each part of the study in comparison with the initial levels. Moreover, the improvement in the initial experimental group was retained in the second part of the study. On the other hand, no differences between the two groups were found. This result may due to the short period of the intervention (according to Jaakkola (2002), even after one year intervention the students' self-determination index increased in moderate levels) and the fact that self-determination in a context, such as physical education, is a personality trait that difficultly changes (Vallerand & Ratelle, 2004).

In conclusion, teaching life skills has the potential to enhance students' self-determination for participating in physical education. The result of the present study is encouraging, but new studies are necessary in order to confirm these initial results and to examine the effect of a life skills program in other variables, such as motivational climate.

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