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SportMont

ORIGINAL SCIENTIFIC PAPER

Associations between Sport Practice, Educational and Demographic Data in Sports Sciences Students in Salerno

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Abstract

The relationship between physical inactivity and students is a topic of growing interest, as lifestyle during academics can influence their general health and mental and physical well-being. The aim of the present study was to perform a survey on the sports habits of university students, to detect associations between physical practice, demographic and educational data. The sample consisted of 246 Sports Science students (age: 22.35±3.39 years) whom a survey, based on literature review and ISTAT survey, was administered via e-mail. Descriptive statistics were used to summarize data, while Chi-Square was performed to test the relationship between demographic, educational and physical practice data. Significant associations emerged between leisure-time physical practice and gender, personal beliefs and the arithmetic mean of the exams ($p<0.05$). Women predominantly practised fitness and dance, while men fitness and soccer. Men participated more in extracurricular activities than women. Most of the students who practised physical activity x 4/5 times a week had a grade average between 26-28, while those who practise it for 2/3 times a week also obtained grades between 28-30. Finally, most of those who considered physical activity important for daily life, did it in their free time. This study highlighted the importance of considering environmental, cultural, social, and spatial variables, variation in which can significantly affect the sports practice.

Keywords: *physical practice, leisure time, study level, habits, health*

Introduction

The relationship between physical inactivity and students is a topic of growing interest (Stavridou et al., 2020), as lifestyle during academics can influence their general health and mental and physical well-being. University students may spend long hours sitting during classroom lectures or during individual study (Castro et al., 2020). Sedentariness may increase due to the long study sessions required to prepare exams and projects, as well as the frequent use of electronic devices, such as laptops and tablets. Furthermore, the lack of active breaks during study sessions can exacerbate sedentariness (Lynch et al., 2022). The availability of time and resources affects participation in physical activity; infact, busy university students may find it difficult to integrate regular exercise into their daily routine (Arzu et al., 2006). Academic pressures and the workload of university students can often lead to a reduction in the time devoted to regular physical activity (Zhu et al., 2021). Therefore, the presence of sports facilities and physical activity programmes near the university campus may have an impact on students' physical activity adherence (Hsieh et al., 2013). Students living on university campuses may have access to on-site sports facilities, facilitating the inclusion of physical activity in their daily routine (Cradock et al., 2007); those who live off campus may face additional challenges in maintaining an active lifestyle. Physical inactivity among university students may vary depending on different demographic and educational factors (Kljajević et al., 2021). College students are typically young adults, and age may influence the level of physical activi-

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ty (Goje et al., 2014). In general, younger students may be more inclined to participate in physical activities than older students (Nowak et al., 2019). Gender differences may also influence the level of physical activity. Several studies (Carballo-Fazanes et al., 2020; Thomas et al., 2019) suggest that, in some cases, boys might be more involved in physical activities than girls during their university years. The socio-economic level of students may have an impact on the availability of resources and opportunities for physical activity (DiPietro et al., 2020). Students from families with a higher socio-economic level might have more access to sports facilities and fitness programmes (Dong et al., 2023). Finally, the choice of more demanding courses of study could influence the amount of time available for physical activity, but no evidence was found in the literature.

Excessive sedentariness and physical inactivity are two risk factors that lead to chronic and metabolic diseases, such as cardiovascular disease, type 2 diabetes etc. (Altavilla, 2016). Physical exercise during university is of paramount importance and offers a number of beneficial effects that go far beyond improving physical health. Exercise is correlated with better mental health: it reduces stress, anxiety and depression, promotes emotional well-being and can improve sleep quality (Wang & Boros, 2021). This contributes to improved ability to cope with academic challenges, as university students often face high levels of stress due to workload and deadlines. Physical activity can improve cognitive functions, including memory, attention and learning ability, which are particularly important during the university years to improve academic performance (Haverkamp et al., 2020).

The number of studies that focus on factors influencing the sport participation during Italian university is limited. One of the best known surveys that aims to detect the behaviour and habits regarding physical activity in the Italian population is carried out periodically by the National Institute of Statistics (ISTAT 2015; 2017; 2019). The problem is that the data collected concern the national territory, without taking into consideration the environmental, territorial, and cultural differences that significantly affect psychophysical and developmental levels (Raiola et al., 2018; Raiola, 2020). In fact, the same ISTAT data show that sports and physical activity are practiced in Italy with different rates depending on the main socio-demographic variables: gender, age, educational qualification, income, geographic location and other variables (Martelli & Porro, 2018). Therefore, the aim of the present study was to perform a survey on the sports habits of university students, to detect associations between physical practice, demographic and educational data. Our hypothesis is that several variables may hinder the choice to practice physical activity in own free time, and knowing them, it will be possible to find strategies to break them down.

