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Regular Sport Participation of High School Students with Regard to Gender, Age and Parents' Education: The Case of Turkiye

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Abstract: This study examined the regular sport participation of Turkish high school students with regard to gender, age and parents' education. A total 2099 high school students voluntarily participated in this study. The sport indexes of Physical Activity Assessment Questionnaire and a demographic data sheet were administered to the participants. In terms of regular sport participation, approximately half of the high school students did not engage in any exercise/sport activities within the previous month. The intensity and duration of regular sport participation were analyzed using two-way multivariate analysis of variance (MANOVA), with the father's education and gender as independent factors. Significant multivariate main effects were found for both father's education ($p < .03$) and gender ($p < .01$) factors. The percentage of regular sport participation among girls was slightly higher than boys. However, boys engaged in regular sport activities with a higher intensity and for longer periods than girls. There were no significant age group differences in the intensity and duration of regular sport participation, but the percentage of regular sport participation was higher in younger than older adolescents. Participants whose father had an educational attainment below high school degree level showed shorter duration of regular sports involvement than those whose fathers had an educational background of high school degree level and above.

Key words: Regular sport participation · Adolescents · Gender · Age · Father and mother education

INTRODUCTION

According to the WHO, each day school-aged youth should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity to ensure healthy development. This can provide young people with important physical, mental and social health benefits [1-2]. Despite the well-known benefits of physical activity (PA), most young people are not active enough to benefit from them [3-6]. Previous studies indicated that gender, age and parents' education are some of the factors that can affect regular sport participation (RSP) [3, 6]. According to Sallis and Owen, participation in PA is complex and is influenced by multiple factors, such as socio-cultural environment [Cited in 7]. For this reason culture-bound studies are required. Few previous studies [8-9] have examined adolescent participation in sport in Turkey. Both studies identified in the literature were conducted with a small sample size. It was stated that, many developing countries lack any data on PA levels in their populations [10]. Trends are likely to differ between countries and country-specific data are needed for public health planning [11]. Therefore, the purpose of this study was to determine the sport participation in sport among adolescents in Turkey with regard to gender, age and parents' education.

MATERIALS AND METHODS

Participants: A total 2099 high school students (1141 girls and 958 boys) voluntarily participated in this study ($\bar{x}_{age}$= 15.24, SD=0.85; $\bar{x}_{age}$=15.47, SD=0.99, respectively). Students were randomly selected from six public schools in the urban areas of Ankara, the capital city of Turkey.

Instruments

Pyhsical Activity Assessment Questionnairre (PAAQ): PAAQ is a self-report questionnaire, which asks participants to give their weekly average frequency and duration of PA over the last year. It was developed by Karaca *et al.* [12]. In this study, sport activity index of PAAQ were analyzed which consists of the following questions. The first question is 'Did you engage in any sport activities in the past month for at least ones a week'. If subjects engage in any sporting activities, they continue to answer following questions for each activity:

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"Which sports did you engaged at least once a week within the previous month?" "How many days a week did you engaged this/these sports?" and "How many hours a day did you engaged this/these sports?" Each activity was assigned an intensity value (Metabolic expenditure units-MET) based on the work of Ainsworth *et al.* [13]. In addition, a demographic information sheet was administered to the participants. METs per hour, METs per week and hours per week were calculated using the duration, frequency and intensity of sport activities.

Procedure: The PAAQ was administered to the participants in a group in classroom setting say self-report. Participation in the study was voluntary and the self-report questionnaire responses were anonymous.

Data Analysis: In terms of sport participation, MANOVA was used to investigate gender, age, fathers' education level and mothers' education level, differences in intensity and duration of regular sport participation.

RESULTS

It was found that 52.60% (n=1104) of students did not engaged in any sports activity within the previous month. The remaining students (47.40%; n=995) engaged in sporting activities at least once per week within the previous month.

Descriptive statistics of the duration and intensity of RSP with regard to gender and father's education are given in Table 2.

The intensity and duration of RSP among the high school students were analyzed using MANOVA, with father's education (Less than high school degree/high school degree and more) and gender (boy/girl) as independent factors. Significant multivariate main effects were found for both father's education (Pillai's Trace = 0.01; F (3, 969) = 3.27; $\eta^2 = 0.01$; $p < .03$) and gender (Pillai's Trace= 0.17; F (3, 969) = 66.39; $\eta^2 = 0.17$; $p < .01$) factors. On the other hand, no significant multivariate two-way interactions were found for Father's Education × Gender ($p > .05$). Univariate follow-up tests revealed a significant effect of father's education on the METs/week (F(1,971) = 7.09; $p < .01$) and hours/week (F(1,971) = 9.11; $p < .01$). The duration of sport involvement was shorter among participants whose fathers did not have a high school degree, compared with students whose fathers had a high school degree or above. Univariate follow-up tests showed that the significant multivariate main effect for gender was attributable to the METs/hour (F (1,971) = 180.75; p < .01), METs/week (F (1,971) = 43.80; $p < .01$) and hour/week (F (1,971) = 11.22; $p < .01$). The intensity of sport involvement among boys was higher than among girls; boys also participated in RSP for longer periods of time than girls.

