

# Children's perceptions about their health-related quality of life: effects of a health education–social skills program

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## Abstract

The perception about one's health includes feelings about physical and psychological characteristics as well as ways of managing interpersonal relationships. The purpose of this study was to examine the effect of the Health Education Program 'Skills for primary school children' (KE.TH.E.A.-Ministry of Education of Greece, 1998. Educational Program of Prevention: Skills for Elementary Students [Εκπαιδευτικό υλικό πρόληψης: Δεξιότητες για Παιδιά του Δημοτικού]. Athens: KE.TH.E.A., 1998) on children's perceptions about certain dimensions of their quality of life: physical well-being, mental well-being, moods and emotions, self-concept, leisure–autonomy, family life, financial resources, friends, school environment and social acceptance (bullying). Two hundred and eighty-six students of fifth and sixth grade, from schools of Northern and Southern Greece participated. One hundred and twenty-eight ( $n = 128$ ) formed the experimental group and 158 the control group ( $n = 158$ ). The experimental group followed the skills program for 23 weeks (one 45 min lesson/week), whereas the control group did not. The Kidscreen Questionnaire (Kim S, Laird M. *An Outcome Evaluation of Lions Quest 'Skills for growing' Grades K-5*, 1993. Available at: <http://www.Lions-quest.org>. Accessed: 2 April 2009) was applied to assess health-related quality of life. Results from multivariate analysis of variance with repeated measures indicated that children

in the experimental group significantly improved their perceptions of physical well-being, family life, financial aspects, friends, school life and social acceptance. On the other hand, children in the control group significantly improved their perceptions for physical well-being, whereas they deteriorated them significantly for family life, mood and feelings and social acceptance. Also, children as a whole improved their self-concept. Furthermore, analysis of covariance showed that the experimental group had better perceptions of autonomy than the control group in the final measurement. It can be concluded that such a program could lead to the improvement of (i) physical well-being, (ii) family life, (iii) financial resources, (iv) friends, (v) school environment, (vi) social acceptance and (vi) Leisure–Autonomy and to stable perceptions about mood and feelings, dimensions of health-related quality of life.

## Introduction

Quality of life is the final goal in every child's development. The term was equated with 'standard of living', but later on the use of free time, education, health and well-being and financial development were included in it as well [1]. How a person understands its place in a society and a value system in which one lives relating to aims, expectations and worries is considered 'Quality of life' [2]. Health-related quality of life is placed under the umbrella of the general term 'quality of life' [3]

and is described as a complete physical, emotional, mental or psychological and social well-being rather than merely the absence of disease or infirmity [4, 5].

It is a fact that 2nd World War was followed by an increase in children's mental health and mental disturbance problems in all developed countries [6]. The main reasons for this phenomenon are the following: (i) children spend continuously more time in indoor activities that take place in their home and schools, whereas they decrease their outdoor activities [7], (ii) children rely to the virtual reality using technology and (iii) children face the consequences of globalization, and immigration, that signals social and cultural changes [8]. Educational programs related to mental health and social skills seem to be the only realistic solution for the psychological reinforcement to a considerable percentage of children [9]. Therefore, as social skills can be taught, several situations can disrupt their learning procedure. Low social performance could be due to a non-suitable interpersonal environment. Parents, for example, who are role models to children, could be inadequate or absent or could have extreme or unrealistic demands from their children. Another cause for the lack of social skills could be the negative emotions children could experience (anxiety, embarrassment, etc.) that lead to the avoidance of social life [10].

In short terms, children today are called to face not only the usual uncertainties related to growth and puberty but also a lot of social, environmental and cultural pressure. World Health Organization [4] warned that future societies would face problems if they did not take measures for the prevention of children's psychological well-being.

Attempting to acquire an initial picture of children's health-related quality of life research studies evaluated children's of different age and gender perceptions. Malkowska *et al.* [11] showed that children had more positive perceptions of social approval and feelings and worse of financial matters and school environment. Accordingly, children had better perceptions of their Quality of life than adolescents and teenagers; they had a better self-perception of their body and more feelings for

school. With respect to other dimensions such as financial resources, autonomy or satisfaction from their relationships with peers, no differences were found between children and teenagers. Similar findings were reported by Simeoni *et al.* [12].

Another study in Verne, Germany, reported that girls seem to have lower health-related Quality of life compared to boys [13]. Also, as girls grow older have more negative perceptions of their Quality of life [14]. Their body self-image reflects in a negative way to their self-esteem and their relationship with peers [15].

