



## Factors Associated with Physical Activity among Macedonian Adolescents in Albanian Ethnic Community

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### Abstract

**Background:** The purpose of this study was to determine the relationship of demographic, psychological, social and environmental factors with physical activity and to determine whether indicators of physical activity differ by gender among Macedonian adolescents from Albanian ethnic community from 11 to 14 yr (N = 886).

**Methods:** Research were conducted in 2014 in several primary schools randomly selected from Tetovo and Gostivar region of the R. Macedonia. Students completed a questionnaire which examined their level of participation in physical activity and sedentary behavior along with a number of potential correlates. Hierarchical regression was used to explore the relationship between hypothesised factors and physical activity.

**Results:** The boys unlike the girls showed significantly higher levels of physical activity ( $P=0.001$ ). Respondents of both genders who perceive greater benefits from the physical activity ( $P=0.010$ ). They have more confidence in their abilities ( $P=0.001$ ), enjoy more in the physical activities ( $P=0.016$ ), perceive greater social support from friends ( $P=0.008$ ) and parents ( $P=0.001$ ) and have higher levels of physical activity.

**Conclusions:** The results indicate the importance of developing a national plan and program to promote physical activity in order to help young people to change unhealthy lifestyle habits and increase the physical activity, thus improving their health.

**Keyword:** Adolescent, Physical activity, Sedentary, Barriers, Self-efficacy, Social support

### Introduction

The influence of the physical activity on human health has been proven in a great number of previous researches, but unfortunately there is still a large part of the population that is not sufficiently physically active (1). Diseases whose cause is hypokinesia represent a big problem of modern medicine. The sport, recreational physical activities are indispensable tool in compensation of lack of movement. For these reasons, many developed countries have created an extensive national strategy to promote physical activity among their citizens, which is a priority in the attempt to influence the reducing of enormous costs in health care in the long run.

In adolescents, the health benefit from the physical activity includes: healthy growth and development of the bones, muscle and cardio-respiratory system, maintenance of the energy balance, avoidance of risk factors for cardiovascular disease, opportunities for social interaction and positive mental well-being, including higher self-esteem, lower anxiety, and lower stress (2, 3).

Given the fact that the physical activity declines by growing, the adolescence is a critical period for intervention. If, in early adolescence, there are habits for engaging in physical activity, the adolescents are more likely to be physically active in the adulthood (4). Physical activity is a complex beha-

behavior influenced by several internal and external factors, such as socio-cultural, psychological-cognitive and the physical and social environment surrounding the individual. The explanation on how the factors influence the behavioral change is crucial in developing intervention strategies and educational programs that will contribute to increasing the levels of physical activity in young people (5). Current guidelines recommend that all young people should participate in physical activity of at least moderate intensity for one hour per day.

The results from the researchers conducted so far show that: the self-efficacy (confidence in own ability to perform specific behavior in certain situations), increasing the level of the perceived benefits towards physical activity, reducing the perceived barriers, increasing the social support from the closest ones (parents and peers), enjoyment in physical activity and access to the equipment and objects are factors associated with physical activity in adolescence (5, 6).

In the Republic of Macedonia there are no many studies investigated the factors influencing the physical activity in adolescents from Macedonian nationality (7), and the researches realized on Macedonian adolescents from Albanian ethnic community (8), who have their own social-cultural, religious and other specifics, are even fewer.

On the other hand, in the world, a lot of researches have been realized on this topic in many countries (different geographical areas), but the question is if the results obtained from these researches can be also generalized for the population of the Macedonian adolescents (9). Because of everything stated above, this research has been realized in order to (a) determine the relationship of demographic, psychological, social and environmental factors with physical activity, (b) determine whether indicators of physical activity differ by gender (c) and to make recommendations for interventions for the purpose of promoting active and healthy lifestyle in this group of population.

Our aim was to determine the relationship of demographic, psychological, social and environmental factors with physical activity and to determine

whether indicators of physical activity differ by gender among Macedonian adolescents from Albanian ethnic community from 11 to 14 yr (N = 886).

