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TEACHING LIFE SKILLS THROUGH VOLLEYBALL PASSING SKILL TO CHILDREN 9-11 YEARS OLD

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Abstract:
The purpose of this research was to examine the effect of teaching life skills through the volleyball passing skill, of 44 primary school female children and their perceived satisfaction with the program. The sample was randomly assigned into two groups. The life skills group (LSG, n = 23) and the control group (CG, n = 21). All participants followed a six-week practice program aiming the passing skill learning. For the participants of LSG the program was combined with the components of goal setting, problem-solving and positive thinking. The control group received typical teaching and feedback provided by the PE teacher. All participants were evaluated in three measurements: pre-test, post-test and retention test. A qualitative evaluation (five main elements) of the passing technique, which was recorded by the digital camera, was used. Also, a common format for evaluating life skills knowledge perceptions and transfer (10-item questionnaire), which was developed in the Greek population by Papacharisis (2004) based on the work of Hogan (2000), and also a questionnaire for the perceived satisfaction of the students was used (Alexandris, Tsorbatzoudis & Grouios, 2004a, 2004b). Anova repeated measures show that participants of the LSG improved passing skill ($p < .05$) and showed a positive reception of the program by the students who learned interesting and useful things for their life in general, transferable to other aspects in their life, besides sports. The results of the study support the effectiveness of the life skills program that integrated volleyball passing skill learning, life skills improvement and participants' perceived satisfaction of the program.

Keywords: life skills, passing skill, volleyball, knowledge, perceptions, transfer

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1. Introduction

In recent years, modern research studies emphasize the importance of teaching programs that integrate social and emotional skills or life skills as they are called. A growing body of research supports the premise that life skills learning is the key to shaping one's personality. By learning life skills from an early age, people are able to manage themselves, their relationships and work effectively and ethically (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011).

The current literature review reveals an alternative form of physical education in school, through which students is possible to learn cognitive and behavioral skills in the same way they are taught physical skills, i.e. demonstration and practice and then apply these skills to other areas of daily life (Papaioannou, Theodorakis & Goudas, 2006; Danish, 2000). There is a growing recognition by researchers that teaching "life skills" in the physical education context are especially effective as these skills that integrate mind and body must be taught in conjunction with and through sports. In other words, they support as best practice the "*education through the physical*" as opposed to "*education of the physical*" (Petitpas, Cornelius, Van Raalte & Jones, 2005; Petlichkoff, 2004; Laker, 2000; Siedentop, 1980; Danish, 1997). The World Health Organization and the scientific community defines life skills as a set of cognitive, emotional and social skills that emerge for students as a preventive strategy that enable them to succeed in the different environments they live and deal with the demands and challenges of everyday life (Petitpas et al., 2005). Examples of life skills include performance under pressure, problem-solving, setting goals and overcoming obstacles to achieve them, handling success and failure, effective communication, positive thinking, effective decision making, stress management, self-control, self-concentration, self-assessment (Danish, 2000; World Health Organization, 1999; Danish, Petitpas & Hale, 1992).

According to a number of investigations, including large-scale experimental work, it is believed that teaching life skills programs in a sport context helps in new sport skills acquisition and in many cases, it can be linked to enhancing performance in sports tests (Sackett & Gano-Overway, 2017; Papacharisis, Goudas, Danish, & Theodorakis, 2005). Within this realm programs that integrate sports curriculum and life skills training have been developed in many countries. They focus on personal and social development while promoting the sport skills of young athletes. The importance of specific life skills such as goal setting, positive thinking, problem-solving has occasionally been explored both to individual and team sports skills in athletes of different ages and levels of experience. A number of qualitative studies have found that life skills programs in the context of primary and secondary school are connected with positive effects on the performance of basketball and volleyball skills of young athletes (Giannoudis & Goudas, 2006; Theofanidis 2002). Kolovelonis, Dimitriou, Goudas, Gerodimos and Diggelidis (2005) have shown that the experimental life skills intervention program applied to students of 7th grade had a significant effect on improving performance in strength and flexibility tests. During their experimental work Papacharisis, Goudas, Danish, and Theodorakis (2005) have found that novice soccer and volleyball players aged from 10 to 12 who were

