



Physical activity level among students and teachers in the Algerian university environment

مستوى النشاط البدني لدى الطلبة والأساتذة في الوسط الجامعي بالجزائر

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Date Received: 14./04/2023

Date of acceptance: 20./04/2021

Date of publication: 16/06/2021

Abstract

The study aimed to measure the physical activity among students and teachers of some Algerian universities. The sample included (61) respondents, of whom (30) were teachers and (31) were students, whose ages ranged between (19-60 years old), and they were chosen by a simple random way. To collect data, the international physical activity questionnaire (Arabic version) was used to measure the physical activity level among the sample. The results showed that the level of physical activity of males is higher than that of females, whether among students or teachers. Teachers (male and female) tend to engage in physical activities which intensity varied between walking to moderate physical activity. Male students tend to engage in physical activities which intensity varied between walking to vigorous physical activity. While female students tend to engage in physical activities correspondent to the moderate physical activity type.

Keywords

Physical activity level; Types of physical activity; University students; University teachers.

الملخص

هدفت الدراسة إلى قياس مستوى النشاط البدني ونسبة الإصابة بأمراض العصر لدى طلبة وأساتذة بعض الجامعات الجزائرية، وقد اشتملت العينة (61) مستجوب منهم (30) من الأساتذة و (31) من الطلبة وتتراوح أعمارهم بين (19 - 60 سنة)، وتم اختيارهم بطريقة عشوائية بسيطة. ولجمع البيانات تم استخدام استبانة النشاط البدني الدولية (النسخة العربية) واستبانة أمراض العصر المصممة من طرف الباحث، وهذا لقياس مستوى النشاط البدني ونسبة الإصابة بأمراض العصر لدى أفراد العينة. وقد أظهرت النتائج أن مستوى النشاط البدني للذكور أعلى منه عند الإناث سواء عند الطلبة أو الأساتذة. كما يميل الأساتذة (ذكورا وإناثا) وينخرطون في نشاطات بدنية من نوع المشي إلى النشاط البدني المعتدل. ويميل الطلاب إلى الانخراط في الأنشطة البدنية التي تتفاوت شدتها بين المشي إلى النشاط البدني القوي. بينما تميل الطالبات إلى الانخراط في أنشطة بدنية تتوافق مع نوع النشاط البدني المعتدل..
الكلمات الدالة مستوى النشاط البدني؛ أنواع النشاط البدني؛ طلاب الجامعة؛ أساتذة الجامعة.



1-Introduction:

There is no doubt that the way of living in the current time differs greatly from its counterpart in previous eras, as this century witnessed a great development in all its aspects in order to upgrade and develop the life of human societies, till the individual enjoys well-being in all aspects of life, and accordingly new patterns of human behavior emerged. depending on the new lifestyle; Such as a decrease in the level of physical activity among individuals, an increase in physical inactivity, and emergence of improper eating habits, which led to a negative impact on the individual's health, both physical and psychological. Thus, diseases that did not exist or spread in this way appeared in previous eras, but WHO consider physical inactivity more dangerous than these diseases in society; Which cited in (G. Grimby, M. et al, 2015, p119); that Physical inactivity is considered by the World Health Organization (WHO) to be the fourth most important risk factor for overall death globally.

Physical inactivity is a modifiable risk factor for cardiovascular disease and a widening variety of other chronic diseases, including diabetes mellitus, cancer (colon and breast), obesity, hypertension, bone and joint diseases (osteoporosis and osteoarthritis), and depression (Darren E.R. et al, 2006, p801)

For that, in 2018, the World Health Assembly (WHA) approved a new Global Action Plan on Physical Activity (GAPPA) and adopted a new voluntary global target to reduce global levels of physical inactivity in adults and adolescents by 15% by 2030, and improve health. (Fiona C Bull, et al, 2020, p1451)

So, in recent years, there has been substantial emphasis on efforts to promote physical activity along the continuum of individual-level and population-based interventions. (Vijay GC, et al, 2016, P408)

WHO emphasis that adults should be physically active and less sedentary at work. As it should older adults, in particular, whether working or not, should benefit from regular physical activity to maintain physical, mental and social health. (WHO, 2018, P7)

According to (Hans-Christian Miko, et al, 2015, p185), Regular physical activity contributes to both maintaining and improving health, and is important for human development throughout the entire lifespan of a person. There is strong evidence for the beneficial effect the areas of all-cause mortality, cancer, cardiovascular health, musculoskeletal health, metabolic health, and neurocognitive health.