Methods

Design and participants

The study design was observational and associative. Participants were University students attending the Bachelor's Degree in Sports Science and Exercise or the Master's Degree in Sports Science and Technique (LM68) at University of Salerno. A total of 246 Sports Science students, 103 women (22.06±3.03 years), and 143 men (22.5±3.6 years), from University of Salerno answered the survey. Inclusion criteria were University students, sports science students, Italian residence. The study was conducted according to the guidelines of the Declaration of Helsinki. Informed consent was obtained from all participants. Data were treated anonymously.

Data collection

An ad-hoc survey, based on literature review and ISTAT (2015; 2017; 2019) reports, was prepared using Google Forms, which generated a link sent to representatives of the University of Salerno's Sports Science association, who sent it via social (WhatsApp, Telegram, Instagram and Facebook). The survey aimed to investigate demographic, educational and physical practice data. Item were 14, as follows in Table 1.

Table 1. Item of the questionnaire

1.	Gender
2.	Ubication
3.	What year of study are you in?
4.	What is the arithmetic mean of your exams?
5.	Do you have back exams?
6.	How much time on average do you spend studying each day?
7.	How effective do you think the course of study you are taking is in relation to your future expectations?
8.	Do you currently practice physical activity?
9.	How many times a week do you practice physical activity?
10.	For how long?
11.	What kind of physical activity do you practice regularly?
12.	How important is physical activity to you?
13.	How many people in your family (parents and siblings) exercise or have exercised regularly?
14.	Have you ever practiced regularly extracurricular physical activity?

Statistical analysis

Descriptive statistics were used to summarize the data into Mean [M] and standard deviation [SD] and frequencies/ percentages (F / %). A Chi-Square test (X^2) was performed (Aliberti et al., 2023) to test the associations between demographic, educational and physical practice data. Statistical significance was set at $P \leq 0.05$. Data analyses were performed using Statistical Package for Social Science software (IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY).

Results

The majority (108/43.9%) came from Salerno. Students attended the 3rd of the degree course in Sports Science (101/41.1%); the arithmetic average was 26 - 28 / 30 (97/39.4%); they had no backlog of exams (177/72%); the average study time was 2-3 hours (87/35%) and 1-2 hours (65/25.6%). Seventy-nine percent (194) practiced physical activity during leisure time for 4/5 times a week (80/32.5%), or 2-3 times a week (73/29.7%), with an average duration of 1-2 hours per session (172/69.9%). Most considered physical activity important (106/43.1%), practicing mainly fitness (90/36.6%) and soccer (32/13.0%). 28.5% (70) have almost 2 people in their family who do physical activity regularly.

Significant associations were found between gender and arithmetic mean of exams (X^2=27.58; p<0.001), practice of extracurricular activities (X^2=6.92; p<0.10), average time of study (X^2=39.55; p<0.00), type of physical activity practiced (X^2=49.13; p<0.00). A detailed description in shown in Table 2.

Table 2. Relationships with gender

		Gender		X^2; P
		Women	Men	
What is the arithmetic mean of your exams?	20-24	3	25	27.58; <.00
	24-26	25	50	
	26-28	44	53	
	28-30	30	15	
Have you ever practiced regularly extracurricular physical activity?	No	10	3	6.92; <.10
	Yes	93	140	
How much time on average do you spend studying each day?	<1 hour	7	24	39.55; <.00
	1-2 hours	20	43	
	2-3 hours	37	50	
	3-4 hours	25	18	
	> 4 hours	14	8	
What kind of physical activity do you practice regularly?	Non-practitioners	26	26	49.13; <.00
	Martial arts	1	10	
	Basket	3	5	
	Dance	12	1	
	Fitness	45	45	