Although relevant findings are not yet available in Greece, research in schools showed that a percentage of students have difficulties in different areas of psychomotor adaptation [16, 17]. However, to develop resiliency to severe adverse conditions, children should have a number of protective factors such as sociability, sense of personal competence and control, good relationship with at least one parent and support by someone within the wider family or social environment such as relative, friend and teacher [18].

Health education in schools has the unique chance to establish and reinforce children's social skills through specific programs preventing rather than healing problematic matters that could affect aspects of their health-related quality of life. The most successful social skill programs are based on a strong theoretical background, are interactive, use a variety of teaching projects becoming a small dynamic team, cover general and specific skills (life skills programs) and are mainly supported by the entire school community [19–21]. As a branch of Health education Social Skills education appears in research with different variations [22]. Social skills were first used as part of social problems solving [23] but now are also used in other approaches such as a method of self-management behavior [24]. Skills such as the recognition of facial expression, body language or even the way of glance exchanging are very important so as to read the feelings and perspective of people who interact and understand the social rules governing each social environment [22].

Social evolution has caused significant changes to the educational systems all over Europe [25].

The reforms are related to the democratization of the school and the active participation of children. Such changes also occur in the Greek educational system. The Ministry of National Education and Religious Affairs [26], not only in line with the objectives of the United Nations and UNESCO, but also in line with the broader political trend in health promotion, developed Health Education Programs, which aim to cultivate attitudes that characterize the active citizen and lead to an open school society. The introduction of these programs causes radical changes in content and in organization of the educational system, by adopting experiential learning and participatory forms of teaching [19]. The basic goal is the use of new forms of knowledge and the adoption of proper attitudes. Children have open horizons, accept new ideas, foster creative thinking and gradually build new forms of social knowledge [27, 28].

These health education programs take place in the Integrated Curriculum Framework of the Greek Pedagogical Institute, which occurs during the ‘Flexible Zone’, a lesson of 90 min/week which is used for different projects according to the class needs. They belong to the school activities which are held within the timetable and the curriculum without forming a separate subject. The Integrated Framework for Interdisciplinary Studies proposes to implement health education programs in 5–10% of the lessons time. The approach of these objectives occurs with the following topics: mental health, interpersonal relations, social skills, traffic education, nutrition, sexual education, physical exercise, social acting and volunteering.

According to this context, there are educational programs abroad for health promotion and in particular mental health promotion, based on the principles of emotional intelligence. Lynch *et al.* [29] examined the long-term follow-up results in many areas of the program ‘Al’Pals: Kids Making Healthy Choices’ and showed that children’s emotional and social skills ameliorated while their anti-social and violent attitude degraded.

The program ‘Child Development Project’ US has been assessed by many studies over the past 20 years. Research showed that students in schools where the program was applied had significant gains

in attitude toward school and learning, in their feelings about themselves, in social behavior and values, and in their relationship with their peers [30]. Review of research on Lions-Quest Skills Program showed the following effects: improvement of student self-confidence, better communication between students and better interaction between students and teachers [4]. Evidence on the potential of Social Skills Programs to reduce and prevent problems and conflict are widespread and crucial [18, 20, 31–37].

Trainers who used the ‘Living Values’ social skills program all round the world record positive changes to the relations among children and their peers as well as among children and their teachers inside and outside classroom. They note an increase in respect, cooperation, encouragement and the ability to resolve conflicts. On the other hand, aggressive attitude decreases.

Several relevant studies presenting more proof for the potential of social skills programs in decrease of problems and conflicts are extensive and of great importance [18, 20, 31–37]. Several measurements also showed that there are side effects of these programs in dealing with children’s attitudes toward school environment, school performance and grading [36, 20].

In Greece, similar programs are optional and quite rare. It is based on the teacher’s good will and initiative to follow training to apply such an educational program. Although it is well known that for schools that adopt such programs without the commitment of subsequent measurements, it is difficult to have comparable reliability and valid results [36], evaluation of such programs is met only in a few studies [9, 38]. The findings of these studies are encouraging as they are related with improvement in communication between children, better management of diversity, better health knowledge, less incidents of aggression and better cooperation.

However, none of the studies, to our knowledge, examined the effect of such programs on children’s perceptions about their quality of life. Given the subjective nature of quality of life, many researchers have expressed doubt about whether a child is able

to evaluate and reflect valid indicators that make up the concept [39]. However, research data show that children are able to determine their quality of life in a self-report questionnaire, which is valid and reliable as long as they have sufficient cognitive abilities, emotional maturity and an appropriate educational level [40]. This study was designed according to how school and the educational system in Greece choose to study children's social skills and problems and recommend intervention programs.

