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**SOCIODEMOGRAPHIC CHARACTERIZATION AND BARRIERS TO PHYSICAL ACTIVITY OF UNIVERSITY EXTENSION PARTICIPANTS****CARACTERIZAÇÃO SOCIODEMOGRÁFICA E BARREIRAS PARA PRÁTICA DE ATIVIDADE FÍSICA EM PARTICIPANTES DE EXTENSÃO UNIVERSITÁRIA****Letícia Detore Develey<sup>1</sup>, Gabriel Peinado Costa<sup>1</sup>, Arthur Polveiro da Silva<sup>1</sup>, Camila de Moraes<sup>1</sup>, Átila Alexandre Trapé<sup>1</sup>**<sup>1</sup>University of São Paulo, Ribeirão Preto, SP, Brazil.**RESUMO**

O engajamento na prática de atividade física (AF), bem como o acesso e as barreiras percebidas, podem estar associados a fatores sociodemográficos e comportamentais, sendo que a extensão universitária pode buscar atender às demandas da comunidade. Este estudo teve como objetivo caracterizar os participantes dos projetos de extensão de uma universidade do interior de São Paulo e investigar as barreiras para a prática de AF. Pessoas adultas e idosas participantes ativas dos projetos que promovem a AF responderam a um formulário online para obtenção dos dados sociodemográficos e instrumentos para avaliar a condição econômica e as barreiras à prática de AF. A maioria se declarou branca (76,0%), mulher (65,8%), adulto jovem (36,7%) ou meia-idade (38,6%), com plano de saúde privado (72,1%), de classe econômica A-B (aproximadamente 80%) e com ensino médio ou superior completo (91,1%). A barreira mais comum foi jornada de trabalho extensa (60,8%), seguida por compromissos familiares (47,5%), sendo que esta última apresentou associação com gênero, tendo os homens apresentado esta barreira com maior frequência. Os resultados demonstram que a gratuidade não parece ser um fator que aumenta o acesso das pessoas de condição socioeconômica menos favorecida à AF.

**Palavras-chave:** Atividade física. Educação física. Objetivos de realização.**ABSTRACT**

Engagement in physical activity (PA), as well as access and perceived barriers, may be associated with sociodemographic and behavioral factors, and university extension can seek to meet the demands of the community. This descriptive and cross-sectional study, with a quantitative approach, aimed to characterize the participants in the extension projects of a university in the interior of São Paulo and to investigate the barriers to the practice of PA. A total of 158 adults and elderly people active in the projects took part. Data was collected using an online form, including sociodemographic information, economic status (Brazilian Economic Classification Criteria), and an instrument for perceived barriers to PA. Participants were predominantly self-declared white (76.0%), female (65.8%), young adult (36.7%) or middle-aged (38.6%), from economic classes A-B (80.0%), and had completed high school or undergraduate studies at the University (91.1%). The most frequently reported barriers were long working hours (60.8%) and family commitments (47.5%). The latter was associated with gender, being more frequent among men. The results indicate that the fact that the projects are free of charge does not guarantee wider access to the population from lower socio-economic backgrounds. In addition, the barriers reinforce the importance of a support network to enable regular PA practice.

**Keywords:** Physical activity. Physical Education. Achievement goals.**Introduction**

The habit of practicing physical activities can offer biological benefits, such as increased strength and aerobic power, as well as the prevention and control of chronic non-communicable health conditions<sup>1</sup>. Far beyond that, it can promote beneficial effects for health in an integral way, including social, cognitive, and psychological aspects, such as: a sense of well-being; interaction with other people and with the environment; bonds that can be established with practice, with the teacher, and with other people; self-esteem; improved sleep quality and reduced levels of stress, anxiety, and depression<sup>2-4</sup>. Experiencing these positive effects can contribute to an improved perception of quality of life.<sup>5</sup>

Broadening the understanding of the reasons why individuals perform physical activity, in addition to the known benefits on physical, psychological, and social aspects, has become fundamental. Thus, it was also necessary to broaden the meaning of the concept of physical

activity, no longer being defined merely as energy expenditure above resting levels<sup>6</sup>, but as a complex behavior, influenced by multiple factors, promoting social interactions and interactions with the environment<sup>2,7</sup>. When it comes to individuals moving and acting in different contexts, several intrinsic (e.g., pleasure for activity) and extrinsic (e.g., making friends) agents can be observed, which are influenced by feelings, relationships, memories, experiences, ideals, cultures, among others<sup>8</sup>.

