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### **Abstract**

The study examined the views of 76 elderly women, from different geographic areas in Greece. The participants were living in either urban (46.1%) or suburban/rural (53.9%) areas. Data was obtained through a survey questionnaire which included demographic questions at the beginning followed by a section regarding the quantity as well as the quality of the programs undertaken by the participants. In addition, the participants indicated the reasons for participation into the «Sports for All» programs. The most important reasons for the elderly women to participate were to have a good time, improve their mood, health and physical conditioning. Elderly women were satisfied with the content and the organization of the programs. Despite however their ongoing participation and satisfaction from the programs, they appeared unhappy with the equipment used. Further, urban participants differed in attendance, satisfaction and reasons of participation compared to their suburban/rural counterparts. «Sports for All» programs for elderly people in Greece require constant assessment and feedback from the participants, in order to be designed and organized more efficiently.

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**Key Words:** *older adults, women, physical activity, fitness for all.*

The physiological and psychological benefits from participation in various physical activity programs, of elderly adults, are well documented in the literature (Kasch, Boyer, Van Camp, Verity & Wallace, 1990; Zhang, Feldblum, & Fortney, 1992). These benefits incorporate improvement of e.g. aerobic power, muscle strength, muscle mass, bone density, etc. (Kasch, Boyer, Van Camp, Verity & Wallace, 1990; Zhang, Feldblum, & Fortney, 1992). Further, older adults who receive physical activity have better balance and agility, reduced risk of falling (U.S. Department of Health and Human Services, 2000 a. p. 27), lower levels of blood pressure, and lower incidence of stroke, diabetes and obesity (Elward & Larson, 1992; Balde, Figueras, Hawlins, Miller, 2003).

Psychological benefits from exercise are also important. Elderly people exhibit higher levels of self esteem (Hopkins, Murrah, Hoeger, & Rhodes, 1990), increased mood (Emery & Blumenthal, 1990), independence, social skills, etc., through participation in organized physical activities (Schutzer, & Graves, 2004). Further, participation in organized physical activity programs is more effective through social interaction and peer support (Deforche & Bourdeaudhuij, 2000). It is believed that these programs can motivate the participants adopting exercise as a way of living. Unsupervised programs, on the other hand, have been less effective in motivating the elderly to participate in physical activity (Glasgow & Rosen, 1978).

Further, researchers have indicated that the extent of participation in physical activity is not necessarily decreased with age (Krems, Lührmann & Neuhäuser-Berthold, 2004). Vaughan, Zurlo and Ravussin, (1991) stated that there are no differences in the involvement of young and elderly men in exercise activities. This fact may be explained by the different activity patterns. For example, young men have a tendency towards sports while older men prefer walking or gardening and older women spend more time in active housework and gardening (Krems et al., 2004). Further, high intensity exercise is not popular among elderly people (Schutzer, & Graves, 2004). Specifically, activities with an increased heart rate, such as 30 minutes of power walking, concern only 10% of the elders (Kushi, Fee, & Folsom, 1997; Schutzer, & Graves, 2004). Fear of injury and reduced information from the physicians may explain the above fact (Dergance, et al., 2003; Schutzer, & Graves, 2004).

The participation of elderly individuals from different countries has been examined too. Specifically, Deforche and Bourdeaudhuij (2000) found that older people in Belgium who participate in organized activities, overcome barriers, such fear of injury, and create a higher level of perceived self efficacy, compared to those who exercise on an individual basis. Hui and Morrow (2001), on the other hand, found that Chinese adults, from Hong Kong, consider physical activity as a less important factor for contributing to their mental

health. Additionally, Schutzer and Graves (2004) indicated that physical environment is an important factor for the exercise habits of elderly individuals in the USA. Resources like parks, sidewalks, recreation centers and fitness facilities enhance their participation to physical activity programs. Schutzer and Graves (2004) concluded that Americans were not aware of the relationship between exercise and disease prevention.

In Greece, elderly individuals have the opportunity to participate in the organized «Sports for All» programs, which are funded by the ministry of culture and the local authorities. The above programs have only recently been evaluated (Koutsouki, Kalyvas & Skordilis, 2003; Koutsouki et al., 2003) and the views of the elderly participants have never been recorded (Chrysagis, Skordilis & Koutsouki, 2006). Based on the above facts, the present study was designed to assess the views of elderly women, from participation into the «Sports for All» programs, in Greece. Further, different views were examined across residence.

