

The evaluation of physical health of elderly participants or non-participants in a greek dances program

ARGIROS MAVROVOUNIOTIS¹, EIRINI ARGIRIADOU², FOTIOS MAVROVOUNIOTIS³, CHRYSI MAVROVOUNIOTI⁴, CONSTANTINOS MOUNTAKIS⁵, NIKITAS NIKITARAS⁶, ASTERIOS DELIGIANNIS⁷

¹Medical School, Aristotle University of Thessaloniki, GREECE

^{2,5}Department of Sport Management, University of Peloponnese, GREECE

^{3,7}Laboratory of Sports Medicine, School of Physical Education and Sport Sciences, Aristotle University of Thessaloniki, GREECE

⁴Laboratory of Hygiene and Sports Nutrition, School of Physical Education and Sport Sciences, Aristotle University of Thessaloniki, GREECE

⁶Faculty of Physical Education and Sport Science, National and Kapodistrian University of Athens, GREECE

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Abstract

The purpose of the present study was the evaluation of elderly people participants or non-participants in a Greek dances program. In the research participated voluntarily one hundred and twelve healthy people, women and men, 65-88 years old, members of Centers of Old People's Open Protection from the city of Thessaloniki. The subjects were separated in two groups, experimental and control, with criterion the participation or non-participation, respectively, in a program for learning and performing Greek dances at least for the last two years. For the evaluation of physical health, questions/items from a study of Ransford and Palisi (1996) were used. For data analysis were used descriptive analysis, as well as *Analysis of Variance* and *Multivariate Analysis of Variance* for between groups differences, from the *SPSS version 18 for windows*. From the results, it was proved that a significantly greater percentage of subjects of the experimental group, who attend a Greek dances program, determine their health as very good (32,7%), in comparison with the subjects of the control group who don't participate in any program (19,3%). In addition, a much bigger percentage of the experimental group determine their health as better and much better (92,7%) and a much smaller percentage as the same (7,3%) in comparison with that of age peers, than the subjects of the control group (71,0% και 28,1%, respectively). Moreover, as for physical activity level, a much bigger percentage of experimental group subjects consider themselves more or much more active (89,1%) than other people of the same age, in comparison with the subjects of the control group (49,1%). From the results, it was found that the subjects of the experimental group, who participate in a Greek dances program, consider their health better, as well as their health and their physical activity better in comparison with their age peers, than the subjects of the control group who don't participate in a Greek dances program. So, the value of Greek dances rises from the rank as a form of exercise, the participation in which may be extremely useful in enhancement of positive definitions of health. Consequently, Greek dances as a physical activity may be extremely useful for elderly people.

Key-Words: dance, physical activity, investment, perceived - subjective health

Introduction

Health state, that is the self-evaluation of health level contributes to the attempt of determination of health state of the population and is a useful tool in the research and in the design of health services (Eriksson et al., 2001). A person's perception in point of his/her health is not always identified with the health level he/she reports in a self-evaluation.

So, there could be a difference between the real health level as it is evaluated with a series of medical examinations, the perceived from a person health level and the self-evaluated health level. However, studies shown that the subjective health evaluation is related positively with its' objective evaluation from medical stuff (LaRue et al., 1979; Unden, & Elofsson, 2001). Thereupon, a person's health level, as it is determined via self-evaluation, presents a strong correlation with mortality, beyond and independently from risk factors that relate with a person's medical history and life model which he follows, in elderly as well as in young people (Heistaro et al., 2001; Idler, & Benyamini, 1997).

Nevertheless, people do not give the same meaning in "good health". So, in terms of sex, women relate more the bad health with the presence of painful symptoms and conditions (Heistaro et al., 2001), as well as

with the absence of social and psychological well-being, while men with the absence of physical abilities (Unden, & Elofsson, 2001). Moreover, women complain more often for bad health than men. Elderly women, especially, experience a lower life quality (Prager et al., 1999; Sweeting, 1995). However, the results of a National research that conducted from the Greek National School of Public Health in Greece in 2001 with the collaboration of the World Health Organization and used the same questions with the present study as for health state, didn't show significant differences between men and women relatively with how they evaluate their health (Greek National School of Public Health, 2001).