taught a life skills intervention program had a better performance in sports skills, improved their knowledge for life skills and their intention to apply life skills, compared to athletes of a control group. Extended empirical research and studies on life skills programs in sports and physical education context revealed the positive influence on young athletes (Cope, Bailey, Parnell, & Nicholls, 2017; Goudas & Giannoudis, 2010, 2008; Papacharisis et al., 2006, 2005; Theofanidis, 2002; Kiorpe, 2002). Studies in the field of sports, found that successful coaches included life skills in their training programs, promoting by this way the concept of holistic training recognizing the life skills teaching as an integral part of their general coaching strategies for performance enhancement (Hodge, Kanters, Forniers, Bocarro, & Sayre-McCord, 2017; Gould, Collins, Lauer & Chung, 2007). Other studies describe life skills development through sports and also the transfer to other domains (Bean, Kramers, Forneris, & Camiré, 2018; Pierce, Kendellen, Camiré, & Gould, 2018; Pierce, Gould, & Camiré, 2017; Chinkov & Holt, 2016). In conclusion, all the above, demonstrate the significance of a life skills program in personal development, in the use of these skills in adulthood, and at the same time in acquiring and developing sports skills in the school context.

Therefore, the purpose of this study was to examine the effect of teaching a life skills program through the volleyball passing skill of Elementary school children at the age of 9 to 11 years old and also their perceived satisfaction and usefulness of the program. Moreover, to identify their knowledge, the perceptions and transfer of life skills to other domains outside school. The reason that the specific skill has been chosen is that volleyball passing skill is suitable for the age of trainees, requires certain basic abilities, such as precision, self-concentration, targeting, positive thinking and excellent technique and it can be integrated into a life skills program in the school context. Volleyball is one of the most popular sports worldwide and an excellent field for thorough research on the specific topic, as it requires a combination of physical, cognitive and emotional skills and essential characteristics such as cooperation, mobility, respect to others, emotional stability and responsibility. The game is structured in such a way that most of the volleyball skills require precision, concentration, composure, results in orientation, problems handling and teamwork. It's a game that combines grace, skills and strength (Zetou & Kassabalis, 2006), so it is very known and beloved to children.

The strengths of this study were that the passing skill learning was examined on both the technique and the results of the young students. The present study chose to assess only girls from a typical class of the 4th and 5th grade of the primary school as in this age girls are more interested in the volleyball sport. As such, the hypothesis of the research was that young girls would learn the passing skill as far as the technique and the result is concerned, while at the same time they would learn how to use the life skills such as goal setting, problem-solving and positive thinking.

2. Material and Methods

2.1 Participants and Procedures

Forty-four elementary school children, all girls, (with 4th and 5th grade students of elementary school; without prior volleyball-specific backgrounds. They were randomly assigned into two groups, the experimental group of life skills (LSG = 23) and the control group (CG = 21). There was the same number of participants in each group, but two of them quit in the middle of the intervention. Prior to the intervention, the children's parents were informed of the planning of the investigation and signed a written consent to their voluntary participation. This study conformed to the standards of use of human subjects in research as outlined in the Sixth Declaration of Helsinki.

2.2 The Intervention

The intervention program took place in the school environment (followed the school program) and lasted six weeks. All participants were given the practice program, twice per week for 45 minutes per session, at identical times and on weekdays, by the same PE teacher. In a 10-minute unit at the begging of each session participants of the LSG was taught and practiced in setting goals and the way to make a plan to reach them, in positive thinking and the way to change a negative thought into a positive one. Moreover, they were informed of the way that they could use those skills in other domains of their everyday life. In a 10-minute unit in each session, the participants of the CG were informed of the subjects of doping, fair play, Olympic Games and healthy diet. In each training session for 10-minutes the students of both groups were practiced (gradually increasing difficulty exercises) and given the same instructional cues for the volleyball passing skill technique. In the remaining 20-minutes the students were taught another volleyball skill technique and were warmed up before the practice. The same protocol was used in other investigations (Kalafati, Zetou, Vernadakis, Antoniou, 2016).