Therefore, the aim of this study was to examine the effect of the Mental Health Promotion Program 'Skills for elementary school children' on children's perceptions about certain dimensions of their health-related quality: physical well-being, psychological well-being, moods and emotions, self-concept, leisure–autonomy, family life, financial resources, friends, school environment and social acceptance (bullying).

The hypothesis was that children who attended the health education program would have significantly higher perceptions on each dimension of their quality of life than children in the control group.

## Method

### Participants

The participants were 286 students aged 10–12 years from 12 primary schools of Northern and Southern Greece. Schools that were selected randomly from those implementing the Health Education Program agreed to participate and be evaluated. One hundred and twenty-eight

( $n = 128$ ) children formed the experimental group and 158 formed the control group ( $n = 158$ ), and there were no dropouts. In Table I, the demographics of all children are presented. The experimental group, following the school program, attended the program 'Skills for elementary school children', whereas the control group comprised the corresponding classes in the same schools that were not enrolled in the program. None of these children had previously participated in that program again or in similar social skills educational programs, to achieve a similar starting point for them all. Furthermore, none of the groups participated in any modules relating to the program 'Skills for primary school children' during the school year. The directors of the schools and the parents of the children consented to their participation in this investigation.

### Design

The research design included one independent variable, the group with two levels: (i) Group 1: experimental and (ii) Group 2: control. Research study hypothesis was tested through pre-test and post-test in children's perceptions of certain dimensions of their health-related quality of life: physical well-being, psychological well-being, moods and emotions, self-perception, leisure–autonomy, family life, financial resources, friends, school environment and social acceptance (bullying).

### Measuring tools

The Kidscreen-52 questionnaire [5] was used to assess children's perceptions of their quality of

**Table I.** Participants' demographics

Experimental group ( $n = 128$ )				Control group ( $n = 158$ )			
Fifth grade		Sixth grade		Fifth grade		Sixth grade	
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
31	42	28	27	22	19	58	59
Total: 73		Total: 55		Total: 41		Total: 11	

life. It is constructed to measure the degree of social skills of children and the degree of quality of life, and it has been found reliable and valid in 12 European countries, including Greece, for children aged 8–18 years. The dimensions of the questionnaire KIDSCREEN-52 are the following:

- Physical wellness (five questions with total score rating from 5 to 25).
- Psychological well-being (six questions with total score rating from 6 to 30).
- Mood and feelings (seven questions with total score rating from 7 to 35).
- Self-perception (five questions with total score rating from 5 to 25).
- Leisure–autonomy (five questions with total score rating from 5 to 25).
- Family life (six questions with total score rating from 6 to 30).
- Financial resources (three questions with total score rating from 3 to 15).
- Friends (Peers and social support) (three questions with total score rating from 3 to 15).
- School environment (six questions with total score rating from 6 to 30).
- Social acceptance (bullying) (six questions with total score rating from 6 to 30).

All questions focus on the previous week and are answered in a 5-point Likert scale (1 = never, 2 = rarely, 3 = quite often, 4 = often and 5 = always). Highest scores suggest better Health-Related Quality of Life. The total sum could be from 52 to 260 points. The reliability of the Questionnaire was calculated for its 10 dimensions, and Cronbach's alphas were found to range satisfactorily between 0.76 (Social Acceptance) and 0.89 (Financial Support) [41].

### Procedure

One of the researchers administered the questionnaire before and after the Health Education intervention program 'Skills for elementary school children'. Children were informed that the questionnaire was not a quiz, and there were no wrong

answers. Emphasis was placed on children perceptions about their health status and importance. The whole procedure lasted from 20 to 30 min.

### The interventional program

The program 'Skills for primary school children' is an educational package of activities in health education for primary school which aims to develop students' personal and social skills. This program includes four phases of which only the third was directly examined in this research: (i) Training teachers in the experiential teaching approach, in group dynamics and in utilization of prevention educational materials, in the frame of the health education program. The seminars were organized by those responsible for Health Education in primary education in collaboration with the Centers for Addiction Prevention in each county, respectively. (ii) Constant teacher supervision on team coordination, on student support and on educational material use during the actual course. (iii) Application of the program by already trained teachers. The material of primary prevention 'Skills for primary school children' was adapted for Greece by KETHEA [42]. The issues are related to personal skills (i.e. recognition and expression of emotions and self-confidence) and to interpersonal skills (communication, cooperation, establishing and maintaining relationships, etc.). There are 33 lesson plans: three introductory lessons and six units of five different courses: (i) I am an individual person, (ii) One of the many, (iii) Feelings and emotions, (iv) Learning new skills, (v) Facing challenges and (vi) I take care of myself, and last but not least (iv) Parent training.