In addition, differences are observed between people of different educational level (Krause, & Jay, 1994). So, the higher educational level relates with better subjective evaluation of health level in both sexes (Greek National School of Public Health, 2001; Heistaro et al., 2001; Sweeting, 1995). Regarding the income, it appears that Greeks with higher incomes attribute better values at their health state. Then follow those with mediate incomes, while people with low incomes give the worst values (Greek National School of Public Health, 2001). In agreement, Heistaro et al. (2001) and Shibuya, Hashimoto and Yano (2002) found a rise of self-evaluated health level with an increase in the income. Socio-economic and psychological circumstances, as well as detrimental habits in a person's life are reflected in the way with which he/she evaluates his/her health level (Idler, & Kasl, 1991). From the other side, useful habits as exercise relate highly with health and well-being (Pikoula et al., 2007).

In addition, subjective definitions of health determined in part through social comparisons. So, people who exercise are likely to compare their behavior with people of certain groups, such as sex or age groups, and to determine their physical activity as more frequent and intense compared to the typical one for these groups (Mechanic, 1972). However, aerobic exercise in our society does not appear to be a part of the roles the elderly play. Thus, it appears that participants in exercise programs are young people, as it is shown from the average of age of participants in different aerobic exercises: bicycling= 29,9 years, aerobic dance= 27,6 years, swimming= 29,8 years. Just in the case of walking for fitness the average of age is bigger (42,7 years) (Fitness Products Council, 1994).

The last years, increasingly, exercise is suggested as a way for physical and psychological health improvement (Berger et al., 1998; Craft, 2005; Dimeo et al., 2001; International Society of Sport Psychology, 1992). However, the effects of dance, and more specifically the effects of Greek dances programs have not been studied yet sufficiently, especially with reference to elderly people's perceived health state. Thus, the purpose of the present study is to address this issue to elderly people's subjective physical health, by examining the evaluation of physical health of elderly participants or non-participants in a Greek dances program.

Method

Sample

From all the Centres of Old People's Open Protection (C.O.P.O.P.) in Thessaloniki city, seven were chosen randomly. From the lists of the members kept in each C.O.P.O.P., 140 members, 20 members from each C.O.P.O.P., that were fulfil the inclusion criteria, that is participating only in a group dancing program for learning and performing Greek dances to the C.O.P.O.P. or visiting the C.O.P.O.P. in order to discuss with other members, watch television and pass their time, were randomly chosen. In continuity, a communication/invitation to each chosen member, in regard to the research was made. After that, a total of a hundred and twelve (112) members were volunteered to participate in the research.

A written informed consent for the participation in the research was obtained from each subject. All the subjects, before the beginning of the research, underwent medical control so that it could be certified that they do not suffer from any cardiovascular or other disease and, also, that they do not take any medication. Additionally, they answered a questionnaire about any health problem, while a research assistant was present in order to give any essential clarifications if he was asked to. Eighteen subjects who were found to fulfil the exclusion criteria, that is health problems, or/and medication that could affect the results, or/and extra participation in exercise programs, were excluded from the research. Finally, a hundred and twelve (112) healthy members of the seven different C.O.P.O.P. (89 women and 23 men) participated in the research. Subjects' age ranged from 65 to 88 years ($M=67.47$, $SD=3.98$). The subjects were, then, separated to an experimental (group A) ($n=55$) and a control group (group B) ($n=57$), according to the following criteria: a) the subjects who had participated only in a group dancing program for learning and performing Greek dances to the C.O.P.O.P. and no other structured dancing or exercise program, constitute group A, b) the subjects who didn't participate in any structured program of dancing or exercise, but were visiting the C.O.P.O.P. in order to discuss with other members, watch television and pass their time, constitute group B. It should be noted that the subjects of the experimental group on the time of the research conductance were competed almost a 18 week participation in the Greek dances program.