2.3 Measures

Three measurements were taken. The first (initial) measurement was taken at the beginning of the intervention program so as to assess the level of the passing skill technique and confirm that all participants started at the same level of technique and performance (pre-test). The final measurement was taken after the completion of the intervention program, so as to evaluate the impact of the program on the student's technique and result in volleyball passing skill (post-test). One week later, in which the students didn't practice at all, the third measurement, was made, to identify whether the learned skill of volleyball passing had been maintained (retention test).

The evaluation test was conducted in five basic elements/criteria of the passing skill technique and each participant of both groups executed 5 trials. The assessment of the participants' attempts was scored as "one" for correct, and "zero" for wrong execution. The excellent execution was evaluated as 25 points [5 attempts X (5 elementsX1 point)]. At the beginning and at the end of the intervention the participants of both groups filled

out two common formats of questionnaires about their knowledge and perceptions for life skills and the overall evaluation of the program.

2.4 Instruments of the Study

For the qualitative evaluation of the participants' ability in the passing technique, a digital Video-camera SONY HDR-CS 160E was used to record the participants' trials. Two experts in volleyball (the researcher and a student of the volleyball faculty of the Department of Physical Education & Sports Science) observed the video and they evaluated each student's performance in the five technical elements of the passing skill, for each trial (Kalafati, Zetou, Vernadakis, Antoniou, 2016). For the evaluation of the results, the AAHPERD test (1984) for passing was used.

A common format for evaluating life skills knowledge and perceptions, which was developed in Greek population by Papacharisis (2004) based on the work of Hogan (2000), was used. The participants completed a 10-item questionnaire in order to evaluate a) their knowledge of life skills (goal setting, positive thinking, problem-solving), b) their perceptions of usefulness of life skills and c) the application and transfer of life skills. Answers were given on a 7-point Likert scale (1= strongly disagree to 7=strongly agree).

1) Knowledge for the life skills (4 questions): the item referred to the degree that participants had understood the meaning of life skills (e.g. I have absolutely understood the meaning of how to set goals and the difference of the dream).
2) Perceptions for the life skills usefulness (3 questions): the item referred to the degree that participants had understood the life skills usefulness (e.g. life skills have positive outcomes and minimize stress)
3) Application and transfer of life skills in other domains (3 questions): the item referred to the participants' belief for the life skills' applicability and transferability (e.g. life skills can be used in other domains outside school)

A common format for the overall evaluation of the program was used based on the questionnaire of Alexandris, Tsorbatzoudis and Grouios (2004a, 2004b). Answers were given on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

1) Usefulness of the program (7 questions): the item referred to the degree that participants understood the usefulness of the intervention program, both for physical education and for other school subjects, but also outside the school (e.g. the program will help me outside the school as well, as a member of society).
2) Reactions to the program's elements (9 questions): the item referred to the degree of the participants' positive or negative views of the program's elements (e.g. the program was interesting and pleasant)
3) Overall evaluation of the program (3 questions): the item referred to the degree of the participants' overall satisfaction from the program's features (e.g. I'm totally satisfied by the material and manuals given during the program).
4) Suggestions for improving the program (2 questions): the item referred to specific suggestions (e.g. the program needs more teaching hours).

2.5 Observers' Reliability

The two observers were volleyball athletes for ten years, students of the volleyball faculty of the department of sports science and they were also volleyball coaches for five years in junior teams. They were trained by the first author of the study who was an expert coach in volleyball. During the evaluation, observers didn't know if the athletes were in the experiment or in the control group. The intra-observer reliability test was assessed with the observation and recording in one day of ten athletes and the observation and recording of the same athletes on the following day by the same observer. No significant differences were found between the first and second tests, which assured that the coders were able to perform reliable coding with the observation tool (Potrac et al., 2007). The Inter observer reliability using Cohen's k coefficient was 0.89 and Intra observer reliability was 0.92 and 0.93 respectively, indicating strong agreement.

