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The Influence of Social Support from Parents on the Level of Physical Activity in Adolescents

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Abstract

A survey has been conducted on a sample of 974 randomly selected respondents from several faculties within the University "Hasan Prishtina" in Prishtina, Kosovo, to determine how social support from parents influences the level of physical activity in adolescents of both genders. Physical activity is assessed with the standardized IPAQ questionnaire (International Physical Activity Questionnaire), intended to investigate the frequency, duration, and intensity of physical activity. Social support from parents was assessed using the Parental Support Scale, which consisted of five items. The data were processed by using appropriate statistical nonparametric methods ($\chi 2$ test and Mann-Whitney U-tests). Based on the obtained results, it can be concluded that parents can have a significant influence on the physical activity in adolescents of both genders. Parents can promote physical activity for their children in various ways, such as: by the conveyance of positive attitudes and values, by organizing activities for their children, by participating in joint activities with children, and by providing transportation to places where they can be physically active. Research has shown that there are no differences in the perceived social support from parents between male students and female students; however, for girls, social support from parents is a more significant determinant that affects whether and to what extent they will engage in physical activity.

Keywords: *physical activity, students, attitudes, IPAQ criteria*

Introduction

In all its activities, the World Health Organization indicates the importance of physical activity in the preservation of health, especially in the prevention and treatment of chronic diseases (McKenzie et al., 2002; WHO, 2010). Numerous scientific-expert studies emphasize the causal relationship between physical activity, physical fitness, and the health of the individual (Dzepina & Cavlek, 2004; Misigoj-Durakovic, 2008). These studies point out causes such as lack of physical activity, sedentary lifestyle, inadequate nutrition, weight gain, cigarette smoking, alcohol consumption and drug abuse, and increasingly common eating disorders in the form of anorexia or bulimia. Previous studies have emphasized the problem of insufficient physical activity and a propensity to engage in risky behaviours, especially among the student population (Huddleston, Mertesdorf, & Araki, 2002; Dzepina & Cavlek, 2004). Students are a part of the population of young people preparing for an essential role in social life, who, as academically educated people, with their knowledge and experience, will influence future generations of children and youth. The sharp decline in physical activity is particularly expressed during adolescence (15-19 years of age) and in young adults (20-25 years of age), which puts students within the risk group (Wallace, Buckworth, Kirby, & Sherman, 2000).

The explanation regarding the influence of the factors on behaviour changes is crucial in designing interventions, strategies, and educational programmes that will contribute to increasing the level of physical activity in young people (Trost et al., 1997; Sallis, Prochaska, & Taylor, 2000). Current guidelines recommend that all young people should participate in physi-

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cal activity of at least moderate intensity for one hour per day.

The results of the previous research indicate that self-efficacy (confidence in one's abilities to perform a particular activity in specific situations), the increase of the level of perceived benefits of physical activity, the reduction of the perceived barriers, the increase of social support from the closest persons in the environment (parents and peers/friends), the enjoyment in physical activity, and the access to equipment and facilities are factors associated with physical activity in the period of adolescence (Baranowski et al., 1992; Sallis et al., 1992a; Pate, 1997; Sallis et al., 2000; Cavill & Biddle, 2003).

The primary goal of the study was to determine the influence of social support from parents on the level of physical activity in adolescents.

Methods

Sample of respondents

The research was conducted on a sample of 974 randomly selected respondents from several faculties within the University "Hasan Prishtina" from Prishtina, Kosovo. The sample consisted of 572 (58.7%) male respondents (students) and 402 (41.3%) female respondents (students). The average age of the respondents of both genders was 20.2 years. The respondents were treated according to the Declaration of Helsinki.

Sample of variables

The data was collected by using the method of a structured survey questionnaire. The dependent variables analysed social support for physical activity.

