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Original Article

SELF-EFFICACY OF UNIVERSITY STUDENTS IN PHYSICAL EDUCATION: ASSOCIATION WITH PERSONAL, ACADEMIC AND PROFESSIONAL CHARACTERISTICS

AUTOEFICÁCIA DE ESTUDANTES UNIVERSITÁRIOS DE EDUCAÇÃO FÍSICA: ASSOCIAÇÃO COM CARACTERÍSTICAS PESSOAIS, ACADÊMICAS E PROFISSIONAIS

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RESUMO
Este estudo buscou analisar as percepções de autoeficácia (AE) de estudantes universitários de Educação Física de uma instituição pública de Ensino Superior, relacionando-as com as características pessoais, acadêmicas e profissionais. Participaram da investigação 246 estudantes regularmente matriculados nos cursos de Licenciatura e de Bacharelado em Educação Física. Os resultados obtidos na ficha de caracterização e na Escala de Autoeficácia no Ensino Superior foram analisados no programa SPSS, por meio de estatística descritiva (frequências absoluta e relativa, mediana) e inferencial (Qui-quadrado, Resíduos Ajustados, V de Cramer). Em geral, as evidências revelaram associações entre as dimensões da AE discente (geral, acadêmica, regulação, proativa, social e gestão) e o recebimento de bolsas de pesquisa e de monitoria (não bolsista<bolsista), o sexo (masculino<feminino) e a presença de vínculo empregatício (sim>não). A predominância de menores escores de AE, independentemente da etapa da formação em que o estudante se encontra e a aparente falta de impacto das bolsas de extensão sobre os níveis de AE discente indicam a necessidade de aprofundar o desenvolvimento dos estudantes ao longo do curso, bem como a implementação dos projetos e atuação dos estudantes bolsistas de extensão na instituição investigada.
Palavras-chave: Autoeficácia. Educação superior. Universidades. Estudantes.

ABSTRACT
This study aimed to analyze the perceptions of self-efficacy (SE) of university students of Physical Education from a public institution of higher education, relating the perception to personal, academic and professional characteristics. A total of 246 students undergraduate in courses of Physical Education participated in the study. The results obtained in the characterization form and in the Self-efficacy Scale in Higher Education were analyzed in the SPSS program by means of descriptive statistics (absolute and relative frequencies, median) and inferential (Chi-square, Adjusted Residues, Cramer's V). In general, the evidence revealed associations between student (general, academic, regulatory, proactive, social, and management) dimensions and the receipt of research and monitoring scholarships (non-scholarship <scholarship), gender (female> Male) and the presence of an employment relationship (yes> no). The predominance of lower AE scores, regardless of the stage of the student's education, as well as the apparent lack of impact of extension scholarships on student AE levels indicate the need to deepen student development throughout the course , as well as the implementation of the projects and activities of the scholarship extension students in the investigated institution.
Keywords: Self-efficacy. College education. Universities. Students.

Introduction

Entry into Higher Education has been expanding and becoming an increasingly democratic process. Therefore, educational institutions need to seek constant improvement with regard to the quality of knowledge offered so that students perceive themselves as more successful within the educational scope[1]. In fact, universities must be prepared for this increased demand, which indicates the need to get to know their students so that initial training effectively contributes to the personal, social, cognitive, vocational and cultural development of future professionals[2].

During the academic development process of university students, some factors might interfere with the degree of the students' involvement with the training activities. Among

these factors, self-efficacy (SE) is highlighted, which can be conceptualized as the perceived ability to perform a task[3]. Since SE involves the individual's self-regulation concerning activities, it can strongly influence the motivational, attitudinal and social aspects, thus, contributing to the constant development and adaptation to the environment[4]. In addition, some investigations[5,6]; have shown that SE can predict the students' motivation and performance during the academic process.