In this study, the educational program with the above content was held during the so called 'Flexible Zone' in a 45 min lesson once a week, for 23 weeks. All teachers applied the introductory activities (three modules) and four units (i–iv) of five courses from the entire package (time was adjusted to the needs of each class but with a common programming as a basis). The curricular framework (program chart flow) is presented in [Table II](#).

**Table II.** *Lessons flow chart*

Education program/units	Objectives	Kidscreen field
Introduction	To make Class rules	Friend (8)
	To create a caring environment	School environment (9)
	To examine class as a society	
	To realize that they are valuable members of a unity	
Unit 1—I am an individual person	To realize that they are unique	Self-perception (4)
	To recognize their power, their capabilities	Family life (6)
	To reinforce their self-esteem	
	To realize their relations, their influences and the special people in their lives	
Unit 2—one of the many	To examine their similarities and their differences	Psychological well-being (2)
	To think of a broad world that respects and approves everyone	Leisure and autonomy (5)
	To realize the importance of friends	Friends (8)
	To understand that relations end and hurt but it's worth it	School environment (9)
	To find ways to support and encourage people	
	To understand the difficulties people with special needs have	
Unit 3—feelings and emotion	To express common feelings	Mood and feelings (3)
	To value body language	Psychological well-being (2)
	To recognize and accept their own feelings and others too	Friends (8)
	To find ways to deal with different emotions	Social acceptance (10)
	To learn ways to solve conflicts	
	To deal with grief and loss	
Unit 4—caring for me	To examine the relation they have with their body and well-being	Physical well-being (1)
	To find ways to care for themselves	Mood and feelings (3)
	To accept their fears and find ways to deal with them	Leisure and autonomy (5)
	To think of how to share a secret	Financial resources (7)
	To achieve security in school, home or elsewhere	
	To think of their dreams and their future	

The material was designed to help children to grow personal skills and their confidence so as to resist peer and media pressure and to seek support and advice. Specifically, Unit A (I, an Individual person) has the following lessons: (i) My uniqueness, (ii) Reinforce my self-esteem, (iii) Growing and changing, (iv) People I love (1) and (v) People I love (2). They are associated with questions in dimensions 4 (Self-Perception) and 6 (Family life) of the Kidscreen Questionnaire. Unit B (One of the many) has the following lessons: (i) Similarities and differences, (ii) Who is your friend, (iii) I co-exist/make relationships, (iv) People that help me, (v) I care about the others. They are associated with questions in dimension 2 (Psychological well-being), 5 (Leisure and autonomy), 8 (Friends) and 9 (School environment). Unit C (Feelings and emotions) has the following lessons: (i) Realizing and expressing

feelings, (ii) Face strong feelings, (iii) Resolving arguments, (iv) Other people have feelings too and (v) Loss and sorrow. They connect with dimensions 3 (Mood and feelings), 1 (Physical well-being), 8 (Friends) and 10 (Social acceptance). Unit D (Caring for me) has the following lessons: (i) I care about myself, (ii) What scares me?, (iii) When a secret is a secret, (iv) Safe people—safe places and (v) Obtaining security—personal goals. They connect with dimensions 1 (Physical well-being), 3 (Mood and feelings), 5 (Leisure and autonomy) and 7 (Financial Resources).

Appendix A shows the units and their contents for each week and Appendix B a lesson sample. The activities were applied to the whole class or to small groups which were randomly selected. They consisted of discussions on children's fears and dreams, role playing, motor activities and

opinion expression. Six units were applied with five lessons in each one. Every lesson was based on a carefully structured plan, with a summary, the aim of the lesson, the material, the preparation of the lesson, alternative activities and key words. The actual lesson plan consists of the introduction, the series of activities, the evaluation of the lesson by students and possible homework. An example is presented in the Appendix B.

The last phase of the total program (iv) concerns public awareness and parent training in the development of personal and social skills of children so as to enhance their self-protection in family and school. Parents were informed for the Program by the teacher and were asked to cooperate as well as they could both in the meetings and in home with their children. Unfortunately, parents' workshops included in the package version were not used due to lack of time by teachers. At the end of the program, all participants were reassessed. The whole procedure of this study is presented in Fig. 1.