Procedure

An approval for the conductance of the research was given from the committee of each C.O.P.O.P., after the aim and the treaties of the research were described. Procedures were in agreement with ethical standards of the Declaration of Helsinki of the World Medical Association (2000). All the subjects came to the C.O.P.O.P. where they were members, in scheduled afternoon hours. A description of general requirements was

given and, still, the aim of the research was described to the participants without any briefing relative to previous research findings. The instruments were also presented and the instructions were explained for each one of them. The need for absolute honesty and precision was particularly emphasized. All subjects completed the questionnaires once.

Scales of measurement

For the evaluation of physical health a question/item from a study of Ransford and Palisi (1996) was used, with the addition of adjective “very poor”. So, health was evaluated by the question: “Would you say your health is excellent, good, fair, poor or very poor?” Although there is no evaluation of reliability or validity for this measure, it is widely used in National surveys (Greek National School of Public Health, 2001).

Moreover an age comparison of the performed physical activity was done with a question/item from a study of Ransford and Palisi (1996), with the addition of adjective “the same active”. So age comparative activity was measured by the following question: “How would you compare your level of physical activity with other people your age? Would you say you are much less active, somewhat less active, the same active, somewhat more active or much more physically active?”

Except of the questions/items of Ranford and Palisi (1996) there was included an age comparison of health that was measured from the following question: “How would you compare your health with other people your age? Would you say your health is much better, better, the same, worse or much worse?” The questionnaires were translated in Greek following a standard procedure involving the discussion of multiple alternative wordings by a group of five bilingual experts.

Data Analysis

For the statistical analysis the statistic packet SPSS/PC Version 17.0 for windows was used. The non-parametric test Kolmogorov-Smirnov was used to evaluate the normal distribution of the sample. Moreover, descriptive analysis was used. Analysis of Variance (ANOVA) and Multivariate Analysis of Variance (MANOVA) were also used to evaluate significant differences between the groups. The level of significance was set to $p < 0.05$.

Results

In Table 1 the anthropomorphological characteristics of the subjects of both groups, experimental and control, are presented. Moreover, the years that the subjects of the experimental group participate in Greek dances programs are presented.

Table 1. Sample’s anthropomorphological characteristics

	Experimental Group	Control Group
Variables	N=55	N=57
Age (years)	65,95±2,04	68,95±4,79
Height (cm)	163,60±5,15	160,65±5,68
Weight (Kg)	74,47±7,39	74,21±9,94
Body Mass Index (BMI) (Kg/m ²)	27,89±3,20	28,78±3,79
Participation in Greek dances programs (years)	4,83±4,42	-

As it is shown in Table 1, the subjects of the experimental group participate in Greek dances programs for several years ($4,83 \pm 4,42$ years), 1-2 times a week, for 60 min. Below are presented the questions for health state of Ranford and Palisi (1996), as well as how the subjects of the experimental and control group answered as for the determination of perceived health state.

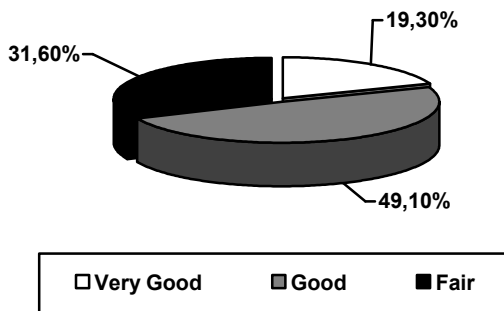


Figure 1. Health evaluation for Control Group.