In this context; (Vicki S. Conn, et al, 2011, p751) stated that adequate physical activity is linked with important health outcomes, including reductions in cardiovascular disease, type 2 diabetes, some cancers, falls, osteoporotic fractures, and depression, and improvements in physical function, weight management, and quality of life. Despite this compelling evidence for the benefits of physical activity, healthy adults commonly get an inadequate amount of physical activity

In this regard (Hans-Christian Miko, et al, 2015, p185) say that physical activity includes any form of movement in which the contraction of skeletal muscles results in an increase in energy consumption. It is quantified and controlled via the frequency, duration, intensity, and weekly extent. All those forms of movement that improve health and in which the risk of injury is low are defined as health-enhancing physical activity

According to (WHO, 2022, p3), Physical activity can be undertaken in a variety of ways, such as walking, cycling (for the purposes of this report, the term cycling includes other forms of personal mobility, such as the use of scooters or wheelchairs) and sport or active recreation

In this context; (Güner. Ç, 2018, p1141) mentioned that physical activity is a good way for the person to improve his physical, psychological and emotional health and well-being. And there are four basic environments in which individuals can be physically active. These environments are workplace, transportation (Walking, cycling etc.), households and leisure time activities.

In this frame; WHO emphasizes that taking action to improve physical activity levels through increased walking and cycling, sport, active

recreation and play can also contribute to achieving the 2030 Sustainable Development Goals (SDGs), in particular SDG3 on health, but also multiple other targets (WHO, 2021, p2)

In this regard (Gary O 'Donovan, et al, 2010, p575) were mentioned that all healthy adults aged 18–65 years should aim to take part in at least 150 min of moderate-intensity aerobic activity each week, or at least 75 min of vigorous-intensity aerobic activity, or equivalent combinations of moderate- and vigorous-intensity aerobic activities.

Though that, Worldwide, 1 in 4 adults, and 3 in 4 adolescents (aged 11–17 years), do not currently meet the global recommendations for physical activity set by WHO. (WHO, 2018, P6)

In the same frame, economically stable countries (about 60–70% of them) do not achieve even the minimum level of physical activity recommended by the World Health Organization in order to maintain health and energy balance (Vidran, K, et al, 2022, p1)

In this regard, (Abassi, 2008) mentioned that the reality experienced today by sports practice in general, and physical education in particular in our country calls for predicting its consequences for society. As the percentage of those involved in sports clubs and sports activities is very small, it does not exceed 2% compared to the number of members of society, and this percentage has been declining in recent years.

In view of what was mentioned by Abassi, this percentage pertains to many age groups under the age of thirty, and hence other age groups may lack sports practice, which makes them vulnerable to an increase in the physical inactivity in light of availability of comfort necessities and lack of activity in daily life. This is currently confirmed by WHO; Percentage of physical inactivity for adults aged 18+ in Algeria, was 27% for males and 40% for females (WHO, 2022, p13).

Among these groups we find a very important segment in terms of their impact on the progress and advancement of society, represented by members of the university community of students, employees and

professors, whose ages range from 19 to over 60 years, and then taking care of their health is the safety valve for society. In order to rectify this and take appropriate measures to preserve their health, it is necessary to know first their physical activity level. This study aims to measuring the physical activity level among students and teachers of some Algerian universities. And detection of differences in physical activity level according to gender, age and type of activity of the sample.

This is by answering the following questions:

-What is the level of physical activity among both students and teachers in the university community?

-Are there significant differences in the level of physical activity according to the gender of the sample members?

-Are there significant differences in the level of physical activity according to the age of the sample members?

-Are there significant differences in the level of physical activity according to the type of physical activity among the sample members?