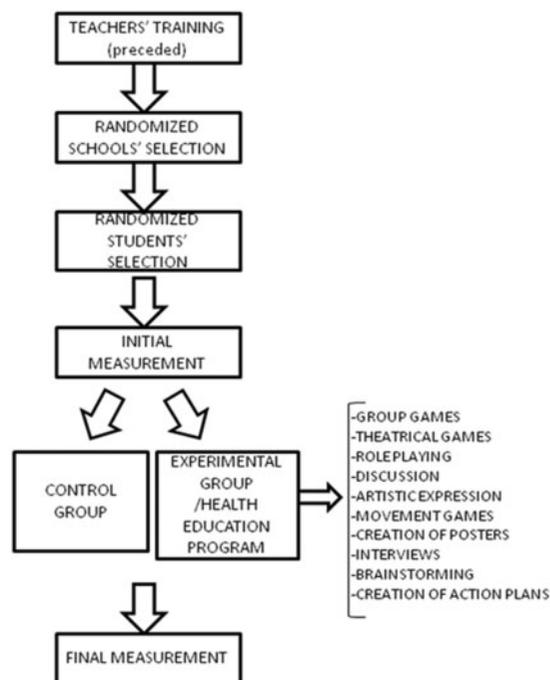


Fig. 1. Flow chart of the study's phases.

## Statistical analysis

Statistical analysis was performed with the Statistical Package for Social Sciences SPSS (version 15.0). To identify possible differences between the experimental and the control group in the initial measurement, multivariate analysis of variance (MANOVA) was conducted. Then for the dimensions in which the two groups showed no significant initial differences, a 2 (group)  $\times$  2 (measures) repeated measures MANOVA followed by univariate tests and pre- to post-test comparisons within each group was applied. Analysis of covariance (ANCOVA) was also used to compare perceptions of the two groups in the final measurement of dimensions 2 and 5, after controlling their initial differences.

## Results

Means and standard deviations of the perceptions of students in the experimental group and control group in both measurements and statistically significant findings are listed in Table III.

MANOVA revealed no significant initial differences between the two groups in (1) Physical well-being,  $F(1,284) = 1.45$ ,  $P > 0.05$ , (3) Mood and feelings,  $F(1,284) = 1.42$ ,  $P > 0.05$ , (4) Self-concept,  $F(1,284) = 0.04$ ,  $P > 0.05$ , (6) Family Life,  $F(1,284) = 1.9$ ,  $P > 0.05$ , (7) Financial resources,  $F(1,284) = .11$ ,  $P > 0.05$ , (8) Friends,  $F(1,284) = 2.99$ ,  $P > 0.05$ , (9) School Environment,  $F(1,284) = 2.44$ ,  $P > 0.05$  and (10) Social acceptance,  $F(1,284) = 0.75$ ,  $P > 0.05$ . On the contrary, significant were the differences between the two groups in dimensions 2 (Psychological well-being),  $F(1,284) = 14.16$ ,  $P < 0.001$ , and 5 (Autonomy),  $F(1,284) = 4.35$ ,  $P < 0.05$ .

The 2 (groups)  $\times$  2 (measurements) repeated measures MANOVA showed a statistically significant multivariate group  $\times$  measurement interaction,  $F(8,277) = 25.84$ ,  $P < 0.001$ , partial  $\eta^2 = 0.42$ . The univariate test showed a significant group  $\times$  measure interaction in dimensions: (1) Physical well-being,  $F(1,284) = 32.29$ ,  $P < 0.001$ , partial

**Table III.** Means and standard deviations of children's perceptions in the initial and final measurement and significant findings

Children's perceptions Dimensions/fields	Initial measurement				Final measurement			
	Experimental group		Control group		Experimental group		Control group	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<sup>a</sup> 1. Physical well-being (25)	18.19	2.55	17.85	2.22	20.92****	2.91	18.7*****	2.76
2. Psychological well-being (30)	26.43	3.61	24.84	3.73	25.21	3.95	24.8	3.70
3. Mood and feelings (35)	28.77	5.3	29.13	4.33	29.07*	4.93	17.8*****	8.47
4. Self-perception (25)	14.89	3.1	14.96	2.52	20.95	3.71	20.3	3.54
<sup>a</sup> 5. Leisure–autonomy (25)	17.11	4.39	16.02	4.68	20.13***	3.74	16.3***	4.76
<sup>a</sup> 6. Family life (30)	23.81	6.46	24.66	4.20	25.54****	4.09	24.3*****	4.45
<sup>a</sup> 7. Financial resources (15)	11.54	3.22	11.42	3.08	12.77****	2.41	11.4	3.03
<sup>a</sup> 8. Friends (30)	23.89	5.14	22.93	4.54	25.22****	4.01	22.0	4.82
<sup>a</sup> 9. School environment (30)	23.19	5.15	24.06	4.53	24.25****	4.36	23.6	4.89
<sup>a</sup> 10. Social acceptance (bullying) (15)	13.11	2.02	13.31	1.91	13.76*	1.72	7.7*****	4.28

\*Statistically significant increases from initial to final measurement ( $P < 0.05$ ).