SE can be increased through four sources: direct experiences, vicarious experiences, social persuasion and physiological emotional states. Direct experiences comprise individual experiences and their consequences throughout life. In this sense, an individual who undergoes positive experiences tends to have higher SE levels. The second SE source concerns the vicarious experiences that come from social models close to the individual. When realizing that these models (relatives, friends, professors) are successful in certain activities, the individual may also feel able to succeed. Social persuasion, the third SE source, indicates that the individual tends to make more effort into his/her tasks to achieve success when he/she is under constant verbal encouragement. The fourth source comprises the individual's emotional and physical states. The same way that positive direct experiences contribute to increase SE, emotional and physical states can directly influence the individual's perception on the situation, which works as a filter that supports decision-making[3].

In Higher Education, SE has been investigated based on five dimensions: academic SE, training regulation, social interaction, proactive actions, and academic management[8]. Academic SE points to the student's confidence in applying, learning and presenting the course content. SE in training regulation identifies the confidence to plan, create goals, self-regulate and make choices during the education process, whereas SE in proactive actions includes the ability to perceive confidence in taking advantage of opportunities during training. SE in social interaction is characterized by the student's self-perceived confidence in with regard to social relationships (professors, students and classmates). SE in academic management encompasses the student's self-perceived confidence concerning the ability to execute the planning of activities related to undergraduate studies, as well as to get involved and fulfill the demands related to academic activities[8].

The investigative agenda has highlighted the importance of understanding SE in Higher Education[9,10], besides characterizing this construct as fundamental for the performance of students throughout their academic trajectories, since it can influence their choices and goals[11-14]. In recent years, there has been an increase in studies on SE in Brazilian Higher Education in different fields[9,15-18]. Considering the initial training in Physical Education, specifically, the predominance of medium/moderate SE levels has been verified[10,12,19-21]. In addition, higher SE levels have been observed in younger female individuals who participate in research and/or extension activities[10,12]. Participation in Supervised Curricular Internships is also usually associated with higher levels of SE[19-21].

Although the significance of the studies already carried out on SE in Higher Education is understood, it is seen that the investigation on the perceived SE of Physical Education university students is still incipient in the Brazilian context. In addition, considering the particularities of different Higher Education institutions, the diagnosis of levels and factors associated with the students' SE enables the universities to establish organizational strategies especially contextualized to their realities, which reduce or eliminate situations or procedures that have negatively been affecting SE. Thus, with the purpose of expanding the literature on SE perception in Higher Education, the present study aimed at assessing the correlation between the perceived SE of Physical Education university students and their personal, academic and professional characteristics.

Methods

Study characterization

Considering purpose, this is a descriptive-exploratory study that aimed at describing, in detail, the characteristics of a given population or context and the relationship among the variables investigated, in addition to suggesting directions for further investigations[23]. Regarding the problem approach, this investigation is characterized as a quantitative survey because it aimed at systematically questioning a large number of people about the same aspects in order to quantify the information obtained[23].

Participants

The initial population of this study consisted of 494 students regularly enrolled in Physical Education at Licentiate and Bachelor's Degrees in a public university in the state of Santa Catarina. The choice for such an institution was intentional due to the easy access to both, the subjects and the collection of information in their facilities. The exclusion criteria of the participants included: (a) the students who were not attending the class at the time of data collection; (b) the students who did not accept to participate in the research; (c) the students who had not completely or incorrectly filled the instruments (missing data).

The non-probabilistic volunteer sampling consisted of 246 students, 132 (56%) at Licentiate degree and 114 (44%) at Bachelor's degree. 105 individuals (43%) were female and 141 (57%) were male. In addition, 91 (36.3%) were up to 20 years old, 104 (41.4%) were aged 21 to 25 years, and 54 (21.5%) were 26 years old or more. Regarding the stage of the course, it was found that 143 (57%) were in the first half, and 108 (43%) were attending the second half of the course.

