

## ORIGINAL RESEARCH PAPER

# CORRELATIONS BETWEEN STUDENTS' PHYSICAL ACTIVITY HABITS AND FACTORS INFLUENCING THEM FROM THE PERSPECTIVE OF THEORY OF PLANNED BEHAVIOUR

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## Abstract

*The World Health Organization (WHO) particularly highlights the actions that need to be taken in order to draw attention to preventive health-promoting effects, with particular emphasis on healthy eating and physical activity. Aim of the research is to identify and analyse students' physical activity (PA) habits and to determine the correlations between these habits and factors influencing them employing the theory of planned behaviour (TPB). Materials and methods. Students' physical activity is defined using survey method based on Godin and Shephard's Leisure -Time Physical Activity Questionnaire, (1985) questionnaire adjusting it to the goals of this research. The questions were added about daily physical activities and opportunities to participate in physical activities organized by the universities. Factors that influence physical activity are selected based on the theory of planned behaviour. For data analysis traditional programme SPSS 16.0 was employed. Participants of the research: 158 full-time and 52 part-time students of Liepāja University and Riga Stradins University Branch of Liepāja. The results. The research results indicate that on a daily basis full-time and part-time students exercise sufficiently, but only 50.0 % full-time and 55.8 % part-time students are involved in physical activities that provide additional health benefits (according to WHO recommendations).*

**Key words:** *students, physical activity, habits, behaviour*

## Introduction

According to the Sport Policy Guidelines for 2004-2009, approved in accordance with Cabinet of Ministers Order No. 632 of 15 September 2004, the National Sport Development Programme 2006-2012 has been

developed, reinforced by Order of Cabinet of Ministers Nr. 838, adopted on October 31, 2006. The main aim of National Sport Development Programme is to create conditions for the formation of a healthy, physically and mentally developed personality. In the section of this document "Children and youth sport", paragraph 3.7., it is stated that the minimum amount of sport lessons in the higher educational establishments is 2 – 3 hours per week for the first four semesters, which must be implemented by 2007 under supervision of Ministry of Education and Science. The planned result is to increase young people's fitness level, improve their health and ability to obtain a profession and work in it successfully, also to improve movement abilities, skills and knowledge needed for lifetime (IZM, 2004).

The Youth Policy State Programme for 2009-2013, paragraph 7.1., contains the programme of action, which aims to ensure that young people have enough possibilities to engage in physical activities and sports. Also it requires providing educational institutions with adequate and improved infrastructure, material-technical base and informative support, as well as creating a variety of cost-free opportunities for young people (including disadvantaged ones) to engage in physical activities ensuring the development of their physical and mental abilities and holistic development, and raising awareness about an active and healthy lifestyle (IZM, Riga, 2009).

The Latvia Law on Higher Educational Establishments (1995), paragraph 5, verse 1, states that higher educational establishments must provide their students with opportunities to engage in sports activities.

The World Health Organization (WHO, 2009), describing the top-ten health risk factors, rates obesity as the third, but lack of physical activities (hypodynamy) as the fourth health risk factor. Thus, WHO regularly follows and elaborates new activity programmes and suggestions, emphasizing the importance of physical activity for preserving and maintaining health.

Also the National Development plan of Latvia for 2014- 2020 presents a course of action called "Healthy and Fit for Work Person" highlighting the main health risks in European region, such as smoking, risky alcohol consumption, physical inactivity and poor diet that result in significant health care and social costs, and therefore, one of the priorities is to establish a healthy and active lifestyle habits in our society by strengthening the health promotion networks: (a) promotion of a healthy diet, active lifestyle and mental health, (b) development of children and young people's sports and popular sport activities, (c) inclusion of health education into the

school curricula, (d) prevention of substances and processes that can create dependency (NAP, 2012).