## Method

Faculty members and graduate students, from the Laboratory of Adapted Physical Activity/Developmental and Physical Disabilities, in the National and Kapodistrian University of Athens, Greece, constituted the research team.

## Measuring Instrument

A survey questionnaire was developed, from the research team, for the purposes of the present study. An exploratory factor analysis was conducted with the items describing the reason for participation into the «Sports for All» programs of Greek Elderly women. Two factors emerged, with eigen values above 1 and 52.682% total percentage of explained variability. Factor 1 summarized items relevant to the participation to improve mood, appearance, having good time, losing weight, improve health being with others and taking advantage of free time. Factor loadings ranged from .454 (improve physical conditioning) to .789 (to be with other people). Factor 2 grouped together only two items, both relevant to participation to improve athletic skills, with factor loadings of .776 and .997 respectively. Finally, Cronbach Alpha reliability coefficients, for Factors 1 and 2, were .811 and .773 respectively. The above results may be found in *Table 1*.

**Table 1.** *Results from Exploratory Factor Analysis.*

Items	F <sub>1</sub>	F <sub>2</sub>
Participation to:		
F <sub>1</sub>		
Improve mood	.759	
Improve appearance	.485	
Have a good time	.776	
Lose some weight	.617	
Improve physical condition	.454	
Improve health	.567	
Be with other people	.789	
Take advantage free time	.710	
F <sub>2</sub>		
Improve athletic skill 1		.997
Improve athletic skill 2		.776

\* F<sub>1</sub>: eigen value = 3.516, 35.165% of explained variability, alpha reliability: .811

\* F<sub>2</sub>: eigen value = 1,752, 17,517% of explained variability, alpha reliability: .773

The questionnaire incorporated: a) a demographic section and b) a section regarding the quantity as well as the quality of the programs undertaken by elderly women. Examples of statements, were the participants presented the extent of their agreement, were: «I participate into the “Sports for All” programs to improve my physical conditioning’, and “To what extent does the quantity of the equipment used cover the needs of the “Sports for All” program you presently participate?», from 1: Not at all, to 5: Very much.

## Participants

A total of 76 elderly Greek women from different geographic areas were examined, representing 12.1% of the total number of participants in the «Sports for All» programs. The participants were living in either urban (46.1%) or suburban/rural (53.9%) areas. Urban areas were perceived as those with a population limit of at least 500.000 citizens, while suburban/rural areas were perceived as those with a population of less than 300.000 citizens (Chrysagis, Skordilis & Koutsouki, 2006). Further, participants were mainly elementary

school (48%) and senior/junior high school graduates (44%), with monthly income of 600 euro and below (81.4%) and with a mean age of 64.14 years old (SD = 6.29). The demographic characteristics and the responses of the present sample may be found in the following *Table*.

**Table 2.** *Demographic Characteristic.*

<b>Variable</b>	<b>Mean</b>	<b>S.D.</b>	<b>N</b>
<i>Age</i>	64.14	6.29	71
Urban	63.42	7.97	31
Suburban/rural	64.70	4.63	40
<i>Residence</i>			71
Urban			31
Suburban/rural			40
<i>Education</i>			75
Elementary school			36
High school			33
Baccalaurea			01
University/College			05
<i>Income</i>			70
0-600 euro			57
601-1500 euro			12
1500 euro and above			01
<b>Program characteristics:</b>			
<b>Years of Participation</b>	4.38	4.22	64
Urban	5.80	4.96	25
Suburban/rural	3.46	3.44	39
<b>Quantity of equipment</b>	2.44	1.15	75
Urban	2.40	1.29	35
Suburban/rural	2.48	1.04	40
<b>Quantity of equipment</b>	2.47	1.21	76
Urban	2.54	1.29	35
Suburban/rural	2.41	1.14	41
<b>Participants in each class</b>	15.96	.07	73
Urban	22.40	3.57	35
Suburban/rural	14.97	4.06	38