In Brazil, Physical Education undergraduate courses offer a Bachelor's degree (professionals to work in sectors outside the school scope), and a Licentiate degree (professionals to work in Basic Education schools). The Bachelor's course in Physical Education at the university investigated in the present study concentrates classes in the morning shift and has five Supervised Curricular Internships: Sports Management, Recreation and Leisure, Exercise and Health, Adapted Physical Activity, and Sport. The Physical Education course at Licentiate degree is offered at night and has five Supervised Curricular Internships: Childhood Education, Early Elementary School, Later Elementary School, High School and Special Education. Both courses have eight academic semesters; the supervised curricular internships are developed from the second half of training (four final semesters). The institution also enables students to participate in research, teaching, monitoring and extension activities through programs and projects that enable them to work as volunteers or scholarship holders, both with a workload of 10 or 20 hours per week.

Procedures

Data collection was performed by using two instruments. First, a form specifically designed for this study to be filled with information on the students' profile. The form consisted of 17 closed questions, distributed in three dimensions, that is, personal features (sex, age, marital status, sports experience, sport practiced and time spent practicing the sport), in addition to the professional characteristics (employment bond, working time**,** working area), and academic characteristics (course, stage, participation in research - volunteer or scholarship holder, participation in extension - volunteer or scholarship holder, participation in monitoring - volunteer or scholarship holder).

Secondly, the Higher Education Self-Efficacy Scale was used[8], which seeks to analyze the students' perceived self-efficacy. The scale, which consists of 34 items, allows answers on an ordinal scale that varies between one (not very effective) and 10 (very effective). The

instrument is organized into five dimensions: academic SE (it evaluates the student's confidence in applying, learning and presenting the course contents); SE in training regulation (it identifies the confidence to plan, create goals, self-regulate and make choices during the training process); SE in proactive actions (it includes the ability to perceive oneself as confident in taking advantage of opportunities during the education process); SE in social interaction (it investigates the individual's perceived confidence regarding social relationships - professors, undergraduate students and classmates); SE in academic management (it identifies the perceived confidence in the ability to carry out the planning of activities related to the undergraduate course, besides getting involved and fulfilling the demands related to academic activities). The instrument validation process found a general internal consistency index of 0.94, with a range from 0.80 to 0.81 in the dimensions, thus, this instrument was considered as appropriate to measure the students' self-perceived SE[8].

This research was authorized by the Head of the Physical Education Department of the university investigated, and approved by the Standing Committee on Ethical Research with Humans**,** under opinion number 1.357.726/2015. Then, the professors from both courses were contacted for prior scheduling of data collection during class hours. Data collection was carried out in the classroom at the end of the first semester of 2016, and the students were provided with a brief explanation about the investigation. After signing the Free Informed Consent Form and having their questions cleared up, the students answered the questionnaires. Filling the instruments ranged from 20 to 30 minutes.

Statistical analysis

Data analysis was performed by using the Statistical Package for the Social Sciences (SPSS), version 20.0 with descriptive statistics (absolute, relative and median frequencies) and inferential statistics (hypothesis testing). Based on the descriptive analysis of the frequency distribution, the median (50^{th} percentile) was used as the cut-off point for dichotomous planning and for establishing the analysis categories of the following variables: age group (22 years old) and SE (lower; greater) in all its dimensions (general = 8.03; academic = 8.11; regulation = 8.14; proactive actions = 7.29; social interactions = 8.43; academic management = 8.50). The stage of the course, in turn, was dichotomously planned (first half - 1^{st} to 4^{th} stage; second half - 5^{th} to 8^{th} stage) by using the usual length of initial training in the Physical Education course offered by the institution as a reference (8 semesters). The Chi-squared test with Yates' correction for continuity (for 2x2 tables) and the Adjusted Residues (AR) were used to identify the associations between SE dimensions and the students' personal, academic and professional characteristics, whereas the Cramér's V coefficients were applied to interpret the strength of the associations. The significance level of 5% ($p \leq 0.05$) was adopted as a criterion for interpreting the results of the inferential analysis.