## Methods

### *Participants – Subjects*

The research was realized on a sample of 886 Macedonian adolescents from Albanian ethnic community at the age from 11 to 14 yr. The sample was divided into two subsamples according to gender out of whom 427 (49.2%) male respondents and 441 (50.8%) female respondents. The average age of the respondents from both gender was  $12.1 \pm 0.93$  yr. The sample included students whose parents had given consent for their son/daughter to participate in the research, and who were psychologically and physically healthy and who regularly attended classes of physical and health education.

The respondents were treated in accordance with the Helsinki Declaration. Measurements were conducted in Mar, Apr and May 2014, in standard school conditions at regular classes of physical and health education.

### *Measures*

A questionnaire was used to identify (i) demographic factors (ii) the physical activity, (iii) the sedentary behavior and (vi) the factors associated with physical activity.

**Demographic factors:** A ten-item investigator-developed questionnaire was used to collect demographic data. The following demographic data and participant characteristics were collected to describe the study sample: age, sex, number of family members, education of the father, education of the mother, age of the father, age of the mother, monthly income, whether the father is dealing with sport, whether the mother is dealing with sport.

**Physical activity:** the physical activity is assessed by using the instrument Physical Activity Questionnaire (Elementary School), which is construed by Kowalski and Crocker (10). It has been translated into Macedonian and Albanian and proof-

read by professionals and adapted for the purposes of this research. In many previous researches it has been determined that the reliability of the Physical Activity Questionnaire instrument (Elementary School) is high, ranging from .80 to .89. The validity of the instrument was determined in comparison with the accelerometer (CSS), which the respondents wore seven days and it was satisfactory ( $r = .39$  to  $.46$ ).

**Sedentary behaviors:** sedentary habits are assessed with a scale that is part of the HBSC study (11). The respondents were asked to answer a question, how long they spend in sedentary activity such as: watching TV (including watching video or DVDs), computer work (playing computer games, chatting or surfing on the internet). The questions firstly refer to the working days (Monday – Friday), and then to the non-working days. The respondent answers to each item fixed at three degree scale, ranked 1 h, 2-3 h, 4 h and more.

**Perceived Benefits.** Perceived benefits are assessed by means of a 9-item scale, stating the reasons why some people are physically active. It is of the Likert type of 5 degrees, ranked from 1 (completely disagree) to 5 (totally agree). The result is obtained as an average value of the responds to all items (12).

**Perceived Barriers.** Perceived barriers are assessed by means of a 9-item scale, stating the reasons why some people are not physically active. It is of the Likert type of 5 degrees, ranked from 1 (never) to 5 (very often). The result is obtained as an average value of the responds to all items (12).

**Exercise Self-Efficacy.** Perceived exercise self-efficacy was assessed using the Children's Physical Activity Self-Efficacy Survey, an 8-item scale developed by Garcia et al. (13). Responses ranged from 'very true' to 'not at all true' and a mean score, ranging from 1–5, was computed by averaging responses to the eight items.

**Perceived Sports Competence.** Perceived Sports Competence was assessed using the Physical Ability subscale of the Self-Description Questionnaire (14). This scale consists of eight items measuring subjective assessments of athletic competence. Responses ranged from 'very true' to 'not

at all true' and a mean score, ranging from 1–7, was computed by averaging responses to the eight items.

**Body Image.** Body Image was assessed using a single item from the HBSC study (11). The question was like "Do you think your body is..."

**Parental Support.** Levels of paternal and maternal support for being active were measured using an adapted version of a scale from the Amherst Health and Activity Study (15). Five items assessed different aspects of parental support including encouragement, participation in joint activities, provision of transport, observation and praise. A mean score, ranging from 1-5, was computed by averaging responses to the five items (12).

**Peer Support.** Peer support for being active was measured using an abridged version of the parental support scales. Two items assessed how often friends provided encouragement to be active and how often they took part in joint activities. A mean score, ranging from 1-5, was computed by averaging responses to the two items (12).