2- Previous studies:

Study of (Arun. K. V; et al, 2022), which among aims to describing the physical activity levels of the students in a large public-funded central university in northern India. This is a cross-sectional descriptive study and uses (IP A Q)—Long Form to record physical activity among 4586 students. Stratified sampling method was used to enroll the students from each stream (faculty). The study was conducted between 2016 and 2019. The results indicate that about 14.5% of all students in the study fall under the “Inactive” category. And found that physical activity levels go on decreasing as the age increases

Study of (Vidran. K, et al, 2022), the aim of this systematic review was to examine the scientific evidence regarding physical activity and physical fitness among university students. An electronic databases search (Google Scholar, PubMed, Science Direct, and Scopus) yielded 11,839 studies. Subsequently, the identified studies had to be published



in English between 2011 and 2021, the experimental study had to have included males and females attending a faculty, and the participants had to have been evaluated for physical activity and fitness. A total of 21 studies were included in the quantitative synthesis, with a total of 7306 participants, both male and female. After analyzing the obtained results, it could be concluded that university students show a satisfactory level of physical activity and physical fitness. However, the results vary due to different factors involved, mostly related to the cultural differences and educational systems in different countries.

Study of (Ivana. M, et al, 2022), which the aim was to examine differences between students in physical activity levels at the University of Tuzla. The study was conducted using (IPAQ long form). The study was conducted on a sample of 813 students (321 male and 492 female) 1st cycle of studies at the University of Tuzla. The results shows that male students achieved higher levels of physical activity at a statistically significant level in four out of a total of seven variables.

Study of (Ivor. D, et al, 2021), which the aims of this study were to provide preliminary IPAQ scores among Sarajevo University students and compare them by gender. 103 students aged $22,32 \pm 1,90$, who did not participate in additional trainings and/or organized physical activities were included in this study. Croatian version of Physical Activity Questionnaire (long IPAQ self-evaluation questionnaire) was used to evaluate respondent's physical activity levels. The results indicate that the student population is most involved in moderate activities, both on a weekly and daily basis. In all variables representing physical activity, higher values were observed in male students, while female students had higher values in sitting.

Study of (Güner. Ç, 2018), This study was to investigate the physical activity and quality of life of sports department students (SDS) and other department students (ODS) attending university. A total of 300 university students participated in this study. 150 SDS including 89 males and 61 females and 150 ODS 56 males and 94 females. To determine the physical activity levels, International Physical Activity

Questionnaire (IPAQ) short and Quality of Life questionnaire-short form (WHOQOL-BREF) were applied. The weekly physical activity scores of SDS and ODS were 5386.24 ± 3528.47 MET-min/week and 1616.85 ± 1249.12 MET-min/week respectively and statistically difference was found ($p < 0.001$).

Study of (Ivana. M, et al, 2018), which the aim was to determine the level of physical activity and differences among students, of the University of Tuzla, in relation to gender. The study was conducted using the long version of the (IPAQ). The study was conducted on a sample of 813 students (321 male and 492 female) 1st cycle of studies at the University. The results showed that the total data indicates that in this group of students the physical activity level is sufficient and that there is a lower physical activity among females than males.

Study of (Nana. K An, et al, 2018), which the aim is to explore the relationship between Health-Related Quality of Life (HRQoL) and Physical Activity. Using a sample of 5,537 adults (40–60 years) from a representative national survey in England (Health Survey for England 2008). HRQoL was assessed using the summary measure of health state utility value derived from the EuroQol-5 Dimensions (EQ-5D) whilst PA was assessed via subjective measure (questionnaire) and objective measure (accelerometer- actigraph model GT1M). The actigraph was worn (at the waist) for 7 days (during waking hours) by a randomly selected sub-sample of the HSE 2008 respondents (4,507 adults – 16 plus years), with a valid day constituting 10 hours. Analysis was conducted in 2010. The results suggest that higher levels of PA are associated with better HRQoL.

3 -Terms:

3.1 -Physical activity

Any bodily movement produced by skeletal muscles that requires energy expenditure. (WHO, 2020)

3.2- Physical activity level



The physical activity level is a technique to express number of daily physical activity and to estimate a total of energy expenditure each person (Fransiskus X W, Friska S, 2020, p3).

3.3- Types of physical activity (Walking, Moderate, Vigorous-intensity physical activity)

Moderate-intensity physical activity: On an absolute scale, moderate-intensity refers to the physical activity that is performed between 3 and less than 6 times the intensity of rest. On a scale relative to an individual's personal capacity, moderate-intensity physical activity is usually a 5 or 6 on a scale of 0–10. (WHO, 2020)

Vigorous-intensity physical activity:

On an absolute scale, vigorous-intensity refers to physical activity that is performed at 6.0 or more METS. On a scale relative to an individual's personal capacity, vigorous-intensity physical activity is usually a 7 or 8 on a scale of 0–10. (WHO, 2020)

4- Methods

4.1- Research Design:

Descriptive approach was adopted due to the nature of this study.