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<b>Variable</b>	<b>Mean</b>	<b>S.D.</b>	<b>N</b>
<b>Participation (hrs/week)</b>	2.82	.48	74
Urban	2.91	.51	34
Suburban/rural	2.75	.44	40
<b>Participation to:</b>			
<b>a) Improve mood</b>	4.33	.97	66
Urban	4.68	.56	25
Suburban/rural	4.12	1.10	41
<b>b) Improve appearance</b>	3.71	1.18	75
Urban	4.34	0.80	35
Suburban/rural	3.15	1.19	40
<b>c) Have a good time</b>	4.41	.95	74
Urban	4.60	.77	35
Suburban/rural	4.23	1.06	39
<b>d) Lose weight</b>	3.99	1.10	74
Urban	4.26	.98	35
Suburban/rural	3.74	1.16	39
<b>e) Improve physical cond</b>	4.03	1.16	72
Urban	3.89	1.30	35
Suburban/rural	4.16	1.01	37
<b>f) Improve health</b>	4.29	1.13	72
Urban	4.00	1.31	35
Suburban/rural	4.57	.87	37
<b>g) Be with others (social)</b>	4.30	.99	74
Urban	4.53	.83	34
Suburban/rural	4.10	1.08	40
<b>h) Advantage of free time</b>	3.97	1.37	72
Urban	3.66	1.49	35
Suburban/rural	4.27	1.19	37
<b>i) Improve athletic skills</b>	3.16	1.64	70
Urban	2.69	1.75	35
Suburban/rural	2.89	1.49	35
<b>Happy with the:</b>			
<b>j) content of program</b>	4.74	.44	65
Urban	4.64	.49	25
Suburban/rural	4.80	.41	40
<b>k) organization of program</b>	4.13	.83	75
Urban	4.34	.68	35
Suburban/rural	3.95	.90	40

## Statistical Analysis

The responses of elderly women were analyzed through the Statistical Package for the Social Sciences (SPSS) (Norusis, 1993). Specifically, multivariate analysis (MANOVA and discriminant function) was used to compare the responses of elderly Greek women who differed according to residence (urban and suburban/rural areas). Finally, alpha was set at the .05 level to assess significance (Tabachnick & Fidell, 2001).

## Results

The views of elderly Greek women from participation into the «Sports» for All» programs, were initially examined. The participants indicated mean participation of 4.38 years (SD = 4.22), with an average of 16 participants in each class (M = 15.96, SD = 7.00), and with almost 3 hours/meetings per week (M = 2.82, SD = 0.48). Further, they considered that the quantity (M = 2.44, SD = 1.15) and quality (M = 2.47, SD = 1.21) of the equipment used did not adequately cover the respective needs of the programs they were involved.

Accordingly, the participants indicated the reasons for participation into the «Sports for All» programs. The most important reasons were to have a good time (M = 4.41, SD = 0.95), improve their mood (M = 4.33, SD = 0.97), health (M = 4.29, SD = 1.13) and physical conditioning (M = 4.03, SD = 1.16), while the least important reason was to improve their athletic skills (M = 2.54, SD = 1.56). Overall, elderly women were satisfied with the content (M = 4.74, SD = 0.44) and the organization of the programs (M = 4.13 SD = 0.83).

Further, we examined the responses of elderly Greek women who differed according to residence (urban and suburban/rural areas). Multivariate analysis (MANOVA) revealed significant differences for the variables examining the program's characteristics (Wilks' Lambda = .501, p = .000). Discriminant function analysis as a post hoc method was employed afterwards to examine the variables that significantly separated the participants living in urban or suburban/rural areas. The results revealed that the number of participants in each class significantly separated the two groups. Specifically, significantly higher number of elderly participants were involved in the «Sports for All» programs in urban (M = 22.40) areas, compared to suburban/rural areas (M = 14.97). The canonical correlation coefficient was .696, indicating that 48.44% of the explained variability was explained by group differences. The respective regression equation was:  $Y = -4.700 + .261 \cdot X_{\text{part}}$ , leading to a 78.1% of participants correctly classified.

Concerning the reasons for participation, the MANOVA revealed significant differences between the two groups (Wilks' Lambda = .544,  $p = .001$ ). The discriminant function revealed that the groups differed in their tendency to improve appearance. Specifically, the elderly urban participants ( $M = 4.38$ ) participated more than their suburban/rural counterparts ( $M = 3.31$ ) in order to improve their appearance. The canonical correlation coefficient (.508) indicated that 25.81% of the variability was explained by group differences. The respective regression equation was:  $Y = -4.151 + 1.102 * X_{\text{impapp}}$ , leading to a 72.0% of participants correctly classified.