**Physical Activity Enjoyment.** The question of "How much do you enjoy doing physical activity?" was asked, as well as asking respondents about their enjoyment of activity. (12).

**Neighborhood environment:** Perceptions of the local neighborhood were assessed using a question from the HBSC study (11). Pupils were asked which of the following were present in the area where they live. A mean neighborhood perceptions score (range 1-3) was computed based on responses to the four items. The mean score was then categorized into three groups: positive, average and negative perceptions.

**Neighborhood safety:** Two items, adapted from the Amherst Health and Activity Study Student Survey (12), were used to measure perceived neighborhood safety in relation to physical activity (walking or cycling). A mean neighborhood safety score (range 1-5) was computed based on responses to the two items. Item 2 was reverse-coded.

**Availability of local facilities:** Pupils were asked which of the following facilities they have in the area where they live: sports center, playing field,

park, swimming pool, basketball courts or hoops, tennis courts. A total availability score (range 0-6) was computed based on the number of ‘yes’ responses (12).

**Access to local facilities:** Pupils were asked how easy it is for them to get to the following facilities: sports center, playing field, park, swimming pool, basketball courts or hoops, tennis courts. A total access score (range 0-6) was computed based on the number of ‘very easy’ or ‘quite easy’ responses (12).

### Statistical Analysis

The data were processed using the statistical package SPSS for Windows Version 20.0. The normality of distribution of public variables is tested with the Kolmogorov-Smirnov method and log transformations were made when possible. The variables that satisfy the criteria of normality were analyzed by using parametric statistical procedures, while the variables that do not meet the criteria of normality are analyzed by using statistical procedures if nonparametric statistical procedures. Independent samples t-tests and Mann-Whitney U tests were used to compare differences in PA for gender. Comparison of means used a two-tailed hypothesis with the alpha levels set at  $P < .05$ . Spearman’s *Rho* correlation was used to analyses the relationship between PA and potential correlates. Factors associated with PA were entered into hierarchical regression models.

## Results

The demographics of the study sample are presented in Table 1. The mean age of students was

12.1 ± 0.93 yr with 49.2% of the sample male and 50.8% female. Scale items and Cronbach’s alpha are presented in Table 2. On the basis of the obtained results, but taking into account the results of the previous researches applied the same scales of population at the same age, it can be concluded that the scales have satisfactory reliability (internal consistent) and can be applied in practice and scientific researches.

In order to determine whether there are differences in physical activity, the sedentary habits, psychosocial factors, the quality and safety of the neighborhood, number, vicinity and access to sports facilities among male and female respondents, the Mann-Whitney U test is applied.

**Table 1:** Characteristics of the sample

Variable	Frequency (%)	
Mean age (yr)	12.01	(SD=0.93)
Male	427	(49.2)
Female	441	(50.8)
<b>School grade (Father)</b>		
Education		
Elementary	337	(38.7)
High	295	(34.0)
Higher	236	(27.2)
<b>School grade (Mother)</b>		
Education		
Elementary	490	(56.6)
High	190	(21.7)
Higher	188	(21.7)

**Table 2:** Internal consistency reliability of physical activity questionnaire, psychological and social variables

Name of scale	Items	Male*	Female*	All*
Physical Activity Questionnaire	9	0.806	0.814	0.812
Perceived benefits of physical activity	9	0.827	0.821	0.823
Perceived barriers to physical activity	9	0.757	0.742	0.752
Perceived physical competence	8	0.802	0.814	0.808
Exercise self-efficacy	8	0.813	0.760	0.791
Parents support	5	0.764	0.745	0.756