4.2- The study exploratory:

We conducted a preliminary survey in order to identify the sample of the original community, The international Physical Activity Questionnaire (IPAQ) was distributed to an exploratory sample, consisting of 30 students of Msila University and that's in order to ensure the validity and reliability of the study tools.

4.3- Participants:

After collecting questionnaire data for measuring the level of physical activity, which were distributed in Excel format by e-mail, the incomplete or contradictory questionnaires were excluded after emptying them, so there were only (61) responses from universities such as Mohamed Boudiaf in Msila and the University of Setif 2, Farhat Abbas University, Mohamed Lamine Dabaghin University, Bordj Badji Mokhtar Annaba University, and Oum El-Bouaghi University. as shown according to (Table 1).

Table N°1: distribution of the sample members according to gender

Participants	Male	Female	Total
Teachers	21	9	30
Students	17	14	31
Total	38	23	61

4.4 -Data Collection Procedures:

4.4.1 -The International Physical Activity Questionnaire (IPAQ):

The international physical activity questionnaire for young people and adults 15-69 years old (IPAQ), (is a self-administered, 7-day recall instrument), the Arabic version; Where it corresponds to the age stages of the study community, including university students and teachers

Validity of the International Physical Activity Questionnaire:

The validity of the questionnaire was verified by calculating the internal consistency between questions and the total degree of the questionnaire to which they belong, (Table 2)

Table N°2: Matrix of Correlations of Questions with the Total Score of the International Physical Activity Questionnaire (n=30)

Question	Correlation	Question	Correlation	Question	Correlation
Q1	0.363*	Q10	0.667**	Q19	0.865**
Q2	0.741**	Q11	0.841**	Q20	0.516**
Q3	0.885**	Q12	0.435*	Q21	0.648**

Q4	0.754**	Q13	0.717**	Q22	0.640**
Q5	0.634**	Q14	0.651**	Q23	0.920**
Q6	0.492**	Q15	0.881**	Q24	0.863**
Q7	0.774**	Q16	0.769**	Q25	0.797**
Q8	0.568**	Q17	0.720**	Q26	0.676**
Q9	0.499**	Q18	0.684**	Q27	0.628**

**Significant Correlation, $P < 0.01$

*Significant Correlation, $P < 0.05$

Reliability of the International Physical Activity Questionnaire:

The reliability of the questionnaire was confirmed by calculating Cronbach's alpha coefficient, (Table 3)

Table N°3: Alpha-Cronbach coefficient for the questionnaire (n =30)

Questionnaire	Cronbach's alpha coefficient
The international Physical Activity questionnaire (27 questions)	0.958

According to (Table 3): the (IPAQ) has a high degree of reliability

4.5- Data Analysis:

Data analysis was done by (SPSS) software.

5. Results

5.1- The physical activity level for both university students and teachers.

The (IPAQ) measures the type of physical activity (walking, moderate activity, vigorous activity) and its level (low, medium, high) during a week, and this is what the results show in Table 4

Table N°4. The physical activity level for both university students and teachers.

Activity type	Teachers				Students		
	Sex	Num	Average	SD	Num	Average	SD
Walking	Male	21	2893.79	1723.48	17	1619.91	1520.31
	Female	9	3032.33	1473.88	14	853.29	674.02
Moderate	Male	21	2471.43	2323.47	17	1246.18	1449.20
	Female	9	3892.22	1430.26	14	2442.50	1397.02
Vigorous	Male	21	1643.81	1551.69	17	1736.18	2050.81
	Female	9	564.44	967.56	14	56.25	133.38

It shown through (Table 4), that the physical activity level among the respondents in general ranged from moderate to high, while the type of physical activity (walking, moderate activity, vigorous activity), so the average walking for students was (1619.91) minutes, and for females it was (853.29) minutes. For teachers, it was (2893.79) minutes, and for females it was (3032.33) minutes per week. The average moderate physical activity for students was (1246.18) minutes per week, and for females it was (2442.50), and for teachers it was (2564.25), while for females it was (3892.22) minutes per week. As for vigorous physical activity, the average for students was (1736.18) and (56.25) minutes for females, while the average for teachers was (1643.81) minutes per week, and (564.44) minutes for females.