Results

The results of the associations between general perceived SE and the personal, academic and professional variables of Physical Education students (Table 1) showed that only research scholarship holding was statistically associated ($p = 0.01$; AR = 2, 60) with the general perceived SE, thus, the scholars had a greater perceived SE than non-scholars.

Table 1. Associations between general SE and the students' personal, academic and professional characteristics

	Lower General SE (%)	Greater General SE (%)	p	AR	V
Sex					
Female	44 (43.1)	58 (56.9)	0.07	2.00	0.13
Male	74 (56.1)	58 (43.9)			
Age					
Up to 22 years old	73 (54.5)	61 (45.5)	0.19	1.40	0.10
More than 22 years old	44 (44.9)	54 (55.1)			
Marital Status					
Without a partner (a)	108 (50.9)	104 (49.1)	0.79	0.50	0.03
With a partner (a)	10 (45.5)	12 (54.5)			
Course					
Licentiate degree	62 (51.7)	58 (48.3)	0.80	0.40	0.03
Bachelor's	56 (49.1)	58 (50.9)			
Stage of the course					
1st half	66 (52.0)	61 (48.0)	0.70	0.50	0.03
2nd half	52 (48.6)	55 (51.4)			
Research scholarship holder					
No	96 (55.8)	76 (44.2)	0.01	2.70	0.18
Yes	22 (35.5)	40 (64.5)			
Extension scholarship holder					
No	87 (52.4)	79 (47.6)	0.42	0.90	0.06
Yes	31 (45.6)	37 (54.4)			
Monitoring scholarship holder					
No	109 (52.4)	99 (47.6)	0.13	1.70	0.11
Yes	9 (34.6)	17 (65.4)			
Emplyoment bond					
No	70 (52.2)	64 (47.8)	0.61	0.60	0.04
Yes	48 (48.0)	52 (52.0)			

Note: p- Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

The analysis of the relationship between academic SE and the personal, academic and professional characteristics of the students (Table 2) showed significant associations with both, the sex of students and research scholarship holding. Specifically, women (p = 0.02; AR = 2.60), and scholarship holders (p = 0.02; RA = 2.50) had greater perceived SE.

Table 2. Associations between academic SE and the students' personal, academic and professional characteristics

	Lower Academic SE (%)	Greater Academic SE (%)	p	AR	V
Sex					
Female	45 (42.5)	61 (57.5)	0.02	2.60	0.16
Male	83 (58.9)	58 (41.1)			
Age					
Up to 22 years	77 (53.1)	68 (46.9)	0.62	0.60	0.04
More than 22 years	49 (49.0)	51 (51.0)			
Marital status					
Without a partner (a)	116 (51.6)	109 (48.4)	0.97	0.30	0.02
With a partner (a)	12 (54.5)	10 (45,5)			
Course					
Litenciate degree	74 (56.1)	58 (43.9)	0.19	1.40	0.09
Bacharelor's	54 (47.0)	61 (53.0)			
Stage of the course					
1st half	75 (53.6)	65 (46.4)	0.62	0.60	0.04
2nd half	53 (49.5)	54 (50.5)			
Research scholarship holder					
No	104 (56.5)	80 (43.5)	0.02	2.50	0.16
Yes	24 (38.1)	39 (61.9)			
Extension scholarship holder					
No	88 (50.6)	86 (49.4)	0.64	0.60	0.04
Yes	40 (54.8)	33 (45.2)			
Monitoring scholarship holder					
No	119 (53.8)	102 (46.2)	0.10	1.90	0.12
Yes	9 (34.6)	17 (65.4)			
Emplyoment bond					
No	73 (51.0)	70 (49.0)	0.88	0.30	0.02
Yes	55 (52.9)	49 (47.1)			

Note: p - Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

Table 3 emphasizes the relationship between SE in training regulation and the students' personal, academic and professional characteristics. In this sense, the monitoring scholarship holders showed higher levels of SE (p = 0.02; AR = 2.50) than their non-scholar classmates.