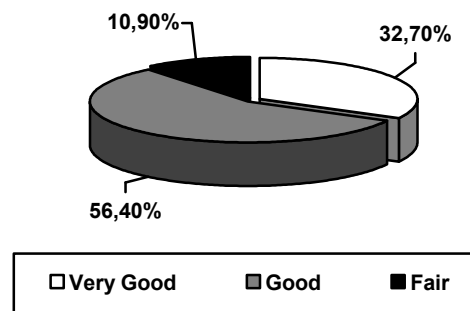


Figure 2. Health evaluation for Experimental Group.

From Figure 1 and 2, it is apparent that a greater percentage of subjects in the experimental group define their health as very good, compared with control subjects. Moreover, health state was compared among age peers.

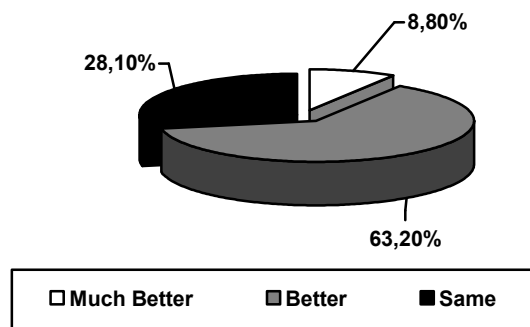


Figure 3. Health evaluation in comparison with age peers for Control Group

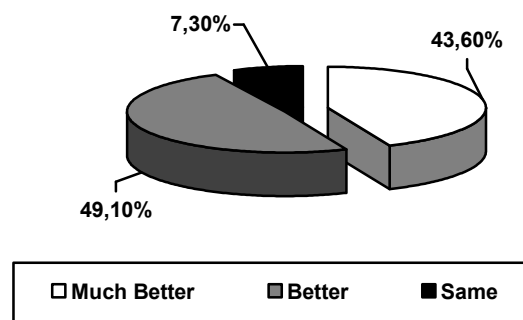


Figure 4. Health evaluation in comparison with age peers for Experimental Group

From Figure 3 and 4, it is apparent that a much bigger percentage of the subjects of the experimental group define their health as much better and a much smaller percentage as the same in comparison with the health of age peers, in regard with the control subjects. Moreover, physical activity was compared among age peers (Figure 5 and 6).

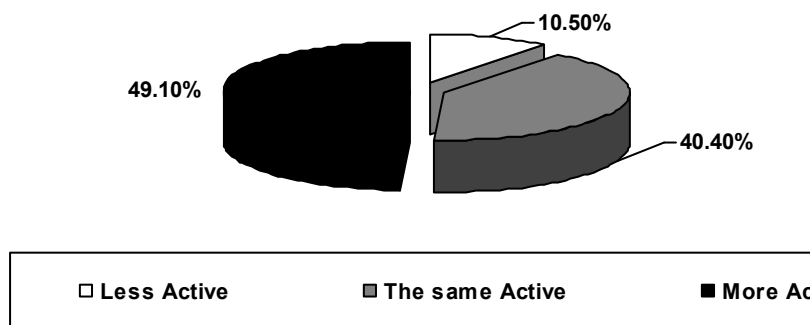


Figure 5. Physical activity evaluation in comparison with age peers for Control Group

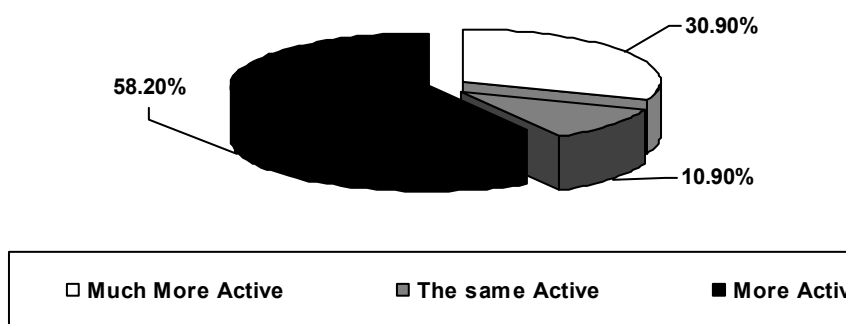


Figure 6. Physical activity evaluation in comparison with age peers for Experimental Group

From Figure 5 and 6, it is obvious that a much bigger percentage of the subjects of the experimental group evaluate their self as much more active and more active in comparison with the physical activity of age peers, than the subjects of the control group.