5.1.1- Differences between means of physical activity level among university teachers according to gender.

T-Student test was used to calculate the differences between means of physical activity level for university teachers according to gender, (Table 5).

Table N°5: Differences between means of physical activity level for university teachers by gender



Activity type	Sex	Num	Average	SD	Fd	(T)	Sig
Walking	Male	21	2893.79	1723.48	28	-0.21	No Sig
	Female	9	3032.33	1473.88			
Moderate	Male	21	2471.43	2323.47	28	-1.69	No Sig
	Female	9	3892.22	1430.26			
Vigorous	Male	21	1643.81	1551.69	28	1.92	No Sig
	Female	9	564.44	967.56			

According to (Table 5), there is non-significant difference between means in physical activity level in all activity types for university teachers (males and females).

5.1.2- Differences between means of physical activity level among university students according to gender.

T-Student test was used to calculate the differences between means of physical activity level for university students according to gender, (Table 6).

Table N°6: Differences between means of physical activity level for university students by gender

Activity type	Sex	Num	Average	SD	Fd	(T)	Sig
Walking	Male	17	1619.91	1520.31	29	1.75	No Sig
	Female	14	853.29	674.02			
Moderate	Male	17	1246.18	1449.20	29	-2.32	0.03
	Female	14	2442.50	1397.02			
Vigorous	Male	17	1736.18	2050.81	29	3.05	0.00
	Female	14	56.25	133.38			

According to (Table 6), there is a significant difference $P < 0.03$ between means in physical activity level in activity types for university students (males and females), except in walking activity type there is non-significant difference.

5.1.3- Differences between means of physical activity level among sample members male according to age group.

T-Student test was used to calculate the differences between means of physical activity level among sample members male according to age group, (Table 7).

Table N°7: Differences between means of physical activity level for sample members male according to age group.

Activity type	Groups	Num	Average	SD	Fd	(T)	Sig
Walking	Teachers	21	2893.79	1723.48	35	2.47	0.02
	Students	17	1619.91	1520.31			
Moderate	Teachers	21	2471.43	2323.47	35	2.01	0.05
	Students	17	1246.18	1449.20			
Vigorous	Teachers	21	1643.81	1551.69	35	-0.04	No Sig
	Students	17	1736.18	2050.81			

According to (Table 7), there is a significant difference $P < 0.05$ between means in physical activity level in activity types sample members male in favor of teachers, except in vigorous activity type there is non-significant difference.

5.1.4- Differences between means of physical activity level among sample members female according to age group.

T-Student test was used to calculate the differences between means of physical activity level for sample members female according to age group, (Table 8).

Table N°8: Differences between means of physical activity level for sample members female according to age group.



Activity type	Groups	Num	Average	SD	Fd	(T)	Sig
Walking	Teachers	9	3032.33	1473.88	21	4.84	0.01
	Students	14	853.29	674.02			
Moderate	Teachers	9	3892.22	1430.26	21	2.41	0.03
	Students	14	2442.50	1397.02			
Vigorous	Teachers	9	564.44	967.56	21	1.96	No Sig
	Students	14	56.25	133.38			

According to (Table 8), there is a significant difference $P < 0.03$ between means in physical activity level in activity types among sample members female in favor of teachers, except in vigorous activity type there is non-significant difference.

5.1.5- Differences between means of physical activity level among male university teachers according to type of activity.

T-Student test was used to calculate the differences between means of physical activity level for male university teachers according to type of activity. (Table 9).

Table N°9: Differences between means of physical activity level for male university teachers according to type of activity.

Activity type	Num	Average	SD	Fd	(T)	Sig
Walking	21	2893.79	1723.48	40	0.67	No Sig
Moderate	21	2471.43	2323.47			
Walking	21	2893.79	1723.48	40	2.47	0.02
Vigorous	21	1643.81	1551.69			
Moderate	21	2471.43	2323.47	40	1.36	No Sig
Vigorous	21	1643.81	1551.69			

According to (Table 9), there is non-significant difference between means in physical activity level in activity types among male university teachers, except in walking and vigorous activity type in favor of walking at $P < 0.02$

5.1.6- Differences between means of physical activity level among female university teachers according to type of activity.

T- test was used to calculate the differences between physical activity level for female university teachers giving to activity type. (Table 10).