Table 3. Associations between SE in training regulation and the students' personal, academic and professional characteristics

	Lower SE Regulation (%)	Greater SE Regulation (%)	p	AR	V
Sex					
Female	50 (47.2)	56 (52.8)	0.10	1.80	0.12
Male	81 (58.7)	57 (41.3)			
Age					
Up to 22 years	80 (55.9)	63 (44.1)	0.48	0.80	0.05
More than 22 years	50 (50.5)	49 (49.5)			
Marital status					
Without a partner (a)	118 (53.4)	103 (46.6)	0.95	0.30	0.02
With a partner (a)	13 (56.5)	10 (43.5)			
Course					
Licentiate degree	70 (53.8)	60 (46.2)	1.00	0.10	0.00
Bachelor's	61 (53.5)	53 (46.5)			
Stage of the course					
1st half	75 (54.7)	62 (45.3)	0.81	0.40	0.02
2nd half	56 (52.3)	51 (47.7)			
Research scholarship holder					
No	100 (55.2)	81 (44.8)	0.50	0.80	0.05
Yes	31 (49.2)	32 (50.8)			
Extension scholarship holder					
No	98 (56.3)	76 (43.7)	0.25	1.30	0.08
Yes	33 (47.1)	37 (52.9)			
Monitoring scholarship holder					
No	123 (56.4)	95 (43.6)	0.02	2.50	0.16
Yes	8 (30.8)	18 (69.2)			
Emplyoment bond					
No	81 (57.4)	60 (42.6)	0.21	1.40	0.09
Yes	50 (48.5)	53 (51.5)			

Note: p - Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

The analysis of the relationship between SE in proactive actions and the students' personal, academic and professional characteristics (Table 4) showed a significant SE association between the research scholarship holders (p = 0.03; AR = 2.30) and monitoring scholarship holders (p = 0.05; AR = 2.10). The scholars of both modalities showed greater SE in this dimension.

Table 4. Associations between proactive SE and the students' personal, academic and professional characteristics

	Lower Proactive SE (%)	Greater Proactive SE (%)	p	AR	V
Sex					
Female	50 (47.2)	56 (52.8)	0.06	2.00	0.13
Male	84 (60.0)	56 (40.0)			
Age					
Up to 22 years	82 (56.9)	62 (43.1)	0.43	0.90	0.06
More than 22 years	51 (51.0)	49 (49.0)			
Marital status					
Without a partner (a)	123 (55.2)	100 (44.8)	0.65	0.70	0.04
With a partner (a)	11 (47.8)	12 (52.2)			
Course					
Litenciate degree	77 (58.8)	54 (41.2)	0.19	1.40	0.09
Bachelor's	57 (49.6)	58 (50.4)			
Stage of the course					
1st half	82 (59.0)	57 (41.0)	0.14	1.60	0.10
2nd half	52 (48.6)	55 (51.4)			
Research scholarship holder					
No	108 (58.7)	76 (41.3)	0.03	2.30	0.15
Yes	26 (41.9)	36 (58.1)			
Extension scholarship holder					
No	102 (58.3)	73 (41.7)	0.08	1.90	0.12
Yes	32 (45.1)	39 (54.9)			
Monitoring scholarship holder					
No	125 (56,8)	95 (43.2)	0.05	2.10	0.14
Yes	9 (34.6)	17 (65.4)			
Emplyoment bond					
No	79 (56.0)	62 (44.0)	0.66	0.60	0.04
Yes	55 (52.4)	50 (47.6)			

Note: p - Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

SE in social interaction, in turn, showed a significant association (Table 5) with both, monitoring scholarship holding (p = 0.01; RA = 2.80) and the existence of an employment bond (p = 0.03; AR = 2.20).