Subsequently, possible differences between groups, that is experimental and control group regarding health evaluation, were examined by MANOVA. The analyses in accordance with between groups test showed the

existence of differences. Following that, separate ANOVA were executed in order to test the significance of each of the dependent variable.

The possible differences between the two groups regarding the participation in dance programs and the non-participation in dance programs, that is between experimental and control in the three items/questions concerning health, health compared with age peers and physical activity level compared with age peers, were examined. MANOVA analysis showed that there is a statistically significant multivariate group effect on dependent variables (Pillai's trace = .227, $F_{3,229} = 22,42$, $p < .001$, partial eta squared = .23).

Further analyses ANOVA for each one of the dependent variables showed a significant group effect for all three variables: health ($F_{1,234} = 4,26$, $p < .05$, partial eta squared = .02), health in comparison with age peers ($F_{1,234} = 32,49$, $p < .001$, partial eta squared = .18) and level of activity in comparison with age peers ($F_{1,234} = 51,78$, $p < .05$, partial eta squared = .02). It can, therefore, be said that the attendance of Greek dances programs influences significantly the health self-evaluation. In Table 2 descriptive data from health evaluation are quoted.

Table 2. Data of health evaluation

Variables	Experimental Group (M±SD)		Control Group (M±SD)	
Health	4,22	,629	3,88 ^a	,709
Health in comparison with age peers	4,36	,620	3,81 ^a	,581
Activity in comparison with age peers	4,20	,621	3,39 ^a	,675

a: significantly different between groups, $p < .01$ - .001.

As it is shown in Table 2, the subjects of the experimental group, who participate in a Greek dances program, consider their health better, as well as their health and their physical activity better in comparison with their age peers, than the subjects of the control group who don't participate in a Greek dances program.

Discussion

From the results of the present study it was found out that people defined their health very positively. More specifically, 89,1% of subjects in experimental group who participate in Greek dances program determined their health as good and very good, compared to 68,4% of subjects in control group. However, it is worth to be mentioned that Greek evaluate their health level highly, since 70,2% self-evaluate their health as very good and good (Greek National School of Public Health, 2001). This finding agrees absolutely with a research conducted in European Union (Eurostat, 1997), where shown that the percentage of Greek who evaluate their health as very good and good approaches the 80%, while simultaneously confirms with the best way the objective health indices as they result from data of Organization of Economic Collaboration and Development.

Factors that could modulate a person's perceptions as for his/her health state are the expectations and the requirements relatively health level which differ from a person to a person, the person's identity and culture, cultural elements, the possession of specific knowledge and information, as well as general characteristics (Sadana et al., 2000).

In addition, participation in physical activity appears to be an important factor. Moreover, people who exercise are likely to compare their behavior with people of certain age groups, realize that they are more active than their peers (social comparison) and determine their physical activity as more frequent and intense compared to the typical one for these groups, have a sense of achievement and attainment, and determine their health in positive terms (Mechanic, 1972; Ransford, & Palisi, 1996). This reasoning is based on Homans' exchange theory (1974).

In agreement, the subjects of the experimental group who participate in the Greek dancing program consider their health better, and their physical activity better than their peers, compared with control subjects who did not participate in a program of Greek dances. From the results it was suggested, therefore, that group effect is important in health determination. This can probably be explained by the fact that positive determinations of health are perceived as gains resulting from exercise. If exercise was not profitable / beneficial individuals would seek alternatives. Individuals who spend or "invest" more from their sources or their energy in exercise expect that they will have more profits, that is better health, than those individuals who invest little in exercise or do not exercise at all. It is considered, indeed, that exercise is associated higher with positive health and well-being determinations, when the person is in a group in which exercise is considered to be less regulatory. This was evident in the present study, as well, as potentially people of experimental group expect a lot from an activity which consider profitable for them. In agreement, Pikoula et al. (2007) in their study showed that women who participate in Greek dances may feel the benefits to their health more strongly and may feel much better compared to their age peers who do not participate in dance program.