Finally, concerning happiness from the content and organization of the programs, our multivariate findings revealed significant differences between the two groups of urban and suburban/rural residents (Wilks' Lambda = .859,  $p = .010$ ). According to discriminant function, both variables significantly separated the participants, according to residence. Specifically, elderly suburban/rural residents were more satisfied with the content of the program ( $M = 4.82$ ) compared to urban residents ( $M = 4.64$ ), while the urban group was more satisfied with the organization of the programs ( $M = 4.36$ ) compared to their suburban/rural counterparts ( $M = 3.92$ ). The canonical correlation coefficient was .375, indicating the 14.05% of the total variability was explained from group differences. The regression equation ( $Y = 4.681 - 1.913 * X_{\text{cont}} + 1.077 * X_{\text{org}}$ ) lead to a 64.1% of correct classification.

## Discussion

Elderly Greek women attended the «Sports for All» programs consistently, almost 3 times per week, for a variety of reasons. Despite however their ongoing participation and satisfaction with their respective content and organization, they appeared not happy with the equipment used. Further, the reasons for participation varied to a wide extend. Specifically, most elderly women participated to improve their mood and health, have a good time, be with other people and take advantage of their free time. It appeared, therefore, that these women, mainly with lower incomes (80.28% with an income of 0-600 euro) and education status (50.71% with an elementary school degree), were searching for social outlets and investment of their free time throughout these programs.

Consistent differences across residence were further found. Specifically, more urban citizens were present in each class compared to the suburban/rural group. Concerning reasons for participation, the urban group participated more to improve their appearance compared to their suburban/rural counterparts. Finally, the urban group was happier with the organization, while the suburban/rural group was happier with the content of the programs they were attending.



The present findings are in agreement with Chrysagis et al. (2006), who found that adult Greek females were: a) satisfied with the content and the organization of the program, but b) not satisfied with the equipment used. Further, Anastasiadis et al. (2003) found that 50% of the participants in the «Sports for All» programs, in a sample of urban Greeks, perceived that the equipment used was not appropriate.

Further, our findings suggest that urban elders participate to a wider extent in the «Sports for All» programs, compared to their suburban/rural counterparts. The above is in agreement with Chrysagis et al. (2006), who examined the views of Greek adult females towards the «Sports for All» programs. The researchers supported that urban women participated more hours/week compared to their suburban/rural counterparts.

Elderly women participate into the «Sports for All programs» to have a good time, improve their mood, health and physical conditioning. These findings are in agreement with Emery & Blumenthal (1990), who stated that exercise improves mood, sleep and self esteem of the elderly people. Additionally Chrysagis et al. (2006), and Stavrou and Kakkos (2002), found that the major reason for participation of women were to improve their health and mood, while Zervas (1999) stated that physical activity is an important factor for peoples psychological health.

The present findings are in conflict with Hui and Morrow (2001), who found that older Chinese adults consider exercise as the least important factor contributing to their health. Similarly, Schutzer and Graves (2004) stated that Americans are not aware of the benefits of exercise to disease prevention. The researchers supported that that lack of knowledge of the relationship between exercise and health acts as an important barrier for participation to organized physical activity programs.

Limitations in the present study are considered necessary to report. The participation of a limited number of elderly women (N = 76), constitutes the main limitation, and present findings can not be generalized without caution. Additionally, elderly males were not tested, leaving the area open for future research. Researchers, therefore, may need to examine the views of a larger sample of participants, including both males and females, from different geographic areas, socioeconomic status, etc. Additionally, ethnicity may appear as an important factor for the examination of the psychological and physiological benefits from participation into the «Sports for All» programs, of elderly individuals.

Based on the above findings, local authorities, in accordance with the ministry of culture, all responsible for the funding and designing of the «Sports for All» programs for elderly people in Greece, should provide the necessary equipment for their successful implementation. Further, these programs possibly require constant readjustment, in order to cover the needs and interests of the participants, according to their respective residence. To that extend, it

is essential to provide the opportunity for elderly women to invest meaningfully their free time, socialize with friends and overall, enhance their mood and health.

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