\* Cronbach’s alpha

From the review of Table 3 which shows the results of applied analysis it can be seen that between male students and female gender statistically significant differences were determined in the variables: Physical activity ( $P=0.001$ ), Television viewing - weekends ( $P=0.001$ ), Computer use - Weekday ( $P=0.001$ ), Computer use - weekends ( $P=0.011$ ), Homework ( $P=0.001$ ), Perceived barriers to physical activity ( $P=0.001$ ), Parents support ( $P=0.015$ ), Peer support ( $P=0.032$ ), How many of your friends are physically active ( $P=0.002$ ), Exercise self-efficacy ( $P=0.001$ ), Perceived physical competence ( $P=0.005$ ), Neighborhood environment ( $P=0.005$ ). Table 4 shows coefficients of correlation between physical activity and demographic, social, psychological variables, variables for assessment of the physical environment and sedentary habits among respondents of both genders. From review of the table it can be seen that in the respondents of both genders there is low statistically significant positive correlation (ranging from .12 to .28) determined between physical activity and demographic variables education of the father's education, the mother's education, monthly income of

the family, whether the father is dealing with sport, whether the mother is dealing with sport. Moderate positive statistically significant correlation (ranging from .27 to .38) has been determined between physical activity and variable perceived benefits towards physical activity, enjoyment in physical activity, enjoyment in the physical education class, perceived self-efficacy, confidence in their abilities, social support from parents, social support from peers, and the number of friends who exercise in respondents of both genders. In respondents of both sexes statistically significant correlation has not been established in variable perceived barriers, body image, the number of family members, age of parents, the variables for assessing the safety of the neighborhood, the number, the vicinity and access to sports facilities and sedentary habits (watching TV, computer work, studying).

In order to determine how the demographic, psychological and social factors, variables for assessment of the physical environment influent multivariate, the hierarchical regressive analysis has been applied.

**Table 3:** Means and standard deviations for study variables grouped by gender and Mann-Whitney U tests

Variable	Males		Females		P
	Mean	SD	Mean	SD	
Physical activity	2.95	0.67	2.75	0.65	0.000
Television viewing (Weekdays)	1.56	0.63	1.61	0.65	0.273
Television viewing (Weekends)	1.75	0.69	1.92	0.70	0.001
Computer use (Weekdays)	1.68	0.71	1.51	0.65	0.000
Computer use (Weekends)	1.92	0.70	1.80	0.71	0.011
Homework	2.03	0.68	2.38	0.64	0.000
Perceived benefits of physical activity	4.17	0.65	4.19	0.63	0.852
Perceived barriers to physical activity	2.56	0.75	2.39	0.70	0.000
Enjoyment of physical activity	4.66	0.66	4.66	0.63	0.682
Enjoyment of physical education at school	4.50	0.75	4.47	0.73	0.304
Parents support	3.36	1.00	3.19	0.96	0.015
Peer support	3.80	1.02	3.65	1.04	0.032
How many of your friends are physically active	3.42	1.50	3.08	1.59	0.002
Exercise self-efficacy	2.78	0.87	2.98	0.79	0.001
Perceived physical competence	5.04	1.60	4.74	1.53	0.005
Body image	3.26	0.87	3.13	0.85	0.065
Neighborhood environment	1.65	0.54	1.54	0.48	0.005
Neighborhood safety	3.67	0.62	3.70	0.57	0.960
Availability of local facilities	1.06	0.90	1.00	0.77	0.648



Access to local facilities	3.03	0.83	2.90	0.81	0.064
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**Table 4:** Correlations between physical activity and various factors using Spearman’s Rho

Variable	Male	Female
Number of Family Members	-0.018	0.031
Education of the father	0.119*	0.127**
Education of the mother	0.112*	0.131**
Age of the father	-0.042	0.039
Age of the mother	-0.079	0.049
Monthly income	0.154*	0.151*
Whether the father is dealing with sport	0.239**	0.243**
Whether the mother is dealing with sport	0.199**	0.282**
Perceived benefits of physical activity	0.274**	0.317**
Perceived barriers to physical activity	0.027	-0.109*
Enjoyment of physical activity	0.313**	0.351**
Enjoyment of physical education at school	0.339**	0.285**
Exercise self-efficacy	0.165**	0.199**
Perceived physical competence	0.331**	0.261**
Body image	0.041	0.084
Parents support	0.362**	0.378**
Peer support	0.332**	0.365**
Haw many of your friends are physically active	0.296**	0.270**
Neighborhood environment	0.079	-0.037
Neighborhood safety	0.041	0.059
Availability of local facilities	0.073	0.000
Access to local facilities	0.093	0.095
Television viewing (Weekdays)	-0.018	-0.042
Television viewing (Weekends)	0.038	-0.022
Computer use (Weekdays)	-0.024	-0.074
Computer use (Weekends)	0.049	-0.051
Homework	0.061	0.084