Based on above mentioned documents and facts, it is possible to estimate the need of promoting the habits of physical activity. This is also important for students, because the requirements to create favourable conditions for physical activities in the higher educational establishments are often not met, including the educational monitoring that promotes a healthy lifestyle, blaming the socio-economic conditions. The paragraph 3.7 of National Sport Development Programme for 2006-2012 is often ignored as well, and also the prolonged reforms of higher educational establishments are not helpful for finding a positive solution for this problem.

As the problem of hypodynamy is becoming more and more topical, and the physical activity habits (PA) are influenced by various factors, this research identified PA habits, reviewed and analysed the main elements that influence behaviour according to the theory of planned behaviour and how these elements can be applied for researching the habits of physical activity. Aim of the research: is to identify and analyse students' physical activity (PA) habits and to determine the correlations between these habits and factors influencing them employing the theory of planned behaviour (TPB).

### **Material and methods**

The physical activity habits of students were identified employing a survey method. The questionnaires were structured in three parts. The first part of questionnaire consisted of four questions from Godin and Shephard's Leisure-Time Physical Activity Questionnaire (1985): (1) During last 7days, how many times have you performed a high-intensity physical activity for more than 15 minutes?; (2) During last 7days, how many times have you performed a moderate-intensity physical activity for more than 15 minutes?; (3) During last 7days, how many times have you performed a low-intensity physical activity?; (4) During last 7days, how often have you engaged in any regular activity long enough to work up a sweat (with considerable increase of heart beat and breathing rate)? Following the methodology of G. Godin (2011), the obtained results were equalized with metabolic equivalent (ME), subjecting 9 ME units to strenuous activities, 5 ME units to moderate activities, and 3ME units to mild activities, and summarizing the units obtained within 7 days. In 7 days, it is necessary to obtain 24 or more ME (about 14 kcal/kg/week or more) in order to provide additional health benefits, 14-23 ME units (between 7 and 13.9 kcal/kg/week) in order to influence several health aspects, but less than 14

ME units (less than 7 kcal/kg/week) have almost no influence on person's health (Cronbach's Alpha 0.562).

To obtain more detailed information about students' PA habits, the second part of questionnaire was developed containing questions about activities such as moving at home or at work place, shopping, walking in a slow pace, walking from work to public transport, and also accessibility of organized PA in higher educational establishments (6 questions, Cronbach's Alpha 0.502).

The third part of the questionnaire was based in Icek Ajzen's Theory of planned behaviour (2006), and 18 items were formulated emphasizing four main factors that influence human behaviour: (1) attitude (10 items); (2) subjective beliefs of an individual (5 items); (3) perceived behavioural control (behavioural control refers to people's perceptions of their ability and resources to perform a given behaviour) (2 items); (4) intention (the result of first three factors) (1 item). The responses were structured following the Likert scale. Before completing the questionnaire, the students were informed which PA can be considered as sufficient: 30 min or more moderate intensity activity accumulation at least 5 days a week or at least 20 min of very powerful activities per day 3 or more days a week (Cronbach's Alpha 0.864).

Correlations between PA, ME and factors influencing behaviour are calculated conducting a non-parametric data analysis Spearman correlation, SPSS 16.

Respondents: 158 full-time first year students (age 19-26; 20, 4 ± 3.5, 17 men, 141 women) and 52 part-time first year students (age 20-34; 28.5 ± 7.9, 2 men, 50 women).

## Results

The research results showed that during last 7 days, 38.6% full-time and 30.8% part-time students have not engaged in high-intensity physical activities, 24.1 % full-time and 30.8% part-time students have engaged once, 13.3 % part-time and 11.5% full-time students – twice, but 17.7% full-time and 26.7 % part-time students have engaged in high-intensity physical activities three times or more.

During last 7 days, 20.9 % full-time and 28.8 % part-time students have not engaged in moderate-intensity physical activities, 21.5 % full-time and 13.5 % part-time students have engaged once, 17.4 % full-time and 15.4% part-time students - twice, but 30.4 % full-time and 30.7 % part-time students have engaged in moderate-intensity physical activities 3 times or more.