Description of measuring instruments

IPAQ-C: The nine-item IPAQ-C records self-reported physical activity in the last seven days. Responses were converted to Metabolic Equivalent Task minutes per week (METmin/wk) (Craig et al., 2003) according to the IPAQ scoring protocol: total minutes over last seven days spent on vigorous activity, moderate-intensity activity, and walking were multiplied by 8.0, 4.0, and 3.3, respectively, to create MET scores for each activity level. MET scores across the three sub-components were totalled to indicate overall physical activity (Craig et al., 2003).

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 (Sallis, Taylor, Dowda, Freedson, & Pate, 2002; Prochaska, Rodgers, & Sallis, 2002). Five items assessed different aspects of parental support, including encouragement, participation in joint activities, provision of transport, observation and praise. Responses ranged from "a lot" to "not at all". A mean score, ranging from 1-5, was computed by averaging responses to the five items.

Methods of data processing

The basic descriptive statistical parameters were calculated for all variables, as follows: arithmetic mean (X), standard deviation (SD), distribution kurtosis (KURT) and asymmetrical distribution (SKEW). The normality of the distribution of the variables was tested with the Kolmogorov-Smirnov test. Since most of the applied variables showed deviation from the normal distribution, the results are processed by nonparametric statistical methods ($\chi 2$ test and Mann-Whitney U-tests). The data were processed with the SPSS for Windows Version 22.0 statistical package.

Results

The research was conducted on a sample of 974 randomly selected respondents from several faculties within the university. The sample consisted of 572 (58.7%) male respondents (male students) and 402 (41.3%) female respondents (female students). The average age of the respondents of both genders was 20.2 years.

Based on the IPAQ scoring recommendations and the physical activity classification criteria, the respondents are classified into three categories of physical activity, and the results are presented in Table 1. From the table overview, it is observable that 17.50% of the male students are classified in the category of low physical activity, 30.60% are classified in the category of moderate physical activity, and 51.90% are classified in the category of high physical activity. Furthermore, 15.20% of the female students are classified in the category of low physical activity, 34.30% are classified in the category of moderate physical activity, and 50.50% are classified in the category of high physical activity. From the overview of the $\chi 2$ test ($\chi 2=1.88$; $p<0.391$), it is observable that there are no statistically significant differences in the level of physical activity between male students and female students.

Table 1. Classification of respondents into three categories of physical activity and differences regarding the gender of the respondents

	Boys		Girls	
Low FA	100	17.50%	61	15.20%
Moderate FA	175	30.60%	138	34.30%
High FA	297	51.90%	203	50.50%
$\chi 2=1.88$		p (sig)=.391		

Mann-Whitney U tests were applied to determine if there are differences in the claims (the items) from the scale for assessment of social support from parents among the respondents classified into different categories of physical activity in male respondents.

The overview of Table 2 shows that statistically significant differences were found between male respondents from different categories of physical activity in the following items of the scale for assessment of social support from parents.

From the Mean Rank values of the items and the arithmetic means, it is observable that the group of male respondents classified in the category of high physical activity shows higher values of these two items compared to the respondents classified in the moderate and low physical activity.

Mann-Whitney U tests were applied to determine if there are differences in the claims (the items) from the scale for the assessment of social support from parents among female students classified into different categories of physical activity.

From the overview of Table 3, it is observable that statistically significant differences were found among female

Table 2. Differences in claims (items) from the scale for assessment of social support from parents among male students who are classified into different categories of physical activity

Males	Low FA	Moderate FA	High FA	Chi-Square	Sig.
	Mean±SD	Mean±SD	Mean±SD		
Parent encourages adolescent to do physical activity or sports	3.33±1.41	3.60±1.36	3.69±1.44	6.27	0.04*
Parent does physical activity or sports with adolescent	2.59±1.46	2.29±1.53	2.49±1.62	2.68	0.26
Parent provides transportation to physical activity setting	3.05±1.63	3.25±1.71	3.40±1.69	4.79	0.09
Parent watches adolescent do physical activity or sports	2.90±1.46	2.55±1.61	2.95±1.62	7.43	0.02*
Parent tells adolescent she or he is doing well in physical activity or sports	3.93±1.26	3.77±1.41	3.77±1.45	0.60	0.74
Parent Support (Total)	3.16±0.99	3.09±1.12	3.26±1.16	3.16	0.21

Legend: * - p<0.05

respondents that belong to different categories of physical activity in the following items of the scale for assessment of social support from parents "Parent does physical activity or sports with adolescent" and "Parent provides transportation to physical activity setting". Furthermore, the overall score of the scale showed statistically significant differences among the female students classified into different categories of physical activity.