The practice of physical activity varies widely between individuals and circumstances. Sociodemographic factors such as gender, age, limited financial resources, time constraints, opportunities, family dynamics, and feelings about the activity can significantly influence participation. Individual perceptions and realities play a crucial role in establishing lasting bonds and engaging in physical activity. It is essential to go beyond the reductionist approach of "energy expenditure above the resting level" when analyzing these complexities and not marginalizing them<sup>7,8</sup>. In this sense, the position of some authors and documents is justified so that policies and actions to promote physical activity are focused on the possibilities of increasing the domains of free time and commuting and not on the occupational or domestic domains<sup>2,8,9</sup>.

However, when considering the domain of physical activity and sociodemographic aspects, increasing the level of physical activity can be challenging. The regularity of physical activity in free time seems to be a privilege of young, white men with high income and schooling, due to access to private places that promote physical activity and sports, green areas, flexibility at work, support network, and social norms<sup>10</sup>.

One in five Brazilians practices physical activity in their free time, according to what is recommended by international organizations. Women are less active, but show a greater concern for health compared to men. With advancing age, the level of physical activity in free time also decreases, regardless of gender. With regard to purchasing power and education, the relationship is directly proportional, i.e., the higher the levels of these factors, the greater the engagement in practice<sup>10,11</sup>. This fact can be explained by multiple factors, such as strenuous working hours for the socioeconomically disadvantaged population, components related to urban mobility and safety, such as commuting time, an insufficiently safe environment for practice, and distance from centers that promote the practice of physical activity<sup>10,12,13</sup>. Women, for example, in addition to the employment relationship, may perform more domestic tasks and be more involved with domestic and family tasks, such as taking care of children<sup>14</sup>. In this way, free time is scarce, and the willingness for any other activity is less. Therefore, it is relevant to thoroughly understand not only the scenario in which people find themselves, but also the aspects that influence the practice or non-practice of physical activity<sup>7,10</sup>.

Adherence or non-adherence to physical activity can be positively or negatively influenced by several factors. When the influence is positive, it is called motivation, facilitator or positive determinant. When negative, it is called barriers or negative determinants<sup>15</sup>. Studies on these barriers often use the classification of their determinants, as pointed out by Sallis and Owen<sup>16</sup>. These authors divide them into six dimensions: demographic and biological; psychological, cognitive, and emotional; cultural and social; environmental; characteristics of physical activity; and behavioral attributes. Such dimensions show the complexity and plurality of factors that can influence an individual to engage or not in the practice.

Among individuals who do not practice physical activity, 35.7% are aware of the risks of physical inactivity, but 27.2% claim not to have time, 12.0% do not like to exercise, 5.5% say they do not have the financial conditions to have access to physical activity. In addition, 16.9% answered that they were not aware of the risks and therefore do not practice it<sup>17</sup>. For adolescents, lack of companionship, lack of support from family and friends, inadequate climate, and limited access to places to practice physical activity are the most frequent negative

determinants. In adults, lack of motivation and lack of time are the barriers reported, while elderly people claim health conditions and physical limitations<sup>18</sup>.

The Sustainable Development Goals (SDGs), established by the United Nations in 2015, represent a global commitment to address the urgent challenges facing humanity. Composed of 17 goals, the set of SDGs aims to address, debate, and create policies and solutions to the main challenges faced by humanity. Among these goals, the promotion of health and well-being stands out: "To promote physical and mental health and well-being, and to increase life expectancy for all, we must achieve universal health coverage and access to quality health care. No one should be left behind."<sup>19</sup>.

In this path of greater attention to opportunities for access to health, university extension projects stand out as an important possibility for the promotion of physical activity, promoting the articulation of scientific knowledge, teaching, and research, with the needs of the community where the university is inserted, interacting and transforming the social reality. These actions constitute a permanent bridge between the university and society. It is important to emphasize that extension must be constructed in a democratic manner, recognizing the complexity of the world and inserting itself into the social and political reality of the population<sup>20</sup>.

Characterizing the participants, better understanding the dynamics of the functioning of university extension projects, and the relationships that the participants establish with the activities promoted can generate important results for the development of this aspect in the Universities. Understanding the target audience can contribute to the formulation of strategies aimed at democratizing access to extension and, consequently, reaching those who need it most<sup>21,22</sup>. In addition, it will be possible to collaborate for the advancement of science, allowing a deeper understanding of the facilitators and hindrances that influence the practice of physical activity, particularly in the context of university extension, since each individual, by virtue of their uniqueness, may present a variety of reasons and questions regarding the practice of physical activity. An analysis of the population in question and the factors related to the practice will allow an understanding of determining factors for engagement or non-engagement in the practice of physical activity.