On the other hand, there were no significant differences in the intensity and duration of RSP with regard to mothers' education (Pillai's Trace = 0.005; F (3, 940) = 1.47; $\eta^2 = 0.005$; $p > .05$; Table 3). Similarly, MANOVA did not reveal significant age group differences in terms of the intensity and duration of RSP (Pillai's Trace= 0.003; F (3, 991) = 1.15; $\eta^2 = 0.003$; $p > .05$; Table 4).

Table 1: Sample characteristics of subjects

	Proportion			
	Engaging in sport activities* (n=995, 47.4%)		Not engaging in sport activities (n=1104, 52.6%)	
Characteristics	n	%	n	%
Gender Girls	537	53.97	604	54.71
Boys	458	46.03	500	45.29
Age 14-15 age	632	63.52	632	57.25
16-17 age	363	36.48	472	42.75
Father's education < High school	511	51.36	492	44.56
≥ High school	464	46.63	594	53.81
Missing	20	2.01	18	1.63
Mother's education < High school	586	58.89	600	54.35
≥ High school	371	37.29	463	41.94
Missing	38	3.82	41	3.71

*Engaging in sport activities in the past month for at least one time in a week.

Table 2: Descriptive statistics of intensity and duration of RSP with regard to gender and father's education.

		Fathers' Education					
		Less than high school degree (n = 511)		High school degree and more (n = 464)		Total (n = 975)	
Regular Sport Participation (YES)		M	SD	M	SD	M	SD
METs/hour	Girls	5.25	0.87	5.37	1.42	5.31	1.16
	Boys	6.57	1.35	6.38	1.70	6.48	1.53
	Total	5.85	1.30	5.83	1.63	5.84	1.46
METs/week	Girls	17.85	17.90	24.69	24.43	21.12	21.52
	Boys	30.73	24.40	32.01	28.31	31.34	26.31
	Total	23.75	22.06	28.02	26.49	25.78	24.35
Hours/week	Girls	3.36	3.16	4.55	4.44	3.93	3.87
	Boys	4.63	3.58	4.96	4.33	4.79	3.95
	Total	3.94	3.42	4.74	4.39	4.32	3.93

Table 3: Descriptive statistics of intensity and duration of RSP by mothers' education.

	Mothers' Education			
	Less than high school degree (n = 586)		High school degree and more (n = 358)	
Regular Sport Participation (YES)	M	SD	M	SD
METs/hour	5.84	1.29	5.85	1.68
METs/week	24.73	23.18	27.73	26.54
Hours/week	4.13	3.68	4.67	4.38

Table 4: Descriptive statistics of intensity and duration of RSP with regard to age groups.

	Age Groups			
	14-15		16-17	
Regular Sport Participation (YES)	M	SD	M	SD
METs/hour	5.83	1.48	5.91	1.45
METs/week	26.44	25.59	24.60	21.97
Hours/week	4.46	4.18	4.06	3.46

While the three most preferred sports activities among girls were walking/running, volleyball and dancing, the three most preferred activities among boys were walking/running, football and bicycling.

DISCUSSION

This study examined the duration and intensity of RSP among Turkish high school students with regard to gender, age and parents' education.

It was found that the percentage of RSP among adolescents was higher (Table 1) than reported in some earlier studies [14-15]. This finding might be clarified by looking at a number of possible reasons. PA participation may be influenced by culture and by peer and family support [16]. Parents appear to be a strong influence on PA behavior [17].

Contrary to the some previous studies [4, 7, 18] the results showed that the RSP percentage among girls was slightly higher than boys (Table 1). Despite the lower RSP percentage of boys (n=458, 46.03%) who engaged any sports, boys were more physically active than girls, in terms of both intensity and duration of PA (Table 2). Similarly, previous studies within the literature also reported that girls were less physically active than boys [19, 18]. Adolescents' participation in sport differs by gender [20-21]. Studies on gender roles reveal a positive relationship between masculine identity and sport and boys seem to value competition and sport achievement more than girls do [20]. These may explain why boys engaged in sports which involved higher intensity and duration. Another possible explanation may be the characteristics of Turkish culture. For example, Atalay *et al.* (1993) reported that women do more domestic tasks

than men [Cited in 22]. Similarly, Cogle and Tasker stated that girls participated more than boys in household work, instead of sport [23]. One of the reasons why girls engaged in shorter duration RSP is that they may do more housework than boys.