2.6 Statistical Analysis

The present study has been designed to include as in independent variables the "group" in two levels (experimental and control) and the "measurements" in three levels (initial, final and retention) as dependent variables (the passing skill "scoring" in both technique and results). The significance level was determined at the .05 level. Prior to the repeated measures, distribution normality with Kolmogorov-Smirnov test (K-S test) and homogeneity of variance (Box's M test) was carried out. There was a non-significant value (<0.05), which indicated that the data did not differ significantly from the multivariate normality of variables, thus parametric tests could be applied. The analysis of variance with repeated measures (ANOVA repeated measures) (2 groups x 3 measurements) was conducted to detect possible differences among the students of the groups during the three measurements when the assessment of the passing technique and results was made. The internal consistency of the questionnaire has been tested by Cronbach's alpha. Homogeneity of variance was obtained and ANOVA Repeated Measures (2 group X 3 measures) analysis was used. The Bonferroni analysis of multiple comparisons if there is a need, was used.

3. Results

3.1 Initial Measurements

From the t-test analysis for independent samples, no significant differences were found in the initial measurements, neither in the performance nor is the result of passing skill between the two groups, which states that the participants of the groups prior to intervention started from the same level in terms of performance and result of passing skill. Table 1 shows the score of the initial measurements.

Table 1: The participants' performance in the initial measurement

Groups	Life skill		Control			
	M	SD	M	SD	T(42)	*p*
Passing technique	14	2.8	13.17	2.29	1.54	.130
Passing result	12.81	2.1	12.38	2.25	.15	.253

*p<0.05

3.2 The Effect of the Intervention on the Participants' Technique of the Passing Skill

The analysis of variance with repeated measurements showed that there was group and measurement interaction ($F_{(2.84)} = 8.812$, $\eta 2 = .173$, $p <. 01$), main effect for the group ($F_{(1.42)} = 21.69$, $\eta 2 = .987$, $p <. 01$), and main effect of Measurement ($F_{(2.84)} = 8.812$, $\eta 2 = .173$, $p <. 01$), for the technique of passing skill. This is interpreted that the groups had significant differences between the three measurements in the technique of passing skill. Table 2 shows the scores of the three measurements in the technique of passing skill.

Table 2: The evaluation of the groups in the passing technique, in the three measurements

Groups	N	1st measurement (pre)		2nd measurement (post)		3rd measurement (retention)	
Life skill	23	14	2.88	18.43	1.50	18.43	1.78
Control	21	12.81	2.13	15.24	2.05	15.10	2.21
Total	44	13.43	2.59	16.91	2.39	3.27	2.59

*p<0.05

The Bonferroni analysis of multiple comparisons between the individual levels of the "measurement" factor showed that there were significant differences between the groups from the first to the second measurement ($p < 0.05$) and from the first to the third measurement ($p < 0.05$). Both groups showed improvement, with the experimental being better than the control group in the final, but also in the retention measurement.

3.3 The Effect of the Intervention on the Participants' Result of the Passing Skill

The analysis of variance with repeated measurements showed that there was group and measurement interaction ($F_{(2.84)} = 9.656$, $\eta 2 = .187$, $p <. 01$), main effect for the group ($F_{(1.42)} = 12.417$, $\eta 2 = .228$, $p <. 01$), and main effect of Measurement ($F_{(2.84)} = 148.043$, $\eta 2 = .779$, $p <. 01$), for the result of passing skill. This is interpreted that the groups had significant differences between the three measurements in the result of passing skill. Table 3 shows the scores of the three measurements in the results of passing skill.

Table 3: The evaluation of the groups in the passing result, in the three measurements

Groups	N	1st measurement (pre)		2nd measurement (post)		3rd measurement (retention)	
Life skill	23	13.17	2.29	18.26	2.28	18.35	2.48
Control	21	12.38	2.25	16.76	1.48	15.05	1.36
Total	44	12.80	2.28	17.55	2.06	16.77	2.605

*p<0.05

The Bonferroni analysis of multiple comparisons between the individual levels of the "measurement" factor showed that there were significant differences between the groups

from the first to the second measurement ($p < 0.05$) and from the first to the third measurement ($p < 0.05$). Both groups showed improvement, with the experimental being better than the control group in the final, but also in the retention measurement.