During last 7 days, 64.6 % full-time and 38.5 % part-time students have not engaged in mild-intensity physical activities, 12 % full-time and 44.2 % part-time students have done it once, 10.1 % full-time and 9.6 % part-time students – twice, 5.7 % full-time and 1.9 % part-time students – 3 times, but 7.5 % full-time and 5.7 % part-time students have engaged in mild-intensity physical activities 4 times or more (Tab. 1).

**Table 1**

Students' participation in PA of different intensity  
(*a* – full-time; *b* – part-time students)

	none (%)		once (%)		twice (%)		3 times (%)		4 times (%)		5 times (%)		6 times (%)		7 times (%)	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
1.*	38.6	30.8	24.1	30.8	13.3	11.5	8.2	11.5	6.3	3.8	4.4	3.8	1.3	3.8	3.8	3.8
2.**	20.9	28.8	21.5	13.5	17.1	15.4	10.1	11.5	7.6	5.8	12	9.6	3.2	3.8	7.6	11.5
3.***	64.6	38.5	12	42.2	10.1	9.6	5.7	1.9	2.5	1.9	0.6	0	1.9	1.9	2.5	1.9

\* During last 7days, how many times have you performed a high-intensity physical activity for more than 15 minutes?

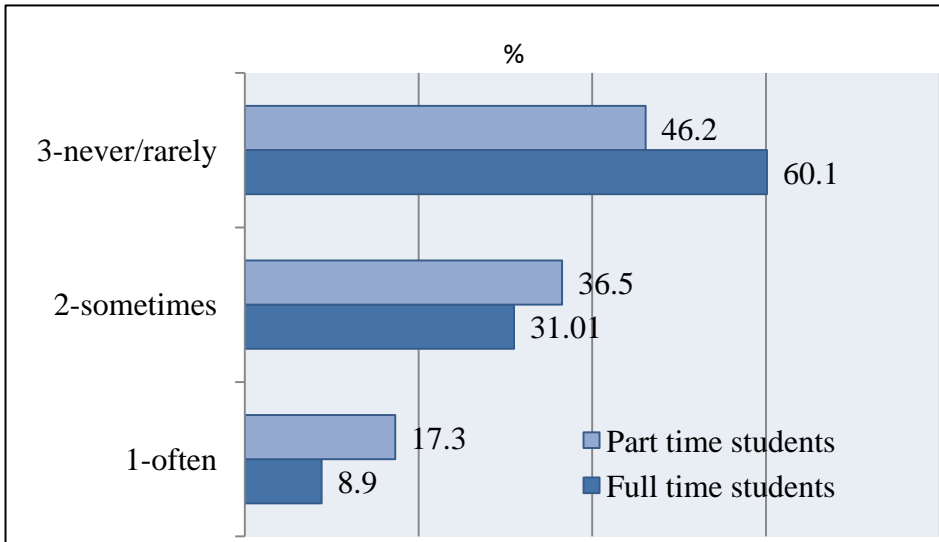
\*\*During last 7days, how many times have you performed a moderate-intensity physical activity for more than 15 minutes?

\*\*\*During last 7days, how many times have you performed a low-intensity physical activity for more than 15 minutes?

On question 4, 'During last 7days, how often have you engaged in any regular activity long enough to work up a sweat?', there were 3 types of responses, and the results are the following: 8.9 % full-time and 17.3 % part-time students often engage in regular PA, 31 % full-time and 36.5% part-time students – sometimes, but the answer of 60.1 % full-time and 46.2 % part-time students was – never. Students are not engaging enough in high intensity PA, therefore the cardio-respiratory capacity is not trained sufficiently (Fig. 1).