In view of the SDGs, the importance of university extension expands beyond academic development and starts to play an important role in the provision of services and direct care to the population, a fact that increases its potential to generate benefits for society. However, just offering the service or care may not be enough, as people's access also depends on other factors. Thus, this study aimed to characterize the sociodemographic and health status of the participants of the extension projects of the School of Physical Education and Sport of Ribeirão Preto of the University of São Paulo (EEFERP-USP); also, to identify the barriers to the practice of physical activity, as well as whether there is an association between these and sociodemographic data. The authors' hypothesis for this work is that most of the participants in the extension projects belong to a privileged socioeconomic group: whites, with a more favored economic class and education.

## Methods

### *Participants*

All participants in this study were over 18 years of age and attended the extension projects with the promotion of physical activity offered by EEFERP-USP. This study was submitted to and approved by the Research Ethics Committee of the EEFERP-USP (CAAE: 69711523.0.0000.5659; opinion number: 6.149.663). All participants signed the Informed Consent Form and had the opportunity to clarify any doubts with the research team.

### *Methodological procedures*

Data collection was carried out using an online form (*Google Forms*), which was sent to all participants in university extension projects, including a questionnaire to collect data such as gender (female, male or non-binary person), race/color (white, brown, black, yellow or indigenous), age, gender identity (cis or trans), sexual orientation (heterosexual - is attracted to a person of the opposite gender to his/her own; homosexual - attraction by someone of the same gender; bisexual - attraction to the female and male genders; pansexual - attraction to all gender identities; asexual - does not feel or feels little attraction to other people; queer - people who do not fit the heterocisnormative pattern; and, the "other" option in which the participant could fill in manually), special health condition (asthma, diabetes, hypertension, osteoporosis or others), possession of private health insurance and level of education (incomplete/complete elementary school, incomplete/complete high school, incomplete/complete higher education, postgraduate degree). Also, following the form, instruments were presented that allowed the evaluation of economic classification and barriers to the practice of physical activity, which, like the questionnaire described above, were also answered by all participants.

The economic condition was analyzed using the "Economic Classification Criterion-Brazil"<sup>23</sup>, which classified the participants in classes A, B1, B2, C1, C2, or DE.

The barriers were evaluated using the instrument proposed and validated for the Brazilian population by Martins and Petroski<sup>24</sup>, which is composed of 19 possible factors that hinder the practice. In each item, it was necessary to mark the options "never", "rarely", "sometimes", "almost always" or "always". Data from the 2022<sup>25</sup> census were used to compare the proportions, according to the available data, of gender and race/ethnicity with the population of the city in which the University is located and of sexual orientation with the population of Brazil.<sup>26</sup>

### *Procedures for data analysis*

Some adjustments were made in order to assist in the analysis. Regarding age, the participants were classified into life cycles, with 18 to 39 years as "young adult", 40 to 59 as "middle age", and above this range, "elderly person". Schooling was divided into three categories, with the complete level prevailing: incomplete or complete elementary school, complete high school, and complete higher education. Therefore, the participants who had incomplete high school were in the "incomplete or complete elementary school" group; and the participants who scored incomplete higher education were in the "complete high school" group. The answers "never" and "rarely" in the questionnaire of perceived barriers were grouped as "no", while "sometimes", "almost always" and "always", as "yes". Finally, the economic classification, for the analysis of association and comparison of groups, was grouped into A+B1, B2, and C1+C2+DE.

### *Statistical analysis*

To characterize the participants, an exploratory analysis of the data was performed, organizing them into tables. Descriptive data expressed as absolute frequency (relative frequency). The chi-square test for one sample was performed to compare the proportions between the categories of each variable based on equiproportions and based on the proportions observed in the population. The chi-square test of interdependence was performed to verify whether there is an association between sociodemographic variables and barriers. The level of significance was 5%, and the program used was JAMOVI.