Table 5. Associations between social SE and the students' personal, academic and professional characteristics

	Lower Social SE (%)	Greater Social SE (%)	p	AR	V
Sex					
Female	53 (50.5)	52 (49.5)	0.57	0.70	0.05
Male	77 (55.0)	63 (45.0)			
Age					
Up to 22 years	77 (54.2)	65 (45.8)	0.77	0.40	0.03
More than 22 years	52 (51.5)	49 (48.5)			
Marital status					
Without a partner (a)	119 (53.6)	103 (46.4)	0.76	0.50	0.03
With a partner (a)	11 (47.8)	12 (52.2)			
Course					
Litenciate degree	65 (50.0)	65 (50.0)	0.37	1.00	0.07
Bachelor's	65 (56.5)	50 (43.5)			
Stage of the course					
1st half	73 (52.9)	65 (47.1)	1.00	0.10	0.00
2nd half	57 (53.3)	50 (46.7)			
Research scholarship holder					
No	99 (54.4)	83 (45.6)	0.57	0.70	0.05
Yes	31 (49.2)	32 (50.8)			
Extension scholarship holder					
No	96 (55.8)	76 (44.2)	0.24	1.30	0.09
Yes	34 (46.6)	39 (53.4)			
Monitoring scholarship holder					
No	123 (56.2)	96 (43.8)	0.01	2.80	0.18
Yes	7 (26.9)	19 (73.1)			
Emplyoment bond					
No	84 (59.2)	58 (40.8)	0.03	2.20	0.14
Yes	46 (44.7)	57 (55.3)			

Note: p - Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

Finally, SE in academic management showed significant associations (Table 6) with both, sex and scholarship holding. Women (p = 0.00; AR = 4.40) and the scientific initiation scholarship holders (p = 0.00; AR = 3.00) showed higher levels of SE in this dimension.

Table 6. Associations between SE in academic management and the students' personal, academic and professional characteristics

	Lower SE Management (%)	Greater SE Management (%)	P	AR	V
Sex					
Female	43 (40.2)	64 (59.8)	0.00	4.40	0.28
Male	96 (68.1)	45 (31.9)			
Age					
Up to 22 years	79 (54.1)	67 (45.9)	0.53	0.80	0.05
More than 22 years	59 (59.0)	41 (41.0)			
Marital status					
Without a partner (a)	125 (55.6)	100 (44.4)	0.79	0.50	0.03
With a partner (a)	14 (60.9)	9 (39.1)			
Course					
Litenciate degree	74 (55.6)	59 (44.4)	0.99	0.10	0.01
Bachelor's	65 (56.5)	50 (43.5)			
Stage of the course					
1st half	78 (55.3)	63 (44.7)	0.89	0.30	0.02
2nd half	61 (57.0)	46 (43.0)			
Research scholarship holder					
No	114 (61.6)	71 (38.4)	0.00	3.00	0.19
Yes	25 (39.7)	38 (60.3)			
Extension scholarship holder					
No	101 (57.4)	75 (42.6)	0.60	0.70	0.04
Yes	38 (52.8)	34 (47.2)			
Monitoring scholarship holder					
No	127 (57.2)	95 (42.8)	0.39	1.10	0.07
Yes	12 (46.2)	14 (53.8)			
Emplyoment bond					
No	83 (57.6)	61 (42.4)	0.64	0.60	0.04
Yes	56 (53.8)	48 (46.2)			

Note: p - Chi-squared test with Yates' correction for continuity (for 2x2 tables); AR- Adjusted Residues, V- Cramér's V
Source: The authors

Discussion

The present study aimed at assessing the correlation between the perceived SE of Physical Education university students and their personal, academic and professional characteristics. The findings showed that research and monitoring scholarship holding was positively associated with higher levels of SE, since both were positively associated with SE in proactive actions. The fact of being a research scholarship holder was positively associated with general, academic, and academic management SE dimensions, whereas receiving a monitoring scholarship was positively associated with SE in training regulation and social interaction.