Analysing Godin's and Shephard's questionnaire on PA and calculating ME units, it was observed that 50 % full-time and 55.8% part-time students have accumulated 24 ME and more within last 7 days, which corresponds to PA that provide additional health benefits. Calculated ME units correlate with high intensity PA Spearman's rho Sig. (2-tailed) 0.824  $p < 0.01$ ; moderate intensity PA 0.804,  $p < 0.01$ , low intensity PA 0.399  $p < 0.01$ . High and moderate intensity PA closely correlate with ME, and

there is a weak correlation between low-intensity PA and sufficient PA that would provide additional health benefits.



**Figure 1.** During last 7 days, how often have you engaged in any prolonged PA enough to work up a sweat (with considerable increase of heart beat and breathing rate)?

In the second part of the questionnaire, in addition to questions about PA in the spare time, some traditional questions were added: (1) about additional PA, which could be characterized as moderate intense; (2) if students are performing strength exercises at least twice a week as it is suggested by WHO; (3-4) about daily PA walking to/from the university or work, and walking during the lunch break at university or work; (5) if students go for at least 10 minutes moderate or fast-pace walk just for the sake of exercising; (6) about taking part in PA offered by the university.

Summarizing the responses on the question: ‘besides the above mentioned PA, how many times during last 7 days you performed any moderate-intensity activities for 30 min or more?’ (this can include working in the yard or any activity not mentioned as PA in items 1- 4), the following results were obtained: during last 7 days, 17.1 % full-time and 15.4 % part-time students do not engage in extra PA, 20.3 % full-time and 13.5 % part-time students performed extra PA once, 17.1 % full-time and 17.3 % part-time students – twice, 15.8 % full-time and 13.5 % part-time students – 3 times, 19.7 % full-time and 49.4 % part-time students – 4 times and more.

There is a correlation between PA and ME units Spearman's rho Sig. (2-tailed) 0.607;  $p < 0.01$ . The given correlations show the frequency of this type of PA in this study, and the efficiency of this type of PA providing (additional) health benefits.

Strength development exercises (WHO recommendations) are not performed by 58.9 % full-time and 42.3 % part-time students. At least once a week strength exercises are done by 15.2 % full-time and 28.8 % part-time students, twice a week – by 11.4 % full-time and 9.6 % part-time students, but 3 times a week – by 5.7 % full-time and 5.8 % part-time students. There is a medium close correlation between the particular PhA and ME units Spearman's rho Sig. (2-tailed) 0.422;  $p < 0.01$ . The medium close correlation can be explained with insufficient use of strength development exercises among the respondents.

During last 7 days, the average time that students have spent walking to/from university or work is  $388.8 \pm 158.72$  minutes for full-time students and  $227.8 \pm 235.17$  minutes for part-time students. Within the frame of this research, significant reliable correlations between this activity and calculated ME are not found, thus these activities do not provide for students additional health benefits.

During last 7 days, the average time that students have spent walking at lunch time at university or work is  $112.5 \pm 117.2$  minutes for full-time and  $123.9 \pm 119.8$  minutes for part-time students. But in order to complete their daily needs, full-time students have walked  $383.3 \pm 790.9$  minutes, but part-time students –  $154.9 \pm 160.9$  students. Within the frame of this research, significant reliable correlations between this activity and calculated ME are not found, thus walking at university or work do not provide for students additional health benefits.

54.3 % full-time and 55.8 % part-time students have performed moderate and fast-paced walking for the sake of exercising (at least 10 min a day). There is a weak correlation between this activity and ME units Spearman's rho Sig. (2-tailed) 0.326;  $p < 0.01$ .

Only 12 % full-time and 5.8 % part-time students participated in sports activities organized by higher educational establishments, but 17.1 % full-time and 21.2 % part-time students took part in activities organized outside their universities. The higher educational establishments involved in this research do not provide a sufficient range of sport activities, and part-time students, when in university, mostly spend their time concentrating on their studies. These conditions create a weak negative correlation with ME units Spearman's rho Sig. (2-tailed) – 0.227;  $p < 0.01$ , and do not influence significantly students' PA.