## Results

Responses were collected from seven university extension projects (street running, artistic gymnastics, dance, physical activity for adults, physical activity for the elderly, Olympic weightlifting, and weight training), which together had 227 vacancies. 158 people who attended these projects participated in the survey, representing approximately 70% of the total public. Most identified themselves as middle-aged (38.6%) and young adult (36.7%), female (65.8%), cisgender (98.7%), heterosexual (81.6%), and self-declared as white (76.0%). A difference was observed between the groups for all variables, based on the Chi-square test of equiproportions ( $p < 0.05$ ) (Table 1). The observed proportion (Obs) of female participants in the extension projects (66.0%) was higher than expected (Exp) ( $p < 0.05$ ) compared to the proportion of the city's population (52.4%) (Figure 1); while for race/ethnicity, a smaller number of brown people was observed (Obs = 13.73%; Exp = 27.46%) and black (Obs = 5.88%; Exp = 8.05%) in the projects in relation to the city's population ( $p < 0.05$ ) (Figure 2). In the LGBTQIA+ population, it was possible to observe a higher proportion ( $p < 0.05$ ) in extension projects when compared to the amount of this population throughout Brazil (Obs = 15.0%; Exp = 10.0%).

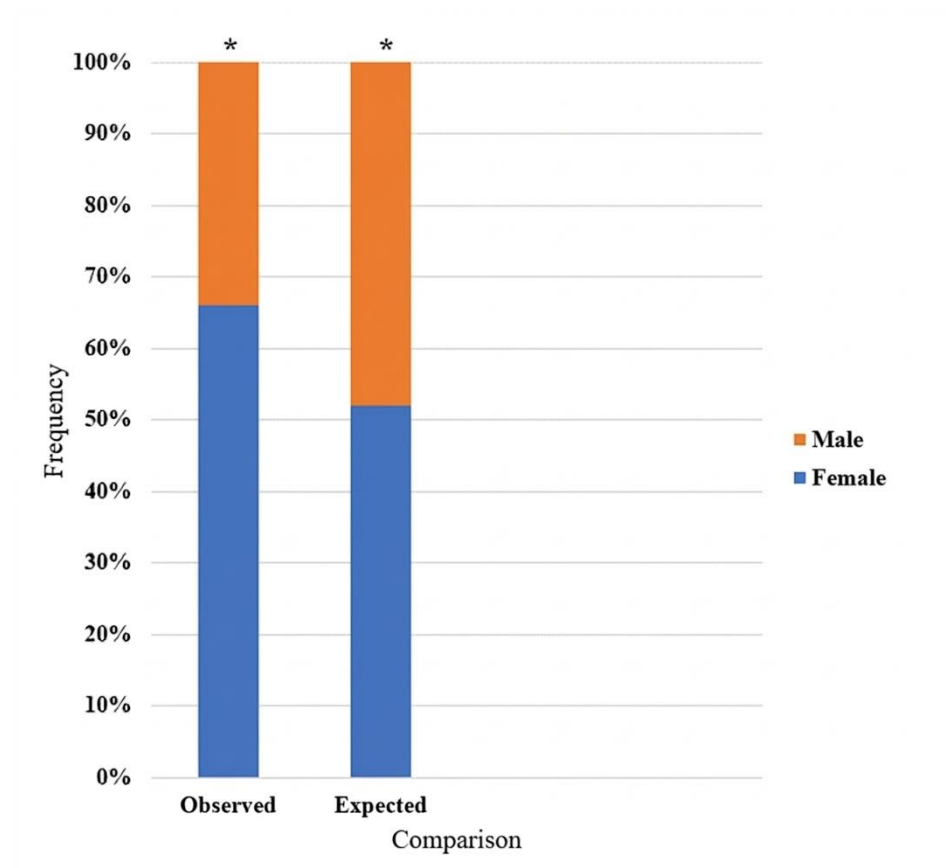
**Table 1.** Characterization of the sample based on sociodemographic data: age, gender, gender identity, sexual orientation, and race/ethnicity.

Variable	Categories	F (n = 158)	%	Residue z-score*	p-value
Age (years)	Young Adult (18 - 39)	58	36.7	0.45	0.067
	Middle Age (40 - 59)	61	38.6	0.70	
	Elderly (>60)	39	24.7	1.15	
Gender	Women	104	65.8	1.01	<0.001
	Male	52	32.9	0.01	
	Non-binary person	2	1.3	0.99	
Gender identity	Cis	156	98.7	0.71	<0.001
	Trans	2	1.3	0.71	
Sexual orientation	Heterosexual	129	81.6	2.03	<0.001
	Bisexual	11	7.0	0.28	
	Homosexual	8	5.1	0.34	
	Pansexual	2	1.3	0.46	
	Asexual	1	0.6	0.48	
	Queer	1	0.6	0.48	
	They did not answer	6	3.8		
Race/ethnicity	White	120	76.0	1.49	<0.001
	Brown	21	13.3	0.34	
	Black	9	5.7	0.56	
	Yellow	8	5.0	0.58	

**Note:** <sup>a</sup> Includes gays and lesbians; <sup>b</sup> Chose to leave the field of sexual orientation blank; F: absolute frequency; %: relative frequency; \* assuming equiproportions.