Table N°10: Differences between means of physical activity level for female university teachers according to type of activity.

Activity type	Num	Average	SD	Fd	(T)	Sig
Walking	9	3032.33	1473.88	16	-1.26	No Sig
Moderate	9	3892.22	1430.26			
Walking	9	3032.33	1473.88	16	4.20	0.01
Vigorous	9	564.44	967.56			
Moderate	9	3892.22	1430.26	16	5.78	0.01
Vigorous	9	564.44	967.56			

According to (Table 10), there is a significant difference $P < 0.01$ between means in physical activity level among female university teachers in walking and vigorous physical activity type and between moderate and vigorous physical activity type, in favor of walking and moderate physical activity type respectively, except in walking and moderate activity type there is non-significant difference.

5.1.7- Differences between means of physical activity level among male university students according to type of activity.

T-Student test was used to calculate the differences between means of physical activity level for male university students according to type of activity. (Table 11).



Table N°11: Differences between means of physical activity level for male university students according to type of activity.

Activity type	Num	Average	SD	Fd	(T)	Sig
Walking	17	1619.91	1520.31	32	0.73	No Sig
Moderate	17	1246.18	1449.20			
Walking	17	1619.91	1520.31	32	2.47	No Sig
Vigorous	17	1736.18	2050.81			
Moderate	17	1246.18	1449.20	32	1.36	No Sig
Vigorous	17	1736.18	2050.81			

According to (Table 11), there is non-significant difference between means in physical activity level in all activity types among male university students.

5.1.8- Differences between means of physical activity level among female university students according to type of activity.

T-Student test was used to calculate the differences between means of physical activity level for female university students according to type of activity. (Table 12).

Table N°12: Differences between means of physical activity level for female university students according to type of activity.

Activity type	Num	Average	SD	Fd	(T)	Sig
Walking	14	853.29	674.02	26	-3.86	0.01
Moderate	14	2442.50	1397.02			
Walking	14	853.29	674.02	26	4.34	0.01
Vigorous	14	56.25	133.38			

Moderate	14	2442.50	1397.02	26	6.36	0.01
Vigorous	14	56.25	133.38			

According to (Table 12), there are significant differences $P < 0.01$ between means in physical activity level among female university students in walking and moderate physical activity type in favor of moderate physical activity type, and between walking and vigorous physical activity type and between moderate and vigorous physical activity type, in favor of walking and moderate physical activity type respectively.

6. Discussion

6.1- The physical activity level for both university students and teachers.

The manifest results showed in (Table 4), that the level of physical activity among the respondents in general during the week ranged from medium to high, and this agreed with study of (virdan, et al, 2022, p9), which indicate that university students show a satisfactory level of physical activity and physical fitness. And study of (Arun. K. V; et al, 2022, p9) about India students, which reported a better physical activity pattern in comparison to the reported overall physical activity levels of the adult population. while according to the type of physical activity (walking, moderate physical activity, vigorous physical activity), the average level of physical activity in walking for male students was higher than for females. On the contrary, the level of physical activity of the teachers was lower than that of female teachers. While the average of physical activity level in moderate physical activity type for male students was less than for females, and same thing for university teachers. As for the average of physical activity level in vigorous physical activity, the physical activity level per week. for male students was higher than for females, and the same thing for teachers.

In general, the results show that the level of physical activity among female students and teachers is lower than that of males, and most of their physical activity is in the category of moderate physical activity.

And this agreed with (Liliana. E R, et al, 2015, p1766) study which concluded, that the majority of female university students are sedentary and they do not have a good enough level of physical activity. Conversely, most males' physical activity is between moderate physical activity and vigorous physical activity. And that agreed with (Ivana. M, et al, 2018, p29), study which indicate a lower physical activity among females than males.

.6.1.1- Differences between physical activity level among university students and teachers according to gender.

By comparing the physical activity level by gender, (Table 5) shows a similar level of physical activity in all types of physical activity (walking, moderate, and vigorous), among university teachers (males and females). While the level of physical activity among university students (males and females) was similar in walking activity, and was in favor of females in the type of moderate physical activity, while the physical activity level was in favor of males in the type of vigorous physical activity (Table 6). In this context, the results study of (Ivor. D, et al, 2021) indicate that the student population is most involved in moderate activities, both on a weekly and daily basis. In all variables representing physical activity, higher values were observed in male students, while female students had higher values in sitting.