The additional PA, acquired from the second part of the questionnaire, were equalized according to the methodology of Godin G. used for calculating ME, and they were added to already existing ME. The results showed that sufficient PA, which provide additional health benefits, were performed by 67.7 % full-time and 71.1 % part-time students, that is, 17.7 % more for full-time and 15.4 % more for part-time students in comparison with the data obtained from the first part of the questionnaire.

Summarizing acquired data about students' PA habits, it can be concluded that:

1. Analysing the questionnaires on PA suggested by Godin G. and calculating ME units, it became clear that during last 7 days 50 % full-time and 55.8% part-time students have obtained 24 and more ME units, which corresponds with PA that provides essential health benefits.
2. 20.2 % full-time and 28.8% part-time students performed the strength exercises at least twice a week as it is suggested by WHO.
3. Assessing the responses to the question: "Besides the above mentioned PA, how many times during last 7 days you performed any moderate-intensity activities for 30 min or more?", only activities of 6.3% full-time and 15.4 % part-time students (that is, at least 30 min moderate-intensity PA every day) can be considered as sufficient.
4. 54.3 % full-time and 55.8 % part-time students had done moderate and fast-paced walking for the sake of exercising for at least 10 min.
5. During last 7 days, doing the daily chores, full-time students had walked in average 14.24 hours, which is 2 hours a day; but part-time students – in average 8.43 hours, which is 1,1 hour a day.

In the third part of survey, which was based on theory of planned behaviour (TPB), the main factors influencing human behaviour were analysed. They are: (1) attitude towards PA, (2) subjective understanding about PA, (3) perceived behavioural control (referring to human perceptions of their ability to conduct PA), and (4) intentions (planned PA in the future).

Attitude, according to TPB, characterizes the behavioural patterns of an individual; the values from which the individual derives his/her behavioural norms; and in addition, the individual's value orientation and his/her experience are closely related to each other (Ajzen I., 2006). In this survey 8 variables were used evaluating the attitudes of students, 2 control-questions, and Likert scale (from 1 – 7).



**Table 2**

## Attitudes towards physical activity

Participation in regular physical activities for me is:		Mean	Std. Error
1.	Absolutely useless → very useful	6.3	0.08
2.	Absolutely boring → very interesting	5.5	0.09
3.	Extremely harmful → extremely beneficial	6.4	0.05
4.	Extremely unpleasant → extremely pleasant	5.5	0.09
5.	Extremely difficult → very easy	4.5	0.1
6.	Extremely stupid → very clever (activity)	6.1	0.07
7.	Extremely bad → extremely good	6.2	0.06
8.	Extremely stressful → extremely relaxing	4.7	0.1

1. There are no reliable correlations between the usefulness of PA and accumulated ME units.

2. There is a weak correlation between the interest in PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.269;  $p < 0.01$

3. There is a very weak correlation between the beneficial effect of PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.188;  $p < 0.01$

4. There is a weak correlation between the pleasantness of PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.291;  $p < 0.01$

5. There is a weak correlation between the difficultness or easiness of PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.280;  $p < 0.01$

6. There are no reliable correlations between PA as smart behaviour and accumulating sufficient ME.

7. There is a weak correlation between goodness of PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.226;  $p < 0.01$

8. There are no reliable correlations between stressfulness of PA and accumulating sufficient ME.

In summary, students recognize the need for PA, highly rate the benefits of PA and its positive influence on health. Importance of PA is followed by attitude towards PA, liking and interest. PA is evaluated as rather pleasant and interesting activity, and for students is neither easy, nor difficult. In general, attitude is in weak correlation with sufficient PA.

Subjective perception of students about PA, in accordance with TPB, is a result of social norms and different influences (Tab. 3).