**Source:** The authors.

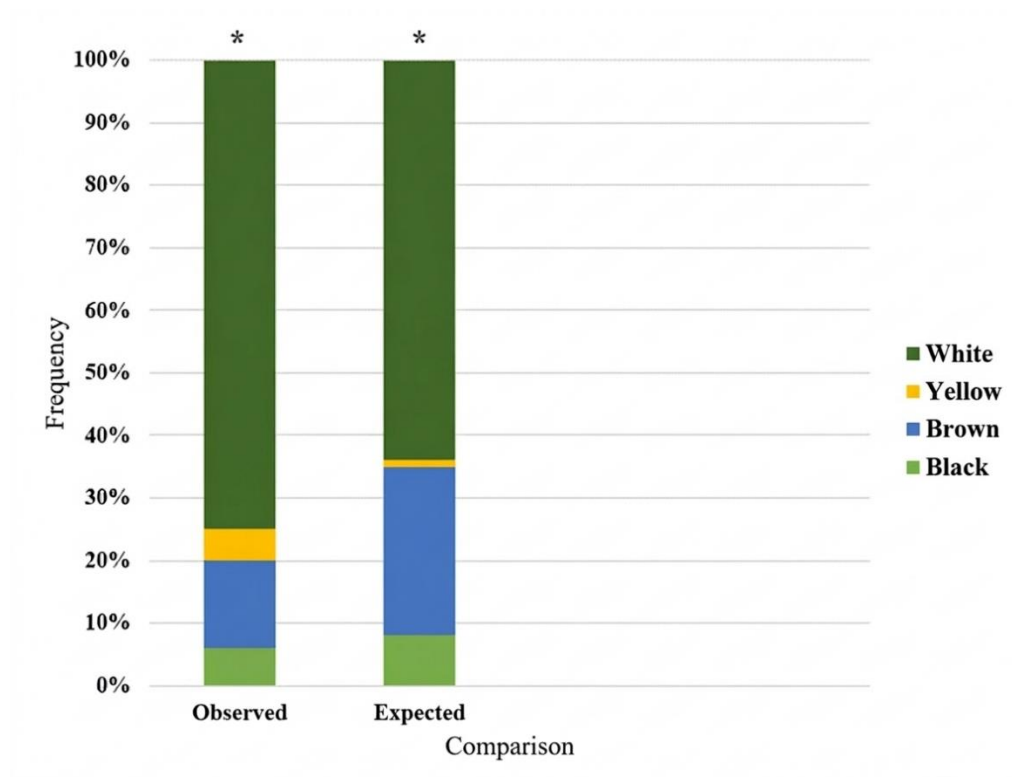
**Figure 1.** Comparison between the gender distribution observed in the extension projects and that expected from the population of Ribeirão Preto.



**Note:** \*( $p < 0.05$ )

**Source:** The authors.

**Figure 2.** Comparison between the distribution of race/ethnicity in the extension projects and that expected from the population of Ribeirão Preto.



**Note:** \*( $p < 0.05$ )

**Source:** The authors.

With regard to health, 40.5% of the participants stated that they had chronic health conditions, with hypertension being the most prevalent (25.9%), followed by diabetes (10.7%). In addition, 13.3% of the participants reported other conditions, such as dyslipidemia, asthma, arthritis, psoriatic arthritis, knee arthrosis, thyroid problems, gastritis, non-specific ulcerative colitis, rhinitis, psychiatric disorder, spondyloarthropathy, prostate changes, antiphospholipid antibody syndrome, sarcoidosis, migraine, and chronic otitis media. The possession of private health insurance was declared by 72.1% of the participants. In addition, most participants were classified as having completed high school (48.7%), followed by complete higher education (42.4%); and, in relation to economic classification, most were classified in strata A-B, with the highest proportion in stratum B2 (39.2%). (Table 2).

**Table 2.** Characterization of the sample based on socioeconomic and health-related data: chronic health condition, private health insurance, education, and economic classification.