Table 3. Relationships with the degree course attended

		What year of study are you in?					X^2; P
		1st (Master's degree)	2nd (Master's degree)	1st (Bachelor's degree)	2nd (Bachelor's degree)	3rd (Backelor's degree)	
Do you have back exams?	No	19	20	50	29	59	43.28; <.00
	Yes	0	10	1	16	42	
What is the arithmetic mean of your exams?	20-24	2	0	13	5	8	47.99; <.00
	24-26	3	3	15	14	40	
	26-28	10	13	12	18	44	
	28-30	4	14	10	8	9	
	<20	0	0	1	0	0	
How effective do you think the course of study you are taking is in relation to your future expectations?	1	0	0	0	0	1	58.64; <.01
	2	0	1	0	0	3	
	3	0	1	0	1	5	
	4	0	2	0	2	5	
	5	2	2	1	0	10	
	6	3	4	5	4	19	
	7	7	6	8	15	29	
	8	7	5	23	12	17	
	9	0	4	4	7	4	
	10	0	1	10	4	5	

Significant associations were found between the degree course and back exams (X^2 =43.28; p<0.00), arithmetic mean of exams(X^2 =47.99; p<0.00), perception on the effectiveness of the course of study (X^2 =58.64; p <0.01). A detailed description is shown in Table 3.

Significant associations were found between the arithmetic mean of exams and average study time (X^2 =34.08; p<0.02), degree program (X^2=27.91; p<0.03), gender (X^2 =47.99; p<0.00), frequency of physical practice (X^2 =27.58; p<0.00). A detailed description is shown in Table 4.

Table 4. Relationships with arithmetic mean of student exams

		What is the arithmetic mean of your exams?					X^2; P
		20-24	24-26	26-28	28-30	<20	
How much time on average do you spend studying each day?	Less than one hour	8	12	10	1	0	34.08; <.02
	1-2 hours	7	21	28	6	1	
	2-3 hours	12	24	35	16	0	
	3-4 hours	1	13	16	13	0	
	>4 hours	0	5	8	9	0	
How many times a week do you practice physical activity?	Non-practitioner	9	15	16	11	1	27.91; <.03
	1 a week	0	0	1	0	0	
	2/3 times a week	5	16	29	23	0	
	4/5 times a week	11	26	35	8	0	
	6/7 times a week	3	18	16	3	0	
What year of study are you in?							47.99; <.00
Gender							27.58; <.00

Table 5. Relationships with back exams

		Do you have back exams?		
		No	Yes	
How much time on average do you spend studying each day?	<1 hour	14	17	19.19; <.00
	1-2 hours	41	22	
	2-3 hours	73	14	
	3-4 hours	33	10	
	> 4 hours	16	6	
What year of study are you in?				43.28; <.00

Significant associations were found between back exams and average study time (X^2 =19.19; p<0.00), degree program (X^2 =43.28; p<0.00). A detailed description is shown in Table 5.

Finally, there was a relationship between the importance of physical activity and physical practice (X^2= 60.00; p<0.00). A detailed description is shown in Table 6.

Table 6. Relationship with the importance of physical activity

		How important is physical activity to you?									X^2; P
		1	3	4	5	6	7	8	9	10	
Do you currently practice physical activity?	No	1	1	1	3	5	12	16	4	9	60.00; <.00
	Yes	0	0	0	0	2	10	54	31	97	

Discussion

The results showed significant associations between sports practice, educational and demographic data. The sample was predominantly made up of men (58.1%). Most of the participants resided in the province of Salerno (43.9%), followed by Naples (19.5%) and Avellino (12.6%). Most students attended the third year of the bachelor's degree program in Sports Sciences (41.1%), had an arithmetic mean ranging from 26 to 28 (39.4%) and 24 to 26 (30.5%). About 72% did not have any back exams, the average time of study ranged between 2 - 3 hours (35.4%) and considered the own study course to be quite effective in relation to their expectations. About 78.9% practiced physical activity 4/5 times a week (32.5%) and 2/3 times a week (29.7%) for about 1-2 hours (69.9%) per session. The predominant activity practiced was fitness (36.6%). About 43.1% placed the highest importance on physical activity. Ninety-four percent regularly engaged in extracurricular physical activity. In the family 28.5% had almost 2 people who regularly practiced physical activity while 21.5% had only one.