Note. Significance. \*  $P < 0.05$ . \*\*  $P < 0.01$

The results from the regressive analysis are presented in Table 5. The first regressive equation explains 14.9% ( $P=0.001$ ) of the total variable criterion variance with a statistically significant impact on the predictive variables: gender ( $\beta=-0.201$ ,  $P=0.001$ ), education of father ( $\beta=0.137$ ,  $P=0.022$ ), education of mother ( $\beta=-0.132$ ,  $P=0.032$ ), monthly income in the family ( $\beta=0.152$ ,  $P=0.001$ ), whether the father is dealing with sport ( $\beta=0.175$ ,  $P=0.001$ ), whether the mother is dealing with sport ( $\beta=0.174$ ,  $P=0.001$ ).

With the inclusion of the three social variables in the second step the amount of explained variance increases to 26.1% ( $P=0.001$ ), but the coefficients of the linear relation in the equation for this sys-

tem of 13 predictors with the level of physical activity is  $R=0.510$  ( $F(13,491) = 13.309$ ,  $P=0.001$ ). The social support from parents ( $\beta=0.202$ ,  $P=0.001$ ), social support from peers ( $\beta=0.126$ ,  $P=0.008$ ) and the number of friends who do exercises ( $\beta=0.141$ ,  $P=0.001$ ) are important determinants which statistically significant influence the criterion variable of physical activity. With the inclusion of the third block of psychological variables the amount of explained variance increases to 31.5% ( $P=0.001$ ). Out of the overall predictive system, statistically significant influence have the perceived benefits towards physical activity ( $\beta=0.109$ ,  $P=0.010$ ), enjoyment

in physical activity ( $\beta=0.117$ ,  $P=0.016$ ) and perceived physical competence ( $\beta=0.153$ ,  $P=0.001$ ).

**Table 5:** Hierarchical regression analyses explaining PA

Variable	$\beta$	Partial r	$\beta_1$
<b>Demographics</b>	<b>R = 0.386 R<sup>2</sup> = 0.149***</b>		
Age	-0.060	-0.063	0.017
Gender	-0.201***	-0.210	-0.126**
Number of Family Members	0.001	0.001	0.001
Education of the father	0.137**	0.103	0.106*
Education of the mother	-0.132**	-0.097	-0.110*
Age of the father	0.007	0.004	0.035
Age of the mother	-0.055	-0.035	-0.077
Monthly income	0.152***	0.156	0.038
Whether the father is dealing with sport	0.175***	0.172	0.123**
Whether the mother is dealing with sport	0.174***	0.173	0.126**
<b>Social</b>	<b>R = 0.510 R<sup>2</sup> = 0.261***</b>		
Parents support	0.202***	0.192	0.146**
Peer support	0.126***	0.120	0.069
Haw many of your friends are physically active	0.141***	0.147	0.118**
<b>Psychological</b>	<b>R = 0.561 R<sup>2</sup> = 0.315***</b>		
Perceived benefits of physical activity	0.109**	0.118	0.109**
Perceived barriers to physical activity	-0.035	-0.040	-0.035
Enjoyment of physical activity	0.117**	0.109	0.117**
Enjoyment of physical education at school	0.016	0.015	0.016
Exercise self-efficacy	-0.002	-0.003	-0.002
Perceived physical competence	0.153***	0.161	0.153***
Body image	-0.011	-0.013	-0.011

Note. Partial r – partial correlation coefficient;  $\beta$  – standardized partial regression coefficient;  $\beta_1$ - value of  $\beta$ - coefficient in the last equation analysis; R – Multiple correlation coefficient; R<sup>2</sup> – change the coefficient of determination; Significance. \*  $P < 0.05$ . \*\*  $P < 0.01$ . \*\*\*  $P < 0.001$ .