Variable	Categories	F (n = 158)	%	Residue z-score*	p-value
Chronic health condition	No	94	59.5	0.71	0.017
	Yes	64	40.5	0.71	
Chronic health condition*	Hypertension	41	25.9	1.78	<0.001
	Diabetes	17	10.7	0.09	
	Asthma	5	3.1	-0.75	
	Osteoporosis	5	3.1	-0.75	
	Hypothyroidism	5	3.1	-0.75	
	Other	21	13.3	0.37	
Private health insurance	Yes	114	72.1	0.71	<0.001
	No	44	27.9	0.71	
Education	Elementary/Middle School inc/comp	14	8.9	-1.14	<0.001
	High School	77	48.7	0.72	
	Complete higher education	67	42.4	0.42	
Economic condition	A	36	22.8	0.46	<0.001
	B1	28	17.7	0.08	
	B2	62	39.2	1.68	
	C1	20	12.7	0.30	
	C2	9	5.7	0.82	
	DE	3	1.9	1.10	

**Note:** \*Some people may have more than one health condition. inc/compl = incomplete/complete

**Source:** The authors.

The most prevalent perceived barriers to physical activity were long working hours (60.7%), household chores (49.3%), family commitments (47.4%), lack of energy (47.4%), lack of financial resources (37.3%), and lack of equipment available for the practice (32.9%) (Table 3). These six barriers were selected for the sequence of analyses to investigate the association with gender, age, and economic classification.

**Table 3.** Perceived and unperceived barriers to the practice of physical activity in the participants of the EEFERP-USP extension project.

Barriers	Barrier Perceived		No barrier perceived	
	F	%	F	%
Extended working hours	96	60.8	62	39.2
Household chores (for your home)	78	49.4	80	50.6
Family commitments (parents, spouse, child, etc.)	75	47.5	83	52.5
Lack of energy (physical tiredness)	75	47.5	83	52.5
Lack of financial resources	59	37.3	99	62.7
Lack of equipment available for practice	52	32.9	106	67.1
Mild pain or malaise	50	31.6	108	68.4
Lack of suitable weather (wind, cold, heat, etc.)	47	29.7	111	70.3
Lack of space available for practice	47	29.7	111	70.3
Lack of physical abilities	45	28.5	113	71.5
Lack of company	44	27.8	114	72.2
Lack of knowledge or guidance about physical activity	39	24.7	119	75.3
Fear of injury	38	24.1	120	75.9
Physical limitations (e.g., muscle or joint)	37	23.4	121	76.6
Insufficiently safe environment (crime)	34	21.5	124	78.5
Bad mood	32	20.2	126	79.8
Lack of interest in practicing	31	19.6	127	80.4
Concern with appearance during practice	29	18.3	129	81.7
Lack of encouragement from family and/or friends	22	13.9	136	86.1

**Source:** The authors.

It was possible to observe an association between gender and perceived barriers, with men having a higher frequency of perceiving family commitments as a barrier (64.9%) compared to women (41.0%) ( $p < 0.05$ ). Although there was no evidence of an association ( $p > 0.05$ ) between gender and the barrier of long working hours, it is relevant to note that, descriptively, male participants had a higher frequency (69.2%) compared to female participants (57.7%) (Table 4).

**Table 4.** Perceived barriers to the practice of physical activity, according to gender, in the participants of the EEFERP-USP extension project.

		Gender				p-value
		Women		Male		
		F (n=104)	%	F (n=52)	%	
Extended working hours	Perceived	60	57.7	36	69.2	0.163
	Not perceived	44	42.3	16	30.8	
Household chores	Perceived	51	49.0	26	50.0	0.993
	Not perceived	53	51.0	26	50.0	
Family commitments	Perceived	32	41.0	24	64.9	0.017
	Not perceived	46	59.0	13	35.1	
Power outage	Perceived	48	46.2	25	48.1	0.318
	Not perceived	56	53.8	27	51.9	
Lack of financial resources	Perceived	37	35.6	22	42.3	0.414
	Not perceived	67	64.4	30	57.7	
Lack of equipment	Perceived	31	29.8	21	40.4	0.253
	Not perceived	73	70.2	31	59.6	

Source: The authors.