6.1.2- Differences between physical activity level among sample members according to age group.

According to (Table 7) and (Table 8), there is an approximate level of physical activity in vigorous physical activity type, according to age group, for both males and females. While there are differences between physical activity level among sample members according to age group in walking and moderate physical activity, for both males and females, in favor of teachers. These results agreed with (Barbara J Jefferis, 2014, p1) study, which found that physical activity levels are particularly low in older people; in many countries (e.g., UK, other Europe, North Americas and Brazil), and levels decline steeply in older age

6.1.3- Differences between physical activity level among sample members according to type of activity.

According to (Table 9), (Table 10), (Table 11), (Table 12), It is clear from the results that the level of physical activity of the university male teachers decreases whenever the type of physical activity practiced changes from walking, moderate to vigorous physical activity, and same thing about university female teachers. And that agreed with (Arun. K. V; et al, 2022, p9), which found that physical activity levels go on decreasing as the age increases. While the physical activity level for male university students is approximate in all physical activity types. However, the physical activity level among female university students in general situate in the practice of physical activities in the moderate physical activity type

Conclusion:

It has been shown that the level of physical activity of males is higher than that of females, whether among students or teachers. In the other hand, the level of physical activity of the university teachers (male and female) decreases whenever the type of physical activity practiced changes from walking, moderate to vigorous physical activity. Conversely, the level of physical activity increases for male students whenever the intensity of activity increased. However, this physical activity level among female students in general situate in the practice of physical activities in the moderate-intensity of physical activity type.

References

1-Abassi. Zohra (2008), *Le corps dans les activités physiques et sportives : Les entraves à l'expression corporelle*. Alger : Office des Publications Universitaire.

2-Arun Kumar Verma; Girish Singh; Kishor Patwardhan (2022), *Patterns of Physical Activity Among University Students and Their Perceptions About the Curricular Content Concerned with Health: Cross-sectional Study*, *JMIRx Med.*, 3 (2), 1- 12.
<https://xmed.jmir.org/2022/2/e31521/PDF>



3-Barbara J Jefferis, Claudio Sartini, I-Min Lee, Minkyong Choi, Antoinette Amuzu , Christina Gutierrez , Juan Pablo Casas, Sarah Ash , Lucy T Lennon , S Goya Wannamethee and Peter H Whincup (2014), Adherence to physical activity guidelines in older adults, using objectively measured physical activity in a population-based study, Jefferis et al. BMC Public Health, 14:382 .1-9
<http://www.biomedcentral.com/1471-2458/14/382>

4-Darren E.R. Warburton, Crystal Whitney Nicol, Shannon S.D. Bredin (2006), Health benefits of physical activity: the evidence, CMAJ • 174(6), 801-809.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1402378/pdf/20060314s00023p801.pdf>

5-Fiona C Bull, Salih S Al-Ansari, Stuart Biddle, Katja Borodulin, Matthew P Buman, Greet Cardon, Catherine Carty, Jean-Philippe Chaput, Sebastien Chastin , Roger Chou, Paddy C Dempsey, Loretta DiPietro, Ulf Ekelund , Joseph Firth, Christine M Friedenreich, Leandro Garcia, Muthoni Gichu, Russell Jago , Peter T Katzmarzyk, Estelle Lambert , Michael Leitzmann, Karen Milton , Francisco B Ortega, Chathuranga Ranasinghe, Emmanuel Stamatakis , Anne Tiedemann, Richard P Troiano , Hidde P van der Ploeg, Vicky Wari, Juana F Willumsen (2020), World Health Organization guidelines on physical activity and sedentary behaviour, Bull FC, et al. Br J Sports Med, 54, 1451–1462.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7719906/pdf/bjsports-2020-102955.pdf>

6-Gary O'Donovan, Anthony J. Blazevich, Colin Boreham, Ashley R. Cooper, Helen Crank, Ulf Ekelund, Kenneth R. Fox, Paul Gately, Billie Giles-Corti, Jason M. R. Gill, Mark Hamer, Ian McDermott, Marie Murphy, Nanette Mutrie, John J. Reilly, John M. Saxton & Emmanuel Stamatakis (2010) The ABC of Physical Activity for Health: A consensus statement from the British Association of Sport and Exercise Sciences, Journal of Sports Sciences, 28 (6), 573-591,



<https://www.tandfonline.com/doi/epdf/10.1080/02640411003671212?needAccess=true&role=button>

7-Global action plan on physical activity 2018–2030: more active people for a healthier world. Geneva: World Health Organization; 2018.