## Discussion

The public health impact of physical inactivity highlights the need to better understand patterns and determinants of physical activity participation in school-aged children. A large number of recent researches point to decreased physical activity during adolescence with further decrease in the early adulthood. However, less information is available regarding what constitutes these changes and patterns of determinants for population sub-groups. In fact, understanding the factors that contribute to decrease of physical activity in adolescents is essential for development of effective programs and strategies to promote physical activity in this group of population.

The level of physical activity in girls is lower than in boys (16-19). The results from our research also indicate that boys show significantly higher

level of physical activity unlike girls. Also, boys perceive a greater degree of self-efficacy, they have more confidence in their abilities, they perceive greater social support from parents and friends, they have more friends who exercise and spend more time on computer work. Boys unlike girls consider that facilities and places where they can exercise and do sport near their settlement can be easily reached. Girls unlike boys perceive a less barriers from physical activity, spend more time studying and watching TV in the weekend and perceive the neighborhood as a better place to live.

The social environment where physical activity takes place has a critical impact on young people. Family members, friends, teachers and coaches can have an important role in promoting physical activity among adolescents. Social influence can function through different mechanisms including

encouragement, modeling activity, joint action and practical support. The results from our research showed that many parents can influence on physical activity among adolescents from both genders. Recent researches indicate that the parents' role in promoting physical activity among their children can take various forms, such as the transfer of positive attitudes and values (20), participation in joint activities with children, organizing the activities for their children (21) and providing transportation to places where they can be physically active (6). The researches show that boys perceive greater social support from parents than girls, while social support from parents is important determinant on which depends whether and how many girls are dealing with physical activity.

Other features of the family, such as socio-economic status, education of parents can influence physical activity of adolescents. Researches for the influence of socio-economic status on physical activity of children and adolescents are contradictory. The research realized within the study Scottish Health Survey indicate that girls from families of lower socio-economic status have higher level of physical activity unlike the girls who come from higher socio-economic status (22). Contrary to this research, the results of the research within the study Health Behavior of School-aged Children (HBSC) indicate that adolescents from wealthier families are physically more active and are more likely to participate in vigorous exercise in their free time (12). The results of our research indicate that the monthly income of the family indirectly influence the physical activity. These differences may be due to several factors, such as costs associated with transportation to sports facilities, sports club membership, sports equipment and so on (23).

This research does not determine the statistically significant connection between the number of family members and age of parents and physical activity. Education of parents influences the physical activity, especially influent is the father's education. Sports tradition in the family (parent as a model) has a major impact on physical activity among respondents of both genders. The re-

sults of the Framingham Heart Study indicate that children of active parents are almost six times more likely to be physically active in terms of the children of inactive parents (24). Furthermore, higher education of parents is associated with higher levels of physically activity of adolescents (25).

Moreover, the social support from their friends, especially the activity of the group (number of friends who exercise) is important determinant that can help increase physical activity among young people. This is confirmed in several previous researches realized for children, adolescents and preadolescents (26).

The degree of perceived benefits to physical activity (belief in the benefits from the physical activity) is also important predictor of physical activity among respondents of both genders. It has been confirmed in several studies realized for preadolescents and adolescents (26, 27). This predictor is more expressed in girls than in boys. The boys mostly believe that the physical activity will help them be healthier, stronger, and have more energy. Girls mostly believe that the physical activity will help them be healthier, have more energy and look better.