Besides, old people who participate in dancing programs feel more intense the profits in their health, physical and mental, define their health in positive terms and feel much better, concerning their age peers (Ransford, & Palisi, 1996). This happens, possibly, not only because older invest more in this activity, but because the involvement in dancing as a physical activity reduces their feelings of vulnerability to illness. Therefore, dancing as a physical activity may be especially beneficial to maintain and boost positive definitions of health (Mavrovouniotis et al., 2010; Papaioannou et al., 2005; Ransford, & Palisi, 1996). Moreover, it has been found out that the old people who participate in Greek dances programs have a better picture for their body limbs and functions, as well as bigger satisfaction than their age peers who do not participate in similar programs (Argiriadou, 2013).

Regarding age, young people evaluate their health mainly based on their physical fitness, middle aged people affected significantly by their psychological health, while elderly people give importance to the existence of chronic diseases (Jylha et al., 1986). In Greece, the younger age groups have a better view of the level of their health (Greek National School of Public Health, 2001). Thus, it can be said that the rise of age related negatively to self-evaluation of health state, as usually over the age the self-perceived health worsen (Fylkesnes, & Forde, 1991). Whereas in the present study the sample was elderly people, they determined their health state very positively. This probably is explained by the fact of the absence of significant disease, as the subjects were healthy.

It is worth to be mentioned that for older dancers the performed dance forms are considered beneficial for their physical health, in light of exercise, functionality, body weight and mobility. These physical benefits are often associated with psychological and social supplies (Paulson, 2009). Moreover, many elderly participants in a circular dance recognize the importance of exercise for health and disease prevention (Bird et al., 2009; Eyigor et al., 2009; Hui et al., 2009; Mavrovouniotis, & Argiriadou, 2008; Papaioannou et al., 2009/2010).

The dance, then, is not just a natural movement, but constitutes a conscious movement, based on emotion, enhanced and infused with the human element (Kitwood, 1997). Therefore, it appears that dancing is not simply and only the means of body-spirit reconnection. It is a kinetic activity that can, as the primitive, ritual dances, use brain properties in order to connect, via the conceiving rhythm, the internal and the external, that is the individual and the world, a fundamental element in psychotherapy (Schott-Billmann, 1997). Thus, the therapeutic function of dance is important, as it can be used as an antidote to the stress and anxiety of everyday life and the reinstatement of inner peace (Mazczuk, 1987). In addition, treatment through dance movements may be applied as a part of psychotherapy in isolated patients, such as people with mental health problems or post-traumatic stress syndrome, by psychodynamic, that is the emphasis on the role of the unconscious and emotion regarding the shaping of the response of people in their bodies, especially in relation with the movement (Payne, 2006). In agreement with the review and the results of the present research, it is confirmed that the participation in Greek dancing may cause health effects, as it is evaluated by the participants. This contribution of Greek dances in physical health state is extremely important, as health state refers to the determination of the health level of individuals of a population (Eriksson et al., 2001) and is correlated positively with its' objective evaluation by medical stuff (LaRue et al., 1979; Uden, & Elofsson, 2001).

In conclusion, Greek dances programs could lead to a positive and high self-evaluation of old people's health state. So, the value of Greek dances, as a form of exercise, rises from the rank, the participation in which may be extremely useful in enhancement of positive health definitions especially for elderly people. Consequently, Greek dances, as a form of physical activity should constitute a part of exercise programs that aim to the improvement of elderly people's perceived health state.

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