From the Mean Rank values of the items and the arithmetic means, it is observable that the group of female respondents who are classified in the category of high physical activity show a higher level of social support from parents compared to the respondents classified in the category of moderate and low physical activity.

Table 3. Differences in claims (items) from the scale for assessment of social support from parents among female students who are classified into different categories of physical activity

Females	Low FA	Moderate FA	High FA	Chi-Square	Sig.
	Mean±SD	Mean±SD	Mean±SD		
Parent encourages adolescent to do physical activity or sports	3.02±1.61	3.40±1.38	3.62±1.48	8.48	0.01*
Parent does physical activity or sports with adolescent	2.10±1.63	2.19±1.41	2.55±1.55	6.34	0.04*
Parent provides transportation to physical activity setting	2.97±1.72	3.25±1.53	3.59±1.58	9.76	0.01*
Parent watches adolescent do physical activity or sports	2.53±1.60	2.69±1.47	2.94±1.70	4.12	0.13
Parent tells adolescent she or he is doing well in physical activity or sports	3.59±1.65	3.68±1.50	3.83±1.60	2.61	0.27
Parent Support (Total)	2.84±1.19	3.04±0.98	3.31±1.18	12.07	0.00*

Legend: * - p<0.05

Discussion

The identification of the causes associated with the involvement, that is, non-involvement in physical activities is a step in the development of strategies to promote physical activity, and coping with them is the first step to overcome this condition (Heimer, & Rakovac, 2006).

The social environment in which physical activity takes place has a crucial impact on young people. Family members, friends, teachers, and coaches can play a significant role in promoting physical activity among adolescents. The social influence can function through a variety of mechanisms, including encouragement, activity modelling, common activity, and practical support. The results of our research have shown that parents can significantly influence physical activity in students of both genders. Previous research suggests that the parents' role in promoting physical activity of their children can take various forms, such as the conveyance of positive attitudes and values (Iannotti et al., 2005), participation in joint activities with children (Stucky-Ropp & DiLorenzo, 1993), organizing activities for their children (Anderssen & Wold, 1992; Stucky-Ropp & DiLorenzo, 1993), and providing transportation to places where children can be physically active (Sallis et al., 1992b). Research has shown that there is no difference in perceived social support from parents between male and female students; however, for girls, social support from parents is a more critical determinant that affects whether and to what extent they will engage in physical activity.

For both male and female respondents, an important determinant that affects the level of physical activity is the conveyance of positive attitudes and values (encouragement and support from parents to engage in physical activity), whereby male respondents want their parents to observe them as they

engage in physical activity; in contrast, female respondents find it necessary that parents provide them transportation to places where they can be physically active and participate together with them during their physical activity.

Other family characteristics, such as the socioeconomic status and the education of parents, may affect physical activity in adolescents. The studies on the impact of the socioeconomic status on physical activity in children and adolescents are contradictory. The research carried out within the Scottish Health Survey suggests that girls from families with lower socioeconomic status have higher levels of physical activity than girls from families with higher socioeconomic status (Stamatakis, 2005). Contrary to this, the results of the research within the Health Behaviour of School-aged Children (HBSC) study suggest that adolescents from wealthier families are more physically active (Levin et al., 2007) and more likely to participate in vigorous exercise in their free time (Inchley, Kirby, & Currie, 2008).