\*\*Statistically significant decreases from initial to final measurement ( $P < 0.05$ ).

\*\*\*Statistically significant differences between groups in the final measurement ( $P < 0.05$ ).

$\eta^2 = 0.10$ , (3) Mood and feelings,  $F(1,284) = 128.5$ ,  $P < 0.001$ , partial  $\eta^2 = 0.31$ , (6) Family Life,  $F(1,284) = 9.31$ ,  $P < 0.01$ , partial  $\eta^2 = 0.032$ , (7) Financial resources,  $F(1,284) = 10.47$ ,  $P < 0.01$ , partial  $\eta^2 = 0.036$ , (8) Friends,  $F(1,284) = 3.93$ ,  $P < 0.05$ , partial  $\eta^2 = 0.014$ , (9) School Environment,  $F(1,284) = 5.43$ ,  $P < 0.05$ , partial  $\eta^2 = 0.019$  and (10) Social acceptance,  $F(1,284) = 158$ ,  $P < 0.001$ , partial  $\eta^2 = 0.35$ .

Pre- to post-test comparisons test within each group showed that children's perceptions in the experimental group were improved significantly in (1) Physical well-being ( $P < 0.001$ ,  $\eta^2 = 0.36$ ), (6) Family Life ( $P < 0.05$ ,  $\eta^2 = 0.04$ ), (7) Financial resources ( $P < 0.01$ ,  $\eta^2 = 0.07$ ), (8) Friends ( $P < 0.05$ ,  $\eta^2 = 0.03$ ), (9) school environment ( $P < 0.001$ ,  $\eta^2 = 0.02$ ) and (10) Social acceptance ( $P < 0.05$ ,  $\eta^2 = 0.03$ ).

Regarding children in the control group, of the above dimensions they improved significantly only perceptions of (1) Physical well-being ( $P < 0.001$ ,  $\eta^2 = 0.11$ ), whereas they deteriorated significantly their perceptions of (3) Mood and feelings ( $P < 0.001$ ,  $\eta^2 = 0.56$ ), (6) Family life ( $P < 0.001$ ,  $\eta^2 = 0.01$ ) and (10) Social acceptance ( $P < 0.001$ ,  $\eta^2 = .56$ ).

For dimension (4) Self-concept, the 2 (groups) X 2 (measurements) repeated measures MANOVA showed a significant main effect of the factor measure,  $F(1,282) = 362$ ,  $P < 0.001$ , partial  $\eta^2 = .56$ , which means that children in the two groups improved their perceptions for this dimension in a similar way. The above significant effects are considered small when  $\eta^2 = 0.01$ , moderate when  $\eta^2 = 0.06$  and high when  $\eta^2 = 0.14$  (Cohen, 1988).

ANCOVA that was applied for dimensions (5) Autonomy and (2) Psychological well-being revealed that the experimental group had significantly better perceptions of Autonomy than the control in the final measurement,  $F(1,284) = 58$ ,  $P < 0.001$ . On the contrary, the two groups had similar perceptions of Psychological well-being in the final measurement,  $F(1,284) = 1.32$ ,  $P > 0.05$ .

## Discussion

The purpose of this study was to examine the effect of the Health Education Program 'Skills for primary school children' on children's perceptions about certain dimensions of their Quality of life. Although there were not any relevant modules to the program

‘Skills for Primary school children’ in the school curriculum and none of the children had participated in any similar extra curricular program, their initial perceptions were quite high. It appears that children have generally optimistic perceptions for themselves and their relationships with their family and friends. However, the results showed that children who followed the Health education program for social skills improved their perceptions in areas related to physical well-being, family life, financial resources, friends, school life and social acceptance and kept their perceptions for mood and feelings stable. Therefore, the hypothesis of the study was verified for the above dimensions of quality of life.

According to their answers in the mood and feelings field, it seems that the program helped children to resist increased stress and negative emotions. On the other hand, children from the control group had an increase in negative emotions perhaps because they remained only with the strict grade oriented lessons (that exhaust children psychologically). Similar findings for anxiety and depression in children have been reported by Lowry-Webster *et al.* [43] 12 months after the end of the program or after 36 months [44]. As children in the experimental group began to conduct and manage their discomfort in a positive way [20], they potentially improved their perceptions of family life. Improving children’s perceptions on family life may have been one of the reasons of the overall improvement of personal and social life. On the contrary, the decrease of perceptions for mood and feelings and for family life for children in the control group is possibly related to their exhaustion as the school year proceeded because of the absence of an organized schedule of facing emotions and relationships at school [9].