3.4 The Effect of Intervention on Life Skill Improvement

a. Internal Consistency

Checking the reliability of the knowledge, perception and transfer in the use of life skills questionnaire, using the coefficient a Cronbach, gave high internal consistency values (Table 4).

Table 4: Reliability of three factors of life skill questionnaire

Factors	a Cronbach's
Knowledge	.934
Perception	.659
Transfer	.850

b. Initial Measurements

From the One-way analysis of variance, no significant differences were found in the initial measurements between the two groups, which states that the participants of the groups prior to intervention started from the same level in terms of knowledge, perception, transfer and the total score of life skills. Table 5 shows the score of the initial measurements for three factors and for the total score of life skills.

Table 5: The participants' performance in the initial measurement of three factors (knowledge, perception and transfer) and total score of life skills

Groups	Experimental		Control		
	M	SD	M	SD	p
Knowledge	5.23	.41	5.12	.53	.466
Perception	5.38	.42	5.18	.34	.197
Transfer	5.05	.44	5.07	.42	.938
Total Score of Life Skills	5.22	.23	5.12	.24	.183

*p<0.05

c. Knowledge

In terms of knowledge, there was group and measurement interaction ($F_{(1.42)} = 115.88$, $\eta 2 = .734$, $p < .01$), also there was the main effect of the group ($F_{(1.42)} = 65.94$, $\eta 2 = .611$, $p < .01$), and the main effect of the measurement ($F_{(1,42)} = 107.35$, $\eta 2 = .719$, $p < .01$), which means that participants of life skills group were improved in understanding the life skills, but life skills group trainees significantly reduced their performance in the second measurement in understanding life skills. The performance of participants of the groups in the life skills understanding is shown in Table 6.

Table 6: The evaluation of the groups in the two measurements in life skills understanding

Groups	N	1st measurement (pre)		2nd measurement (post)	
Experimental	23	5.23	.41	6.80	.38
Control	21	5.12	.53	5.09	.45
Total	44	5.17	.47	5.98	.95

*p<0.05

d. Perception

In terms of perception, there was group and measurement interaction ($F_{(1.42)} = 38.47$, $\eta 2 = .478$, $p < .01$), also there was the main effect of the group ($F_{(1.42)} = 31.18$, $\eta 2 = .995$, $p < .01$), and the main effect of the measurement ($F_{(1.42)} = 26.97$, $\eta 2 = .391$, $p < .01$), which means that participants of life skills group were improved in perception the life skills, but life skills group trainees reduced their performance in the second measurement in the perception of life skills. The performance of participants of the groups in the life skills perception is shown in Table 7.

Table 7: The evaluation of the groups in the two measurements in perception of life skills

Groups	N	1st measurement (pre)		2nd measurement (post)	
Experimental	23	5.38	.42	6.24	.63
Control	21	5.18	.34	5.10	.41
Total	44	5.28	.39	5.70	.78

*p<0.05

e. Transfer

In terms of perception, there was group and measurement interaction ($F_{(1.42)} = 112.38$, $\eta 2 = .728$, $p < .01$), also there was the main effect of the group ($F_{(1.42)} = 93.547$, $\eta 2 = .690$, $p < .01$), and the main effect of the measurement ($F_{(1.42)} = 3.57$, $\eta 2 = .078$, $p = .066$), which means that participants of life skills group were improved in perception the life skills, but life skills group trainees reduced their performance in the second measurement in life skills transfer. The performance of participants of the groups in the life skills transfer is shown in Table 8.

Table 8: The evaluation of the groups in the two measurements in life skills transfer

Groups	N	1st measurement (pre)		2nd measurement (post)	
Experimental	23	5.05	.44	6.34	.65
Control	21	5.07	.42	4.17	.45
Total	44	5.06	.43	5.30	1.23

*p<0.05

3.5 Life Skills (Total Score)

In terms of the total score of life skills, there was group and measurement interaction ($F_{(1.42)} = 179.37$, $\eta 2 = .810$, $p < .01$), also there was the main effect of the group ($F_{(1.42)} = 149.74$, $\eta 2 = .781$, $p < .01$), and the main effect of the measurement ($F_{(1.42)} = 59.51$, $\eta 2 = .586$, $p < .01$), which means that participants of both groups were improved in the life skills. The performance of participants of the groups in the life skills is shown in Table 9.