On the basis of all abovementioned, one can conclude that a national plan and programme for promoting physical activity need to be developed in order to help young people change unhealthy lifestyle habits and increase physical activity, and thus improve their health. These strategies, plans and programmes should be prepared by considering the specifics of the environment, the customs and the cultural characteristics of the region.

There is evidence that anyone who increases their level of physical activity can have health benefits even after a long period of inactivity, regardless of age.

Changes can be made through extensive adjustments in policy and practice, and in particular through an increase of the cross-sectoral cooperation and the adoption of new roles by different entities that are already proven and respected in their fields. Minor changes in policy and practice are needed, aimed at promoting and increasing physical activity among the young population.

Different approaches can be used: individual work, group work, workshops, counselling, and similar. The primary promoter of these educational programmes and strategies should be the school; however, it is necessary to involve more governmental and non-governmental organizations, the family, as well as the local government and the country with a broad media campaign. Changes in school should be directed towards changing the curricula, which should include contents for physical activity and its importance, the inclusion of new forms of physical activity in the curriculum, the improvement of the infrastructure (facilities, devices, etc.).

On the basis of the obtained results, one can conclude that parents can have a significant influence on physical activity in adolescents of both genders. Parents can promote physical activity for their children in various ways, such as: by conveying positive attitudes and values, by organizing activities for their children, by participating in joint activities with children, and by providing transportation to places where they can be physically active. Research has shown that there are no differences in the perceived social support from parents between male students and female students; however, for girls, social support from parents is a more significant determinant that affects whether and to what extent they will engage in physical activity.

The results of the research suggest the importance of the preparation of a national plan and programme to promote physical activity to help young people change unhealthy lifestyle habits and increase physical activity, thereby improving their health.

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Conflict of Interest
The authors declare that there are no conflicts of interest

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Reference

Anderssen, N., & Wold, B. (1992). Parental and peer influences on leisure-time physical activity in young adolescents. *Research Quarterly for Exercise and Sport*, *63*, 341–348.

Baranowski, T., Bouchard, C., Bar-Or, O., Bricker, T., Heath, G., Kimm, S.Y., Malina, R., Obarzanek, E., Pate, R., & Strong W.B. (1992). Assessment, prevalence, and cardiovascular benefits of physical activity and fitness in youth. *Med. Sci. Sports Exercise, 24*(Suppl.), S237-S247.

Cavill, N., & Biddle, S. (2003). The determinants of young people's participation in physical activity, and investigation of tracking of physical activity from youth to adulthood. In A. Giles (Ed.), *A lifecourse approach to coronary heart disease prevention: Scientific and policy review* (pp. 183-197). London: National Heart Forum.

Craig, C.L., Marshall, A.L., Sjöström, M., Bauman, A.E., Booth, M.L., Ainsworth, B.E., Pratt, M., Ekelund, U., Yngve, A., Sallis, J.F., & Oja, P. (2003). International physical activity questionnaire: 12-Country reliability and validity. *Medicine and Science in Sports and Exercise, 35,* 1381-1395.

Dzepina, M. & Cavlek, T.(2004). Student health care [Zdravstvena zastita studenata]. *Medix, 54/55*, 51-54.

Heimer, S. & Rakovac, M. (2006). *Physical training in health protection and promotion (Public health basics of sports and recreational medicine)* [*Tjelesno vježbanje u zaštiti i unapređenju zdravlja (Javno-zdravstvene osnove sportsko-rekreacijske medicine)] Medicina sporta* (ur. Stjepan Heimer i Rudi Čajavec). Zagreb: Kinezioloski fakultet Sveučilišta u Zagrebu.

Huddleston, S., Mertesdorf, J., & Araki, K. (2002). Physical activity behavior andattitudes toward involvement among physical education, health, and leisure Services preprofessionals. *College Student Journal, 36*(4), 555-573.

Iannotti, R.J., Sallis, J.F., Chen, R., Broyles, S.L., Elder, J.P., & Nader, P.R. (2005). Prospective analyses of relationships between mothers' and children's physical activity. *Journal of Physical Activity and Health*, *2*, 16-34.