<https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf>

8-Global status report on physical activity 2022. Geneva: World Health Organization; 2022.

<https://www.who.int/teams/health-promotion/physical-activity/global-status-report-on-physical-activity-2022>

9-G Grimby, M. Björjesson, I. H. Jonsdottir, P. Schnohr, D. S. Thelle, B. Saltin, (2015), The “Saltin–Grimby Physical Activity Level Scale” and its application to health research, Scand J Med Sci Sports 2015: 25 (4): 119–125.

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/sms.12611>

10-Güner Çiçek (2021), Quality of Life and Physical Activity among University Students, Universal Journal of Educational Research 6 (6), 1141–1148.

<https://www.hrpub.org/download/20180530/UJER2-19511558.pdf>

11-Hans-Christian Miko, Nadine Zillmann, Susanne Ring-Dimitriou, Thomas Ernst Dorner, Sylvia Titze, Robert Bauer (2020), Effects of Physical Activity on Health, 82 (3), S184–S195.

<https://eplus.uni-salzburg.at/obvuboa/content/titleinfo/5522404/full.pdf>

12- Ivana Ćosić Mulahasanović, Amra Nožinović Mujanović, Edin Mujanović, Alem Šabović, Ivan Ledić, (2022), Analysis of differences between male and female students in the physical activity assessment test IPAQ, Sport SPA, 19 (1), 37–41.

<https://www.researchgate.net/publication/362176751>

13- Ivana Ćosić Mulahasanović, Amra Nožinović Mujanović, Edin Mujanović, Almir Atiković, (2018), Level of physical activity of the



students at the university of tuzla according to IPAQ, Central European Journal of Sport Sciences and Medicine, 21 (1), 23–30. <https://pdfs.semanticscholar.org/52be/791da55c60fd759971bd8dd96d24d2cdc35e.pdf>

14- Ivor Doder, Erol Kovačević, Ensar Abazović, Fuad Babajić, Amel Mekić (2021), Physical activity Level of Sarrjevo university students, Homo Sporticus, 23 (1), 9- 12. <https://www.researchgate.net/publication/355235739>

15- Liliana-Elisabeta Radua, Simona-Pia Făgăraș b, Gynetta Vanvuc, (2015) Physical Activity Index of Female University Students, Procedia - Social and Behavioral Sciences 191, p1763 – 1766. https://www.researchgate.net/publication/282536293_Physical_Activity_Index_of_Female_University_Students

16- Nana Kwame Anokye, Paul Trueman, Colin Green, Toby G Pavey, and Rod S Taylor (2012), Physical activity and health related quality of life, BMC Public Health, 12:624, 1-8. <https://doi.org/10.1186/1471-2458-12-624>

17-Promoting physical activity through primary health care: a toolkit. Geneva: World Health Organization; 2021. <https://apps.who.int/iris/bitstream/handle/10665/350835/9789240035904-eng.pdf?sequence=1&isAllowed=y>

18-Vicki S. Conn, RN, Adam R. Hafdahl, and David R. Mehr (2011), Interventions to Increase Physical Activity Among Healthy Adults: Meta-Analysis of Outcomes, American Journal of Public Health, 101 (4), 751-758. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052337/pdf/751.pdf>

19-Vidran Kljajevic, Mima Stankovic, Dušan Đorđević, Drena Trkulja-Petkovic, Rade Jovanovic, Kristian Plazibat, Mario Oršolic , Mijo Curic and Goran Sporiš, (2022), Physical Activity and Physical Fitness among University Students—A Systematic Review, Int. J. Environ. Res. Public Health, 19, 158. 1-12.



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8750240/pdf/ijerph-19-00158.pdf>

20-Vijay GC,1 Edward CF Wilson,1,2 Marc Suhrcke,1,3,4 Wendy Hardeman,5 Stephen Sutton, (2016), Are brief interventions to increase physical activity cost-effective? A systematic review, GC V, et al. Br J Sports Med, 50 (7): 408–417.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4819643/pdf/bjsports-2015-094655.pdf>

21-WHO guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization; 2020.

<https://www.who.int/publications/i/item/9789240015128>.