Table 9: The evaluation of the groups in the two measurements in life skills

Groups	N	1st measurement (pre)		2nd measurement (post)	
Experimental	23	5.22	.23	6.46	.45
Control	21	5.12	.24	4.79	.24
Total	44	5.17	.24	5.66	.92

*p<0.05

3.6 Perceived Satisfaction of the Students and Usefulness of the Program

Checking the reliability of the questionnaire of perceived satisfaction from the life skills program, using a Cronbach factor, gave high internal consistency values (Table 10).

Table 10: Reliability of satisfaction questionnaire

Factors	Cronbach a
Program satisfaction (9 questions)	.715
Utility of the program (7 questions)	.819
Final satisfaction from the program (3 questions)	.782
Suggestions for improvement (2 questions)	.623

The One-Way analysis of variance showed that there were significant differences between participants of the groups in program satisfaction ($F_{(1.43)} = 54.35$, $p < .01$), also for the utility of the program ($F_{(1.43)} = 47.31$, $p < .01$), the total satisfaction of the program ($F_{(1.43)} = 22.52$, $p < .01$), and for the suggestions for improvement ($F_{(1.43)} = 35.26$, $p < .01$). Participants of life skills group were better than them of control group. Table 11 shows the scores of means and standard deviations of satisfaction variables.

Table 11: Means and standard deviation of the measurement in participants satisfaction from the program

	Groups	N	M	SD
Program satisfaction	Life skills	23	5.67	.35
	Control	21	5.36	.22
	Total	44	5.68	.54
Utility of the program	Life skills	23	5.98	.43
	Control	21	5.18	.34
	Total	44	5.28	.39
Final satisfaction from the program	Life skills	23	6.90	.23
	Control	21	6.34	52
	Total	44	6.63	.48
Suggestions for improvement	Life skills	23	4.88	.87
	Control	21	3.42	.74
	Total	44	4.19	1.09

4. Discussion

The growing interest in life skills training and the promising results of the relative research on their effectiveness has led scholars to further analysis in many settings, such as school, sports, personal development and a wide range of target groups, especially in

children and youth. In today's society of 21st century, that change and speed are the main characteristics, it's crucial for children and youth to play an active role in their own learning and development process in all domains inside and outside the school environment. The aim of the present study was to contribute to this field by investigating the effect of an intervention life skills program in learning the volleyball passing skill, evaluating the technique and the resulting improvement of novice female students of 4th and 5th grade of elementary school. Moreover, to identify their knowledge, perceptions and transfer of life skills and their perceived satisfaction from the program.

The results of the study supported the effectiveness of the program. Both groups improved in passing skill (technique and result) but the experimental group that was given the life skills program showed a significantly higher improvement than the control group, in both final and retention measurements. According to the results that emerged from the questionnaires, the students stated that they had clearly comprehended the concept and function of life skills, but also, they stated that they would use life skills in other domains of their life. Finally, they stated that this intervention program was very interesting, enjoyable and useful.

The first significant outcome of the study confirms the effectiveness of the intervention program. Although both groups started from the same level, the participants of the experimental group had a significant improvement in technique and result in passing skills compared to the participants in the control group. But the most important thing was that the students experienced a new learning method, understood its benefits and, as the results showed, were completely satisfied. This finding is important as it suggests that conventional training programs or experiences do not significantly promote sports skills performance, but neither contribute to life skills development. So coaching life skills should be efficiently and systematically provided to young students through intervention programs that integrate sports and life skills training, with children's active participation. This conclusion agrees with the results of previous studies that indicate the effectiveness of life skills programs in children and youth (Papacharisis et al., 2005; Weiss 2006; Brunelle, Danish, & Forneris, 2007), and of other relative studies in the sport and physical education contexts that confirm the positive effect in learning and performance enhancement of sports skills in young students (Goudas & Giannoudis, 2008). In this line are also the results of previous studies that have been extracted from research on specific sports such as volleyball, basketball, tennis, soccer, swimming, strength and flexibility (Zetou et al., 2012; Goudas et al., 2006; Papacharisis et al., 2005; Kolovelonis et al., 2005). Further studies connect positively the intervention programs with young students' self-determination (Kolovelonis, Goudas, Dimitriou, & Gerodimos, 2006) and self-efficacy improvement (Dimitriou, Kolovelonis, Goudas, & Gerodimos, 2007).