Although in other studies the perceptions of children on the economic dimensions of their life were rarely taken into account, this dimension showed significant improvement in this study. This finding could be attributed to the improvement of the children’s relationship with their parents, a fact that could possibly reflect as well to their available pocket money. It could also be attributed to the enhancement of the children’s general optimism

recorded after their participation in social skills programs [45].

The positive change in relations with peers in this study has also been previously reported in intervention programs with other social and communication skills because of their success in conflict resolution [46] and the reduction of behavioral problems among peers [18, 20, 31–37, 47]. Also positive changes to the relations among children and their peers as well as among children and their teachers inside and outside classroom are recorded after the ‘Living Values’ social skills program all around the world [48].

The improvement of the perceptions of the experimental group for school life in this study appears to be in line with the findings of Wilson *et al.* [18] who recorded the positive contribution of 165 social and emotional skill programs to children’s attitude toward school, along with a reduction in school absenteeism. In accordance to the study findings side effects of similar programs show amelioration of children’s attitudes toward school environment, school performance and students’ grades [36, 20]. Even in multicultural education environments, these programs have brought less violence and greater responsibility and commitment to school by the children [49]. Zins *et al.* [50], as reported in Ragozzino *et al.* [51], also found that the social and emotional skills programs improve children’s behavior and school performance.

In the field of social acceptance (bullying), perceptions of children who followed the Health Education program were significantly improved while exactly the opposite occurred for the control group. Positive conclusions were also drawn by numerous investigations which studied the efficacy of social and emotional skills against bullying [52, 53]. Also, the programs, which were evaluated twice each month and those applied across the school and not as a single lesson, brought better results [52].

With respect to physical well-being, both groups improved significantly their perceptions. This finding might be attributed to the school curriculum since, reversely to the dimensions mentioned above, children in the control group had the

opportunity to participate in the physical education program and gain positive experiences which make them feel more vigorous. The higher increase of the perceptions of the experimental group though is possibly related to the additional experiences offered by the Health education program.

School period seems to be another factor that possibly affects children's perceptions, as a parallel increase was found on self-concept for both groups. This result could be attributed to the fact that the final measurement in this study was applied at the end of the school year, just before summer vacations. Children's expectations for their vacations, as well as the whole atmosphere of a near future playful and relaxed everyday routine, make them feel positive in general, a fact that justifies better perceptions for both groups in the specific field. Although in a study in Australia, a significant improvement in self-concept was found after the application of the program Health Education 'Friends', it concerned mostly groups with serious emotional problems [54] and children of immigrants who had no other mother tongue [44].

At the end of the program, perceptions of the experimental group on the field 'Leisure–Autonomy' were better than those of the control group. The program might have helped perceptions of the experimental group about the opportunities which were provided to them to exploit their leisure time, an important element for the development of their personal identity and expression. Teachers who want their students to be interested in learning should be certain that they feel supported and that they have often opportunities to use social and emotional skills in ways that are meaningful for their life during their leisure time [55]. On the other hand, perceptions for psychological well-being were kept stable for both groups. This finding may be attributed to the high rates in the first measurement (approximately 27 for the experimental group and 25 for the control group when the highest score was 30).

In short, the health education program in this study assisted students to improve their perception as to: (i) physical well-being, (ii) family life, (iii) financial resources, (iv) friends, (v) school

environment, (vi) social acceptance and (vii) Leisure–Autonomy and to remain constant their perceptions about (viii) mood and feelings. On the other hand, children in the control group improved only perceptions for physical well-being, even though less than the experimental group, while their perceptions for family life, mood and feelings and social acceptance deteriorated significantly. Psychological well-being was kept stable for both groups while self-concept was improved for all the participants.

Therefore, this Program would be effective for teachers who want their children to be interested in learning only after ensuring that they feel supported and have frequent opportunities to use social and emotional skills in many ways, meaningful for their lives [55]. Besides, the newest trend in research for mental resiliency indicates that a positive class climate can achieve the above purpose [41].

The limitations of this study could be (i) teacher training started with a delay of a few months after the beginning of the school year and as a result only some of the units (four of six) of the Health education program were implemented, (ii) the parents' workshops which are also included in the Program were not applied, (iii) although children were post-tested, their re-test measurement was not possible due to the end of the school year and therefore their learning gains could not be estimated and (iv) data collection was quantitative and not qualitative.