**Table 3**

Subjective perception of students about physical activity

Items for determining subjective perception of students		Mean	Std. Error
1.	Most people who are important to me consider that I should participate in regular physical activities strongly disagree → strongly agree	3.9	0.1
2.	Most of the people who are important to me take part in regular physical activities strongly disagree → strongly agree	4.2	0.1
3.	Most of the people who are important for me support my participation in regular physical activities strongly disagree → strongly agree	5.4	0.1

1. There is a weak correlation between the opinion of important people and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.201;  $p < 0.05$

2. There is a weak correlation between the personal example of people the students respect and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.285;  $p < 0.01$

3. There is a weak correlation between the support of people the students respect and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.232;  $p < 0.01$

The opinion of people respected by the students is basically neutral, although the closest people rather support than do not support PA, but often they do not show the initiative and do not influence students' engagement in PA by their personal example.

Perceived behavioural control in accordance with TBP relates to people's perception and their ability to perform a specific action (Tab. 4).

**Table 4**

Perceived behavioural control of students.

Items of perceived behavioural control		Mean	Std. Error
1.	If only I wanted , I could participate in regular physical activities: strongly disagree → strongly agree	4.9	0.1
2.	How much control do you have when you participate in the regular physical activities? very little control → complete control	4.0	0.1
3.	I take part in regular physical activities ___ days a week	2.3	0.1

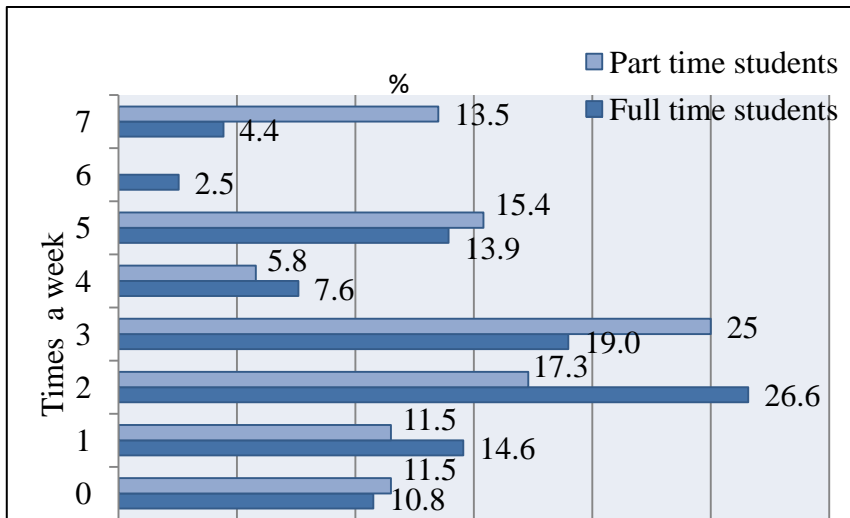
1. There is a weak correlation between students who ‘If only they wanted, they could participate in regular physical activities’ and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.285;  $p < 0.01$ .

2. There is a medium strong correlation between control over PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.448;  $p < 0.01$ .

3. There is a strong correlation between already performed PA and accumulating sufficient ME; Spearman's rho Sig. (2-tailed) 0.716;  $p < 0.01$ .

The ability to engage in PA students evaluate as if they wanted they could participate in PA, which suggests that there are no serious obstacles for them to engage in physical activities. Respondents sometimes control PA and sometimes do not, which suggests that the motivation for performing PA is not strong enough. Before participating in this survey, the students performed PA in average twice a week.

Intention is indication of person's readiness to engage in a particular activity, and that is considered as a priori behaviour. Intention is based on attitude towards behaviour, subjective norm and perceived behavioural control. Intention is connected with the action in the future and is included in the first item: I plan to engage in regular physical activities days per week (mean 2.7; St. Error 0.1) (Fig. 2).