About 20 scholarships are offered annually to professors of undergraduate courses in Physical Education in the university investigated through scientific initiation programs, both by the Brazilian National Council for Scientific and Technological Development (CNPq) and the institution itself. The students are also awarded scholarships, which has been characterized

as a fact that differentiates their perceived self-efficacy. Receiving a research scholarship requires the students to dedicate 20 hours per week (SE in academic management) to the development of a research project (proactive SE) carried out in a study group or laboratory, which enables them to experience the university context more intensively (general SE, academic SE) and acquire experiences in different actions developed within the university. Such experiences, on the other hand, are likely to be more restricted to the students who are not awarded a research scholarship, especially those who need to work, which might have reflected on the difference in perceived SE of scholars and non-scholars.

Scientific initiation, through the allowance of scholarships, is seen as a process of growth, change and learning, which makes it possible to recognize the research group as both, an educational space and the establishment of interpersonal relationships[24]. In addition, it is recognized that being inserted in projects and research groups requires proactive attitudes so that the future professionals are successful in this field[10]. Thus, it is important that the students are actively involved in research projects, which enable them to manage the various information they have access to[25] in order to improve self-concept, exploratory behavior and academic involvement.

The monitoring programs, in turn, have been consolidated in Brazilian universities and have contributed to improving the quality of the teaching and learning processes. In addition, these programs have been characterized as incentives for Higher Education training, by providing the students with the opportunity of obtaining a good theory-practice relationship, developing multiple knowledge related to the curricular components in which monitoring is carried out, besides having critical training[26]. The university investigated in the present study offers eight monitoring scholarships annually for the Licentiate degree courses and nine for Bachelor's. In this sense, despite the low number of scholarships offered annually, the policy for monitoring scholarships has been highlighted because it enhances the students' perceived SE. The fact that the monitoring scholarship holders have attributions, such as assisting the professor in pedagogical and scientific tasks (preparation of classes, educational work, attendance to students), requires them to develop skills, such as broadening knowledge on the discipline they have been attending (proactive SE), besides having a good relationship with the professor of the discipline and students enrolled in it (social SE). Finally, extra involvement with the discipline requires that the scholarship holders have some abilities, such as planning and making choices regarding their performance in the discipline (SE in training regulation). Thus, it is worth mentioning that in order to be awarded a monitoring scholarship, the students need to have obtained a general average mark higher than or equal to 6.5 in the subjects taken, and 8.5 in the discipline in which they will play the role of monitor. Such a criterion might also have contributed to the monitoring scholarship holders to perceive themselves as more effective individuals than their classmates regarding the regulation, proactive and social dimensions.

Although the scholars were expected to have higher levels of SE than their non-scholar classmates, it is noteworthy that the experiences arising from participation in extension projects and programs did not show results similar to those found regarding the research and monitoring scholarship holders. Considering the university investigated, this is the modality that offers the most scholarships (average of 56 annual scholarships of 10 or 20 hours) for students attending Physical Education undergraduate courses. In addition, considering that university extension is characterized as a differential in the initial training process of future professionals[27], it was expected that this experience would impact the students' perceived SE, especially because the extension programs provide the students with the possibility of experiencing, in practice, much of the content covered in the classroom. An investigation by Salles et al.[10] carried out with some students of Physical Education courses at a federal public university showed that the extension scholarship holders had greater SE than their classmates

who did not have this experience in the initial training. In addition, it is emphasized that the undergraduate students who are more attentive to what happens at the university and take advantage of the opportunities are likely to have a better academic performance[28]. The offer of scholarships can be considered one of these opportunities.

In spite of not being an issue investigated in the present study, it is worth mentioning that the extension activities organized by the university investigated normally gives greater autonomy to the students for the operationalization of activities in comparison with the monitoring and research experiences, in which participation and support by the professors are more evident. In a study carried out with graduate students from the Licentiate and Bachelor's degree courses in Physical Education of a Brazilian public university, Salles et al.[29] found that the lack of supervision by the professor was one of the main negative aspects mentioned regarding the extension activities developed in that environment. In this sense, the scholarship holders assessed in the present study are likely to have perceived difficulties in dealing with daily demands due to the fact that they have been engaged in extension activities, which demands greater responsibilities for conducting the process, besides not having frequent supervision by the professor. This might be related to the lower levels of SE.