Inchley, J., Kirby, J., & Currie, C. (2008). Physical Activity in Scottish Schoolchildren (PASS) Project: *Physical activity among adolescents in Scotland: final report of the PASS study.* Child and Adolescent Health Research Unit: The University of Edinburgh.

Levin, K., Todd, J., Inchley, J., Currie, D., Smith, R., & Currie, C. (2007). *Family affluence and health among schoolchildren. HBSC Briefing Paper 11*. Edinburgh: Child and Adolescent Health Research Unit, University of Edinburgh.

McKenzie, T.L., Sallis, J.F., Broyles, S.L., Zive, M.M., Nader, P.R., Berry, C.C., et al. (2002). Childhood movement skills: Predictors of physical activity in Anglo American and Mexican American adolescents? *Research Quarterly for Exercise and Sport, 73*, 238-244.

Misigoj-Durakovic, M. (2008). *Kinantropology; Biological aspects of physical exercise [Kinantropologija; Bioloski aspekti tjelesnog vjezbanja]*. Zagreb: University of Zagreb Faculty of Kinesiology.

Pate, R. R. (1997). Physical activity in children. In: *PhysicalActivity and Cardiovascular Health: A National Consensus,* A.S. Leon (Ed.). Champaign, IL: Human Kinetics.

Prochaska, J.J., Rodgers, M.W., & Sallis, J.F. (2002). Association of Parent and Peer Support with Adolescent Physical Activity. *Research Quarterly for Exercise and Sport*, *73*(2), 206-210.

Sallis, J.F., Alcaraz, J.E., McKenzie, T.L., Hovell, M.F., Kolody, B., & Nader, P.R. (1992a). Parent behavior in relation to physical activity and fitness in 9-year-olds. *American Journal of Diseases of Children, 146,* 1383–1388.

Sallis, J.F., Simons-Morton, B.G., Stone, E.J., Corbin, C.B., Epstein, L.H., Faucette, N., Iannotti, R.J., Killen, J.D., Klesges, R.C., Petray, C.K., Rowland, T.W., & Taylor, W.C. (1992b). Determinants of physical activity and interventions in youth. *Med. Sci. Sports Exercise 24*(Suppl.), S248-S257.

Sallis, J.F., Prochaska, J.J., & Taylor, W.C. (2000). A review of correlates of physical activity of children and adolescents. *Medicine & Science in Sports & Exercise, 32*, 963-975.

Sallis, J.F., Taylor, W.C., Dowda, M., Freedson, P.S., & Pate, R.R. (2002). Correlates of vigorous physical activity for children in grades 1 through 12: comparing parent-reported and objectively monitored physical activ-

ity. *Pediatric Exercise Science, 14,* 30-44.
Stamatakis, E. (2005). Chapter 4: Physical Activity. In: C. Bromley, K. Sproston & N. Shelton (Eds.), *The Scottish Health Survey 2003. Volume 3*: Children. Edinburgh: Scottish Executive.
Stucky-Ropp, R.C., & DiLorenzo, T.M. (1993). Determinants of exercise in children. *Preventive Medicine, 22,* 880–889.
Trost, S.G., Pate, R.R., Saunders, R., Ward, D.S., Dowda, M., & Felton, G. (1997). A prospective study of the determinants of physical activity in rural fifth-grade children. *Preventive Medicine, 26,* 257–263.
Wallace, L.S., Buckworth, J., Kirby, T.E., & Sherman, W.M. (2000). Characteristics of exercise behavior among college students: aplication of social Cognitive theory to predicting stage of change. *Prev Med., 31*, 494-505.
Wallhead, T.L., & Buckworth, J. (2004). The role of physical education in the promotion of youth physical activity. *Quest, 56*, 285-301.
WHO (2010). *Global Recommendations on Physical Activity for Health*. Geneva: World Health Organization.