**Figure 2.** Intention of students to engage in PA

This intention to engage in sufficient PA correlates with gathering sufficient ME Spearman's rho Sig. (2-tailed) 0.618;  $p < 0.01$ . 4.4 % full-time and 13.4 % part-time students have the intention to plan their PA in future 7

times a week (at least 20 min intense PA 3x a week or 30 min. moderate intense PA 5 x a week), 2.5 % full-time students – 6 times a week, 13.9 % full-time and 15,4 % part-time students – 5 times a week, 7.6 % full-time un 5.8 % part-time students – 4 times a week, 19 % full-time and 25 % part-time students – 3 times a week, 26.6 % full-time un 17,3 % part-time students – twice a week, but once a week – 14.6 % full-time and 11,5 % part-time students. 10.8 % full-time and 11.5 % part-time students do not plan to participate in PA.

The acquired correlations show the mutual connections and impact of attitude, subjective behavioural control and intention on formation of PA habits. The main behaviour influencing elements of TPB allow to understand deeper the correlations of formation of PA habits, but does not cover such PA influencing factors as environmental impact, although our study showed a weak correlation between PA offered by universities and PA in which the students get engaged. These correlations cannot be ignored. Similarly like intention is formed by the sum of three elements, therefore factors such as near and distant surrounding environment can bring a considerable influence.

## Discussion

Godin`s and Shephard`s Leisure -Time Physical Activity Questionnaire has been translated in several languages and quoted at least 1000 times; its validity is approved and recommended for using in medicine and sports science, and the amount of PA is appropriate for measuring the health benefits (Godin, 2011).

PA decreases starting from the late teens, and this trend is continuing until the end of one`s life, leading to different health problems. The most commonly used excuses for not exercising are: lack of time, lack of social support, health condition, and lack of premises for PA in the close surroundings. Therefore, it is important to apply behavioural change theories in researching PA as they give additional information which later can be used for elaborating PA programs. Also the world praxis proves the relevance of standard exercise programs and special health-related PA programmes, which are organized and implemented in traditional or special health groups, as membership in such groups brings an effective long-term behaviour change with a positive impact on health (Biddle Stuart et al, 2011).

In recent years, statistical and research data show the following results: in Latvia 42% of higher education students do not attend sports activities as they are not mandatory, 34% attend sports activities if they are organized by

the universities, but 52% of young people do not engage in PA outside the university (Koroļova I., 2010, 41 - 45). The data of this research show a very small group of students (12%), who engage in sport activities in their universities. Because of the economic reasons, many universities are offering limited opportunities for PA, allocating the resources to sports teams but not supporting organized PA for maintenance and improvement of students' health.

Eurostat data for 2008 (sample – students and people who already have obtained higher education, age groups 15 -24 and 25 - 34) show that in Latvia the average PA indicator is 63.7% , which is the leading figure among the post-Soviet countries. FINBALT Latvia (2010) research (which says that in physical exercises at least 30 min, 2-3 times a week or more, engage only 39.9% respondents) contradicts with Eurostat data on PA. Also the data obtained by our research (50% and 55.8% of students actively engaging in PA) indicate a smaller range of physically active respondents, and this fact can be interpreted as a worrying sign – decrease of physical activity among the population and also the students.

## Conclusions

50 % full-time and 55.8% part-time students engage sufficiently in some type of PA, which brings essential health benefits.

Additional PA generally increase the accumulated ME units, but they do not provide a balanced development of all physical characteristics.

The world praxis proves the effectiveness of traditionally complex approach, which includes such activities as informing, educating, creating of positive environment, elaboration of PA programmes and monitoring, therefore all correlations revealed by this research are considerable.

## References

1. Ajzen, I., (2006). Constructing a theory of planned behaviour questionnaire. Retrieved April,14, 2013, from: <http://people.umass.edu/aizen/pdf/tpb.measurement.pdf>
2. Eurostat Statistics (2012). Retrieved April,14, 2013, from: [http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public\\_health/data\\_public\\_health/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/data_public_health/database)
3. Godin, G. & Shephard, R. J. (1985). Godin leisure- time exercise questionnaire. Retrieved April, 14, 2013, from: [http://www.dapa-toolkit.mrc.ac.uk/documents/en/God/Godin\\_Leisure-Time\\_Exercise\\_Q.pdf](http://www.dapa-toolkit.mrc.ac.uk/documents/en/God/Godin_Leisure-Time_Exercise_Q.pdf)
4. Godin, G. (2011). The Godin-Shephard Leisure-Time Physical Activity Questionnaire.