Therefore, it is suggested that preparation for the program should begin even from the previous educational year since in actual settings there is not enough time for its completion round the year. Also, teachers should start their own training earlier (or even better the year before) so as to be able to apply all units throughout the year and re-test students' outcomes. This would mean better and complete results for children.

Apart from the above, a longitudinal study which could concern student education rather than training could be the subject of future research. It could also be examined whether it would be more efficient to involve parents who would form a united group as suggested by the literature. It is important that the principles of the program are spread throughout the

learning process and not in just a small part of it. Moreover, a combination of quantitative and qualitative research could provide a more thorough overview of the program value.

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### Conflict of interest statement

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None declared.

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## Appendix A

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### Schedule of the Health Education Program

- Week 1: Introduction, Creating a caring class
- Week 2: Working as a team
- Week 3: Making school a safe and caring place
- Week 4: **Unit A (I, an Individual person)**
  - 1. My uniqueness
- Week 5: 2. Reinforce my self-esteem
- Week 6: 3. Growing and changing
- Week 7: 4. People I love (1)

Week 8: 5. People I love (2).

Week 9: **Unit B (One of the many)**

1. Similarities and differences

Week 10: 2. Who is your friend?

Week 11: 3. I co-exist / make relationships

Week 12: 4. People who help me

Week 13: 5. I care about the others

Week 14: **Unit C (Feelings and emotions)**

1. Realizing and expressing feelings

Week 15: 2. Face strong feelings

Week 16: 3. Resolving arguments

Week 17: 4. Other people have feelings too

Week 18: 5. Loss and sorrow

Week 19: **Unit D (Caring for myself)**

1. I care about myself

Week 20: 2. What scares me?

Week 21: 3. When a secret is a secret

Week 22: 4. Safe people – safe places

Week 23: 5. Obtaining security- personal goals

### *Alternative activities*

- Children can prepare a catalogue of what they ‘can’, ‘can’t’ and ‘will’ of actions and hopes.
- The magic shell: every child says 3 positive remarks for himself/herself and gives the shell to the next one.
- The importance of reassurance: students sit in small circles. They write their name on the top of a paper and they pass it on to the next who has to write beneath it something good for him/her whose name is on top. One by one the paper will return to its owner who will be able to read it.
- Letters of reassurance: the teacher puts all names in a hat. Children take one by chance and write a letter of reassurance to this person.

### **Key words**

Ambition, reassurance, improvement of objectives, goal setting, aims, develop, positive, negative, creative.

### **Lesson plan**

#### *Introduction:*

Make a revision of the main ideas of the previous lesson. It would be great to point out that we all influence our fellow men by our words or actions.

#### *1<sup>st</sup> activity*

One by one child shows their treasures to the class and explains why it is important to them.

#### *2<sup>nd</sup> activity*

Teacher divides students by asking them to find someone with the same color of hair or eyes. Then ask them to write down all the things they can do, for example riding their bike, reading, running fast, and swimming. Each child chooses an activity and makes it a leaf for the tree of abilities and desires. Each pair talks about the things they cannot do yet but want to in the future (try to be realistic according to age). Children fill up the leaves of the ‘desire’ tree with the things they want to achieve. Exchange of opinions in class.

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## **Appendix B**

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### **Lesson plan 1:2 I, an individual person**

#### **Reinforce my self-esteem**

##### **Aim**

- To give children the opportunity to trust themselves by exploring new things they can do now or in the near future.
- To acknowledge their limits in a positive way and to set goals.
- To realize how they influence other people, by ameliorating others’ self-esteem.

##### **Material needed**

- Pencils, pens, paper
- A board or big papers
- A sketch of a big tree with branches
- Sketched leaves for the ‘can’ or ‘will’ actions
- Personal notebooks

##### **Lesson preparation**

- Ask children to bring a personal treasure to show and speak for in class during the lesson.

### *3<sup>rd</sup> activity*

In groups of four children choose a secretary and decide what are the words or actions of others that upset them. They announce them as a group and we write them down on board or a big piece of paper. Brain storming with all the ideas posted. We make as a class a catalogue of positive attitude for example praising, thanking, encouraging etc. Children choose a positive action and a person that needs it. They complete a personal plan of action for this occasion (on a special paper- contract).

### *Evaluation*

Exchange of opinions, sentiments, new thoughts in class. Children write down: two things that I learned today are . . . . or the part of the lesson I liked more was . . . .

### *Homework*

Children can write a short report on how their action plan of encouragement toward another 'friend' or class mate develops.  
Ask for support from their family.