Some recent studies reported a positive association between PA and high parental education [6, 24]; on the other hand, some other studies reported that the educational level of both fathers and mothers had no significant influences on levels of adolescent PA [19]. In the present study, participants whose fathers did not have a high school degree reported shorter duration of sports involvement than those whose fathers had achieved a high school degree or above. Contrary to findings in the previous studies [5, 24], there were no significant differences in the intensity and duration of RSP among the high school students with regard to mothers' education. According to Özbas and Özkan, 95% of Turkish women over 18 years old watch TV every day [25]. It was reported that there was a negative relationship between the education level of women and duration of TV watching. It was emphasized that women who were a mother and/or wife informed their children and husband about what they learned from TV and changed their own behavior [25]. As stated in the "Women and Media" policy document prepared by the General Directorate on the Status of Women (KSGM) of the Prime Ministry, health programs ranked first (62.4%) on a list of programs that women wanted to see on TV [cited in 25]. Although the educational background of parents is known to have positive effects on the PA level of children [6]; the present study showed that sports participation level among children did not differ according to their mothers' educational background. This result can be explained on the basis of the assumption that "regardless of their educational background, all women watch TV programs related to healthy lifestyles and subsequently shape their own lives and those of their families by using the information they learn from such programs." Since health programs are generally broadcast during daytime, fathers (in employment) have a lower probability of watching such programs. In this scope, it is not quite possible to state that fathers are affected by these TV programs. The direct relationship between the increase in the educational background of fathers and the increase in the sports participation of children may be explained on the grounds of the awareness of healthy lifestyles (raised by high educational background) and higher income (parallel to the high educational background) of such families. In this study, the duration of sports participation among children whose mothers had a low educational background was found to be longer than that of the children whose fathers had a low educational background (Table3 and Table2). It is highly possible that parents with low educational background have a relatively low income level. For this reason, their children's participation in organized sports may also be low. On the other hand, children's PA levels may be high when their environmental conditions are considered. This issue requires further investigation.

It was reported that exercise participation or PA level may decline with increasing age [4]. Similarly in the present study, there was a slight decline in the duration of RSP, but there were no significant age group differences in terms of the intensity and duration of RSP. Although no statistically significant difference was found between the sports duration of the students participating in sports activities, the sports participation rate of the children in the 14-15 age group was higher than in the 16-17 age group. In Turkiye, it is obligatory to take the university entrance examination for any student who want to continue higher education. Students generally start to prepare for this examination in the 9^{th} grade and, the time allocated for private teaching courses is about 12-20 hours per week. This situation may affect the opportunities for some children to participate in sports and their sports duration.

Some limitations of the present study should be addressed. Firstly, the findings may be relevant only for boys and girls in urban settings aged 14-17 years old, which limit the generalizability of the results, if considering adolescents living in rural areas. It should also be noted that this study was conducted in Ankara, the capital city of Turkiye, which has more sports facilities than many other Turkish cities. The third limitation of this study is the cross-sectional design and self-reported PA. Irrespective of these limitations, the strength of this study is the sample size which is relatively big.

To conclude, the present study indicates that approximately half of the girls and boys did not participate in any sport activities. In addition, the boys participated in sport activities that required higher intensities and for longer periods of time. This study indicates that adolescents should be made aware of the benefits of sport activities and encouraged to engage in more sport activities. In addition, fathers are dominant in Turkish culture, so programs to increase PA among children should seek to raise awareness of the benefits of sports among fathers. Municipalities should also provide more free facilities and environments that encourage children to engage in sport activities. Thus, it would be useful to take

precautions to minimize physical inactivity during childhood via early interventions. Adolescents who are sedentary or physically inactive should be the focus of active efforts to increase their leisure-time PA, due to the aforementioned benefits of PA. The results of this study provide baseline data for researchers and practitioners to enhance the participation of adolescents in sport and exercise. Intervention strategies should be designed to increase parental awareness of the benefits of PA and to encourage them to lead more physically active lives. In this way, adolescents can model their PA behavior.

It is possible to provide some suggestions for future research. The reasons underlying the differences between the genders in relation to sports participation need to be explored in more detail and qualitative studies may be undertaken to determine these reasons. In addition, further studies could examine the sport participation patterns among different age groups, from childhood to older adulthood, including parental and peer influences.

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