The second important conclusion of the study was the positive evaluation of the intervention program. The outcomes of the research showed that students who received the program demonstrated enhanced knowledge about life skills concepts and function while at the same time improving their self-beliefs for helping them better organize their lives and reducing stress. The present findings agree with the results of previous researches on the qualitative evaluation of life skills programs (Goudas & Giannoudis,

2010; Theofanidis, 2002; Kiorpe, 2002). Furthermore, it adds to the results of extended researches in the following distinct points: First, according to Papacharisis et al., (2005) the intervention program was effective and applicable in students of age from 10 to 12 years old while teaching life skills and sports skills in an integrated framework promotes students' abilities in learning and practicing skills that help them coping the complexity of their daily life. Secondly, it confirms the argument that skills are learned best when students have the opportunity to observe and actively practice them (Mangrulkar et al., 2001), being in line with the promising results of previous studies that recognize the effectiveness of the intervention life skills programs in children and youth (Danish, 2002; Goudas et al., 2006; O' Hearn & Gatz 2002, Brunelle, Danish & Fazio, 2002). Third, the result of the study that life skills learnt in the school setting through intervention programs may be transferred to other domains outside school, agrees with the results of Goudas and Giannoudis (2010), Theofanidis (2002) and Kiorpe (2002) researches. However, in a deeper investigation, it seems that Goudas and Giannoudis (2010) came to this conclusion by using specific strategies and methods in teaching life skills, which were confirmed as effective. The importance of life skills applicability and transferability in domains of life other than those that have been taught has been occasionally highlighted by various researchers (Danish et al., 1993; Gould & Carson, 2008). However, Gould and Carson (2008) noted that the existing research on the effectiveness of life skills programs is limited. Furthermore, they argued that the finding that life skills that are learnt in a sports youth setting are transferred and maintained in other domains of life is seldom tested, due to the lack of long-term investigations (Bean, Kramers, Forneris, & Camiré, 2018; Pierce, Kendellen, Camiré, & Gould, 2018; Pierce, Gould, & Camiré, 2017; Chinkov & Holt, 2016).

Future studies should consider some additional measures. For example, it would be interesting to compare the effects of a life skills program in two different sports at the same sample of athletes, so as to determine the degree of effectiveness depending on the characteristics of the sport (i.e. volleyball vs. basketball). Similar research may also be conducted in order to compare the effect of a life skills program in sports skills of different cognitive levels, so as to determine any learning transfer. Future research could take into consideration additionally the students' grades in other school subjects, before and after their participation in the intervention program, in order to identify whether they transfer life skills in other areas besides sports. Finally, future research could investigate the relationship of the structure of life skills curriculum with age, sex and sport, to determine the need for adjustments in intervention programs.

The present study had some limitations that should be mentioned when interpreting the results. One is the small size of the sample and another is that only girls participated in the present research factors due to which the conclusion cannot be generalized. Moreover, the conclusion that the students intend to use and apply life skills cannot be confirmed if there is no resumption of the research on the same sample in the future. However, despite the above limitations is a serious attempt that contributes to up-to-date outcomes. The overall findings of this study demonstrated that an intervention life skills program helped the experimental group to improve the volleyball passing

technique and result's performance and as a consequence, it adds valuable evidence for the effectiveness of intervention programs and supports the promising results of previous relative researches.

The youth sports and generally the children's treatment in this field is a significant sector that has divided scientists as of their views for the participation or not of young students in sports. The reduced number of students' participation in sports activities in our country, compared to those of other European countries and the particularities hidden in the area of youth sport lead to the need of finding advanced models and methods to promote the sporting, social and behavioral skills and create a healthy athletic basis. The results of this research and suggestions for future investigations possibly facilitate coaches and physical education teachers to seek and utilize the best practices for their work.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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