Regarding the test of association between perceived barriers and age (Table 5) and economic classification (Table 6), there was no statistical evidence of association ( $p > 0.05$ ). However, regarding the age variable, it was possible to observe, also descriptively ( $p > 0.05$ ), that elderly people had a lower frequency (23.1%) in perceiving the lack of financial resources as a barrier, compared to middle-aged participants (44.3%) and young adult participants (39.7%) (Table 5). Regarding the economic classification, descriptively ( $p > 0.05$ ), it was possible to observe a lower frequency of perception in the barrier of lack of equipment in class A-B1 (23.4%), compared to participants in class B2 (38.7%) and C1-C2-DE (40.6%) (Table 6).

**Table 5.** Perceived barriers to the practice of physical activity, according to life cycles, in the participants of the EEFERP-USP extension project.

		Life cycles						p-value
		Young adult		Middle age		Elderly		
		F (n=58)	%	F (n=61)	%	F (n=39)	%	
Extended working hours	Perceived	35	60.3	39	63.9	22	56.4	0.751
	Not perceived	23	39.7	22	36.1	17	43.6	
Household chores	Perceived	28	48.3	27	44.3	23	59.0	0.349
	Not perceived	30	51.7	34	55.7	16	41.0	
Family commitments	Perceived	28	48.3	27	44.3	20	51.3	0.781
	Not perceived	30	51.7	34	55.7	19	48.7	
Power outage	Perceived	29	50.0	31	50.8	15	38.5	0.429
	Not perceived	29	50.0	30	49.2	24	61.5	
Lack of financial resources	Perceived	23	39.7	27	44.3	9	23.1	0.092
	Not perceived	35	60.3	34	55.7	30	76.9	
Lack of equipment	Perceived	15	25.9	25	41.0	12	30.8	0.203
	Not perceived	43	74.1	36	59.0	27	69.2	

Source: Authors

**Table 6.** Association between economic classification and perceived barriers to the practice of physical activity in participants of the EEFERP-USP extension project.

		Economic classification						p-value
		A-B1		B2		C1-C2-DE		
		F (n=64)	%	F (n=62)	%	F (n=32)	%	
Extended working hours	Perceived	42	65.6	38	61.3	16	50	0.333
	Not perceived	22	34.4	24	38.7	16	50	
Household chores	Perceived	28	43.8	34	54.8	16	50	0.459
	Not perceived	36	56.3	28	45.2	16	50	
Family commitments	Perceived	33	51.6	27	43.5	15	46.9	0.665
	Not perceived	31	48.4	35	56.5	17	53.1	
Power outage	Perceived	26	40.6	35	56.5	14	43.8	0.184
	Not perceived	38	59.4	27	43.5	18	56.3	
Lack of financial resources	Perceived	22	34.4	26	41.9	11	34.4	0.631
	Not perceived	42	65.6	36	58.1	21	65.6	
Lack of equipment	Perceived	15	23.4	24	38.7	13	40.6	0.110
	Not perceived	49	76.6	38	61.3	19	59.4	

Source: The authors.

## Discussion

The objective of this study was to characterize the sociodemographic and health conditions of the participants of the extension projects of a university located in a medium-sized city in the interior of the state of São Paulo; and to identify the barriers to the practice of physical activity, as well as whether there is an association between these and sociodemographic data. The results showed that most participants are people who declare themselves white, women, young and middle-aged, with private health insurance, upper-middle class (approximately 80% in classes A, B1, and B2), and with high school or complete higher education (91.1%). The long working day is a barrier for more than half of the participants. Men perceive family commitments as a more relevant barrier compared to women.

The female gender was the most prevalent in extension projects. The activities developed in this context seem to serve a privileged group of women, which does not represent the largest portion of the Brazilian population, since studies in the literature indicate that women engaged in regular physical activity seem to have a lower load of domestic work, family support network and other privileges that allow them to practice physical activity in their free time, as well as the participants of the extension projects<sup>11,9,14</sup>. For the scenario of a group of women

from a more favored class, the concern with health is greater when compared to men, which may explain the greater number of these participants in the projects<sup>26,27</sup>.