Enjoyment in physical activity is also a strong predictor of physical activity among students of both genders. The concept of enjoyment is defined as a multidimensional construct consisted of factors associated with affect, competence, attitude, and cognition (28). According to Scanlan and Simons (29) enjoyment is an important factor for involvement in sport and physical activity and can contribute to increase the participation in the activity. Research has also shown that enjoyment is an antecedent of physical activity. Rowland and Freedson stated that providing enjoyable experience is a potential strategy for increasing the level of physical activity in youth (30). Wallhead and Buckworth found that enjoyment in physical education class is in relation with the motivational factors about the formation of the habit for active life outside of school. Moreover, exercise is associated with physical engagement at physical education class (31). Soini established statistically significant gender differences in the enjoyment of



physical activity among 15 yr old adolescents (32). According to the research results of Soini, boys enjoy more the physical activity unlike girls. In our research it is not determined statistically significant gender differences in the enjoyment of physical activity in this population group.

Self-efficacy is the belief in own abilities when attempting to fulfill a task. The self-efficacy is based on the idea of the importance of the subjective experience of the personal competence in realizing different goal, and not on the actual knowledge, abilities and skills. The self-efficacy is not assessed as a personal feature, but a belief in own capabilities to coordinate knowledge, abilities and skills to achieve the desired goal. Personal factors (cognitive, emotional and biological), environmental factors and behavior have an interactive effect in the model of mutual determinism (33). The results of this research show that the self-efficacy and confidence in their abilities which are the construct of social-cognitive theory are positively associated with the physical activity among students of both genders. The results of other researches also show that the self-efficacy indirectly and directly affects the physical activity of children and adolescents (34-36).

The statistically significant association between sedentary habits (watching TV, computer work, studying) and physical activity is not confirmed in this research. The fact that students from both genders much of their free time spend watching TV or working on computer is worrying. The World Health Organization and the Commonwealth Health Organization, recommend that children and young people should not spend more than two h a day watching TV or using the computer (surfing, chatting or playing computer games)."

The research results show that the Macedonian adolescents from Albanian ethnic community, safety of the settlement, number, vicinity and access to sports facilities does not influence the physical activity. This is opposite to some previous researches realized for children and adolescents (37).

On the basis of the above stated it can be concluded that it is necessary to prepare a national

plan and program to promote physical activity in order to help young people to change unhealthy lifestyle habits and increase physical activity, and thus improve their health. These strategies, plans and programs should take into account the specifics of the environment, customs and cultural characteristics of the region.

There is evidence that anyone who will increase the level of physical activity, even after long period of inactivity may have health benefits, regardless of age.

Changes can be made through a wide change in policy and practice, especially by increasing the intersectional cooperation and the adoption of new roles of different entities in their fields of competence. Basically, it takes small changes in policy and practice, in order to promote and increase physical activity of young people.

Different approaches can be used: individual work, group work, workshops, conferences etc. The main promoter of these educational programs and strategies should be school, but also it should include several governmental and non-governmental organizations, family and local government and state with wide media campaign. Changes in school should be aimed at changing the curriculum which should include contents for physical activity and its importance including new forms of physical activity in the curriculum, improvement of the material base (buildings, exercise equipment etc.).

## Conclusion

Boys unlike girls show significantly higher levels of physical activity. Respondents of both genders who have a higher level of self-efficacy, perceive greater benefits of physical activity, have greater confidence in their abilities, enjoy more physical activities, perceive greater social support from friends and parents have higher levels of physical activity.

In this research it is not determined the significant relation between the number of family member and parents age and the physical activity. Education of parents influences the physical ac-

tivity among female respondents, while it is not confirmed for the male respondents. Sports tradition in the family has a great impact on physical activity among respondents of both genders. An important relation is not determined between the sedentary habits (watching TV, computer work, studying), safety of the environment, the number, the vicinity and access to sports facilities and physical activity.

The research results indicate the importance of preparing a national plan and program to promote physical activity in order to help young people change unhealthy lifestyle habits and increase physical activity, and thus improve their health.

## Ethical Considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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The authors declare that there is no conflict of interests.

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