No significant correlations were found between the course progression level and the students' SE. Despite not comparing the different stages of the course, Martins and Santos[30] showed that the SE of students entering Higher Education is fundamental for their involvement with the course and for taking advantage of opportunities during training. This finding suggests a reflection on the impact of Supervised Curricular Internships offered by the institution investigated with regard to the training of future Physical Education professionals, considering the similarity in perceived SE between the students who have not started their internships yet (1st to 4th stage) and those under an internship situation (5th to 8th stage). When discussing this subject, Iaochite and Souza Neto[19] reported that the more significant professional experiences acquired by students during mandatory internships, the greater the chances of effectively developing perceived SE, which was not found in the present investigation.

The women assessed in the present study had higher scores for academic SE and SE in academic management compared to men. Similarly, Salles et al.[10] showed that Physical Education undergraduate students found themselves with higher levels of SE in academic management, whereas Souza, Bardagi and Nunes[22] showed that women (quota holders from different fields of knowledge) had significantly higher means regarding SE in academic management. In contrast, Veliz-Burgos and Apocada[31] did not identify a statistically significant association between sex and the general SE of Psychology students from a private institution in Chile attending the fields of Health and Education, Engineering and Cooking.

The fact that the students with an employment bond at the time of data collection had higher scores of SE in social interaction than their classmates who did not work shows that university students with greater professional experience or who have more defined plans for the future have higher levels of SE. This is contrary to what was found in the study by Salles et al.[10] By showing commitment to the profession during initial education, such students can develop abilities that allow them to cope more effectively with the peculiarities and demands of the job market[16].

Although the present study has the merit of expanding the scientific literature on the subject, it is worth mentioning that some limitations suggest caution regarding the interpretation of the evidences found and, at the same time, indicate the need to carry out further investigations that seek to reduce or eliminate such limitations. First, it is highlighted that the data collection was performed only at a public university, which makes the contextualization of the findings fundamental for their interpretation. In addition, data were collected at the end of the school term, thus, some students were no longer attending classes

regularly. Finally, due to the need to complete the syllabus, some professors did not authorize the data collection in the previously agreed periods.

Based on the limitations of this investigation, further studies related to SE in Higher Education in Physical Education are recommended. Comprehensive new investigations that cover a greater number of Higher Education institutions, both within the public and private scopes are recommended, so that establishing a clearer SE profile of the undergraduate students attending the Physical Education course is possible. Conducting broaden interviews with certain students who have different SE profiles is also suggested to enlarge the understanding on the factors and situations associated with the creation and consolidation of the students' perceived SE. In addition, such investigations would enable researchers to obtain clearer ideas about how the perceived SE level is related to the involvement of Physical Education students with the course and quality of the initial training process they experienced.

Conclusions

The correlation between the perceived SE of Physical Education undergraduate students and their personal, academic and professional characteristics revealed the following: research scholarship holders showed a greater general perceived SE; women and research scholarship holders had greater perception of academic SE; the monitoring scholarship holders showed higher levels of SE in training regulation; research and monitoring scholarship holders showed greater SE in proactive actions. The students who had a monitoring scholarship and an employment bond showed greater SE in social interaction; women and research scholarship holders revealed higher levels of SE in academic management. These findings significantly show the importance of initial training in Physical Education in Higher Education public institutions, since the offering of paid research and monitoring opportunities was associated with the students' higher levels of SE.

On the other hand, the predominance of lower SE scores, regardless of the students' stage of training, as well as the apparent lack of impact of the extension scholarships on the students' SE levels, highlight the need of organizing more training opportunities that have more impact on students throughout the courses, as well as reflecting on strategies to improve the effectiveness of extension projects in the institution investigated. Therefore, it is recommended that Higher Education institutions create comprehensive databases, with detailed information on the personal, academic and professional characteristics of each student in order to assist in the identification of students' potentials and demands, in addition to contributing to the implementation of educational policies that enhance the students' perceived SE.

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