The socioeconomic and demographic characterization (age, race/ethnicity, economic class and education) corroborates the literature and the initial hypothesis of the study. In their free time, the most socially favored people are those who attend the physical activities promoted by the extension projects. Even though it is free and in a peripheral location of the city, the project's activities do not seem to reach the most vulnerable people in the population. Physical activity in free time, for these people, may not be a choice, involving greater complexity related to social determinants<sup>28,29,30</sup>. In the context in which they live, barriers, in addition to being more numerous, become a much greater obstacle than for young, white people and people from the upper strata. This scenario highlights not only a public health issue but also a social problem, since it affects the largest portion of the Brazilian population. Free physical activity programs, such as those offered through extension projects, have merit and are extremely valid. However, for this specific context, they do not seem to be constituting a comprehensive solution to increase the level of physical activity during free time among people with less schooling and less favored economic classes. Overall, it is essential to understand how to mitigate the barriers that the population faces, recognizing that there are possibly more pressing issues that need to be addressed before these individuals can set aside free time for physical activity. The analysis of these barriers and the prioritization of basic needs are crucial for the development of effective strategies that promote inclusion and sustainable participation in physical activity programs<sup>7,9,29,31,8</sup>.

More than half of the participants consider the long working day as a barrier, corroborating the results of other studies<sup>18,28</sup>, and men perceive family commitments as an obstacle. This reality demonstrates the importance of the support and incentive network, both in the family and in the work environment, so that the practice of physical activity becomes possible<sup>32</sup>.

Descriptively, the elderly were the ones who perceived the lack of financial resources as the least barrier, and the people in the C1-C2-DE class were the ones who perceived the lack of equipment as the greatest barrier, evidencing the need for debate and propagation about the meaning and significance of the practice of activity in free time. Some authors reinforce that physical activity is related to bonds, feelings, interaction with the environment<sup>2,7,8</sup> and not necessarily with private places and systematized practices, thus deconstructing the propagated link between gyms and regular physical activity.

Among all the analyses, the importance of the Physical Education professional for engaging in the practice of physical activity and in mitigating factors that hinder the practice is highlighted. For this, it is extremely important that the professional understands and is aware of the sociodemographic characteristics of the public served, seeking equity and providing a practice according to the reality of each one, promoting the recognition and appreciation of all people, regardless of their particularities. Given this, it is relevant to think about actions and strategies for physical activity programs that can increase engagement, mitigate the hindering aspects, and build an egalitarian society<sup>9, 29, 31</sup>.

The results of the present study, in the context of university extension, reveal the need to consider specific strategies to increase the representativeness of underrepresented groups, such as those who self-declare themselves black and brown people and from less favored economic classes. Initiatives focused on establishing guidelines and overseeing the implementation of actions related to inclusion, belonging, diversity, and equity are extremely important and efficient. As an example, the University in which the extension projects addressed in this study take place is committed to establishing some of these initiatives, through a specific dean for these subjects, which can also contribute to a higher proportion of LGBTQIA+ individuals observed in the projects. Actions like this can make the university

environment more receptive and welcoming, in addition to having an audience, for the most part, open to subjects and debates on subjects that are outside traditionalism. A survey by the Dean of Inclusion and Belonging of the University in question showed that approximately 40% of undergraduate students are LGBTQIA+<sup>33</sup>, justifying not only the higher proportion of this population in the projects, but also the importance of strategies to help the permanence and reception of these individuals.

Actions in this regard, outlined by government agencies and universities, aim not only to increase the representation of underrepresented groups but also to create an inclusive and welcoming environment. This involves not only the implementation of affirmative policies, such as reserved places in universities, for example, but also the promotion of spaces and initiatives that value and respect the diversity of identities, experiences, and perspectives.

As limitations, the absence of more specific data available for comparison on the economic classification and the LGBTQIA+ population of the city treated in the present study; and, the need to extrapolate the results with other projects of Universities in Brazil and the world is emphasized, since this is a study carried out in a very specific sample, in a medium-sized city in the interior of São Paulo. As perspectives, it is worth highlighting the realization of new studies seeking to characterize participants and evaluate the perceived barriers to the practice of physical activity in other contexts, since the present study evaluated people who were active participants in university extension projects.

## Conclusions

The present study sought to characterize the participants of the extension projects of a University and their main barriers to the practice of physical activity. The results showed that, even though it is free, university extension still reaches a portion of the population with higher education and purchasing power. This highlights the need to develop other strategies to promote physical activity in order to increase people's access. In this sense, the active search for people not represented in the projects, as well as the development of extramural actions directly in the communities, can be strategies to improve this scenario. Also, understanding the existing barriers can help not only in the development of these strategies, but also to increase the engagement of those who already regularly practice physical activity in their free time. Based on this study, it is suggested that future research be carried out to characterize university extension projects in other cities, as well as to observe the results of the implementation of these strategies, such as active search and extramural actions, or even to investigate in a detailed and thorough way the barriers of people who do not participate in extension projects.

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