From Chi-Square analysis, a relationship between gender and the arithmetic mean of the exams, practice of extracurricular activities, average time of study, type of activity practiced, emerged. In fact, it seemed that females had a higher arithmetic mean than males and they studied more. This may

be due to the fact that females used more successful strategies than males (Simsek & Balaban, 2010). According to Voyer & Voyer (2014) girls consistently earned better grades than boys. Twenty-nine percent of females had an average study ranging from 28 - 30 and 42.7% between 26 - 28 versus 10.5% and 37.1% of males, respectively. Most females studied between 2-3 hours per day (35.9%) as well as males (35.0%) but 24.3% of females studied 3 to more than 4 hours per day, compared to 12.6% of males. Males, on the other hand, were more physically active than women, in fact 30.8% of males practiced physical activity 4-5 times a week and 20.3% 6/7 times a week, compared to 35.0% and 10.7% of females, respectively. So, it could be that males preferred to spend more time to physical practice than to study (Peral-Suárez et al., 2020). Females of all ages were less active than their male peers (University of Exeter, 2009), even in the European Union (Eurobarometer, 2014). The average time for both was 1-2 hours per session. The activities predominantly performed by females were fitness (43.7%) and dance (11.7%), while males practiced mainly fitness (31.5%) and soccer (13.0%). According to Peral-Suárez et al. (2020) girls usually opted for individual sports with artistic connotations, while boys for team or contact sports.

Other relationships were found between the study course level and back exam, arithmetic mean of exams and perceptions about the effectiveness of the course of study. Master's degree students had a higher average than Bachelor's degree students. Those who make it to the Master's degree were motivated and this had a direct consequence on grades (Amabile, 2014). The vote in Master's degree is very important as it affects competitions (Raiola, 2012; 2013; 2017). Bachelor's degree students had more back exams than students in other years. Only one Master's degree student had back exams. In addition, back exams were associated with study time, in that those who studied for fewer hours had more back exams than those who studied for more hours. Most students from the first year of the Bachelor's degree experienced greater course effectiveness, compared to those from other years. Other relationships were found between arithmetic mean of exams and average study time, degree program, gender and training frequency. Those who spend more time studying had a higher arithmetic mean of exams. In addition, those who work out 2-3 times a week manage to have a high average, between 28 and 30, compared to those who work out several times a week, whose average starts to fall between 24 and 28. Finally, a relationship was found between perceptions about the importance of physical practice and physical practice itself. Those who practice physical activity perceived a greater importance regarding physical practice than those who did not practice it. Physical activity was considered very important by Sports Science students (Raiola, 2019abc). In fact, both practiced a lot of physical activity, although women slightly less. However, women studied for more hours than men and earned a better vote. It is important to investigate and disseminate information about a correct lifestyle (Altavilla, 2016) to prevent risks of various types, such as cardiovascular disease (Altavilla et al., 2018), type 2 diabetes (Salierno et al., 2021), to promote sports inclusion (D'Isanto, 2020; Di Domenico et al., 2022) and so on. Today, with the COVID-19 pandemic, things are changing (Raiola & Aliberti, 2021; Raiola et al., 2021) and therefore it would be interesting to investigate the consequences of the pandemic towards students and physical practice.

The study allowed us to highlight the differences found at the local level compared to surveys conducted on a national scale. This allows us to better understand the situation in our area to try to solve the problems and needs of citizens and students (D'Elia, 2019; 2020; D'Elia et al., 2018). However, this study has been addressed to a limited number of subjects and this has not allowed us to highlight territorial differences, since for most places the numbers are too low. Therefore, we postpone to future studies the possibility of expanding the target audience of the survey to make comparisons for each individual country. In any case, a number of significant associations were identified that may allow us to understand the relationship between study data, physical practice and gender.

Conclusion

The majority of Sports Science students practice physical activity in their free time, preferring gym activities rather than sports activities, meeting World Health Organization guidelines. Several variables influence leisure-time physical activity, including gender, personal beliefs and the arithmetic mean of exams. Women predominantly practised fitness and dance, while men fitness and soccer. Men participated more in extracurricular activities than women. Most of the students who practised physical activity x 4/5 times a week had a grade average between 26-28, while those who practise it for 2/3 times a week also obtained grades between 28-30. Finally, most of those who considered physical activity important for daily life, did it in their free time. The main reason why we think that surveys should be carried out at the local level and not on a national scale is that in this way it is possible to observe fundamental variables, which have a significant impact on psychophysical and developmental levels. In this study, it was highlighted precisely how fundamental it is in a survey to take into account these environmental, cultural, social and territorial variables, since the variation of only one of these, even within the same territory, can determine significant differences, significantly affecting the result itself. Therefore, the survey is designed to address the needs of individual subjects, and conducting it at national level does not allow for specific information, which is crucial for effective intervention.

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Conflict of Interest
The author declares that there is no conflict of interest.

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