5. Health&Fitness Journal of Canada, ISSN1920-6216, Vol.4, No.1. March 1, 2011-19 Retrieved April,14, 2013, from:  
<http://www.healthandfitnessjournalofcanada.com/index.php/html/article/view/82/49>
6. Latvijas Republikas Izglītības un zinātnes ministrija.(2009). *Jaunatnes politikas valsts programma 2009.-2013.gadam*. [National Youth Policy Programme for 2009 to 2013] Retrieved April,14, 2013, from:  
<http://polsis.mk.gov.lv/view.do?id=3134>
7. Koroļeva, I. (2010). *Studentu un vidējo profesionālo izglītības iestāžu audzēkņu aptaujas rezultāti*. [Students and vocational education students survey results.] Rīga, Latvijas Universitātes Filozofijas un socioloģijas institūts. Retrieved April, 21, 2013, from:  
[http://www.fsi.lu.lv/userfiles/Aptaujas\\_rezultatu\\_atksaite.pdf](http://www.fsi.lu.lv/userfiles/Aptaujas_rezultatu_atksaite.pdf)
8. Latvijas Republikas Izglītības un zinātnes ministrija. (1995). *Augstskolu likums*. [Law on Higher Education] Retrieved April,14, 2013, from:  
<http://www.likumi.lv/doc.php?id=37967>
9. Latvijas Republikas Veselības ministrija. *Tava veselība*. [Latvian Ministry of Health. Your health] Retrieved April,14, 2013, from:  
[http://www.vm.gov.lv/lv/tava-veseliba/veseligs\\_un\\_aktivs\\_dzivesveids/fiziska\\_aktivitate/](http://www.vm.gov.lv/lv/tava-veseliba/veseligs_un_aktivs_dzivesveids/fiziska_aktivitate/)
- 10.Latvijas Veselības ekonomikas centrs. (2010). *Latvijas iedzīvotāju veselību ietekmējošoparadumu pētījums*. [Health Behaviour among Latvian Adult Population, 2010] Rīga, ISBN 978-9984-837-35-2 (pdf)
- 11.Latvijas Republikas Izglītības un zinātnes ministrija. *Nacionālā sporta attīstības programma 2006. – 2012.gadam*. [National Sports Development Program of the 2006 – 2012] Retrieved April,14, 2013, from:  
[http://izm.izm.gov.lv/upload\\_file/Sports/IZM\\_190710\\_NSAP.pdf](http://izm.izm.gov.lv/upload_file/Sports/IZM_190710_NSAP.pdf)
- 12.Latvijas Republikas Saeima. (2012). *Nacionālais attīstības plāns 2014. – 2020.gadam*. [Latvian National Development Plan of the 2014. - 2020.] Retrieved April,14, 2013, from:  
[http://nap.lv/images/20121220\\_NAP2020\\_Saeim%C4%81\\_apstiprin%C4%81ts.pdf](http://nap.lv/images/20121220_NAP2020_Saeim%C4%81_apstiprin%C4%81ts.pdf)
- 13.World Health Organization, 2009. *Global health risks: mortality and burden of disease attributable to selected major risks*. Retrieved April, 14, 2013 from:  
[http://www.who.int/healthinfo/global\\_burden\\_disease/GlobalHealthRisks\\_report\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf)
- 15.World Health Organization. (2010). *Global Recommendations on Physical Activity for Health*© ISBN 978 92 4 159 997 9, (NLM classification: QT 255) 23 – 29 p. Retrieved April,14, 2013, from:  
[http://whqlibdoc.who.int/publications/2010/9789241599979\\_eng.pdf](http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf)

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