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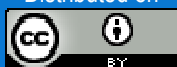
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Entrepreneurship and engagement in higher education students

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ABSTRACT

This study aims to identify entrepreneurial potential and academic engagement levels in students from two higher education institutions. The research is descriptive and quantitative with a cross-sectional design in which we used descriptive analyzes, psychometrics, correlation, and means differences. The sample consisted of 442 students from different courses in two higher education institutions. To obtain the data, we used the Scale to Identify Entrepreneurial Potential, the Utrecht Work Engagement Scale-Students, validated for Brazil, and a sociodemographic questionnaire. Results showed the adequate psychometric quality of the scales and moderate indices for both engagement and potential entrepreneurs. We found significant correlations between the dimensions of 'entrepreneurial potential' and 'academic engagement', which denotes that these constructs are involved. There is evidence that these variables are associated and can be functional for developing strategies and educational and professional actions in different contexts that promote socioeconomic development, even with students who do not come to exercise entrepreneurial practices. We highlight that we did not find studies using those scales simultaneously. Both entrepreneurial potential and academic engagement are relevant themes, especially in the scholastic scenario, aiming at preparing students for the job market in the context of the fourth industrial revolution. The psychometric quality of scales incipiently studied in Brazil was also verified. It is expected to contribute to identifying relevant variables in both the organizational and educational scenario since entrepreneurial potential and engagement can increase performance and well-being in the most diverse contexts.

KEYWORDS

Entrepreneurship. Engagement. College. Students. Commitment

Empreendedorismo e engajamento em estudantes da educação superior

RESUMO

O presente estudo tem o objetivo de identificar níveis de 'potencial empreendedor' e 'engajamento acadêmico' em estudantes de duas Instituições de Ensino Superior (IES). Uma pesquisa descritiva, quantitativa e transversal, com emprego de análises descritivas, psicométricas, de correlação e diferença de médias, foi realizada com 442 acadêmicos de diversos cursos dessas IES. Para obtenção dos dados, optou-se pelo uso da Escala para Identificar Potencial Empreendedor (EIPE) e o Utrecht Work Engagement Scale-Students (UWES-S), ambas validadas para o contexto brasileiro, além de um questionário sociodemográfico que caracteriza a amostra. Os resultados demonstraram adequada qualidade psicométrica das escalas e índices moderados tanto para engajamento como para potencial empreendedor. Foram encontradas correlações significativas entre as dimensões de 'potencial empreendedor' e 'engajamento acadêmico', o que denota o envolvimento entre esses

constructos. Há evidências de que essas variáveis se associam positivamente. Destaca-se que não foram encontrados estudos que utilizem, concomitantemente, as duas escalas. Tanto o ‘potencial empreendedor’ quanto o ‘engajamento acadêmico’ são temas relevantes, especialmente no cenário acadêmico visando a preparação de estudantes para o mercado de trabalho no contexto da Quarta Revolução Industrial. Também foi verificada a qualidade psicométrica de escalas incipientemente estudadas no Brasil. Espera-se contribuir com a identificação de variáveis relevantes tanto no cenário organizacional como educacional, uma vez que o potencial empreendedor e o engajamento são capazes de incrementar a performance e bem-estar nos mais diversos contextos.

PALAVRAS-CHAVE

Empreendedorismo. Engajamento. Universidade. Discentes. Comprometimento.

Emprendimiento y compromiso en estudiantes de educación superior

RESUMEN

Este estudio tiene el objetivo de identificar niveles de potencial empresarial y compromiso académico en estudiantes de dos instituciones de educación superior. Se trata de una investigación descriptiva, cuantitativa y transversal. Se ha utilizado análisis descriptivos, psicométricos, correlación y diferencia de medias. La muestra consistió en 442 estudiantes de diferentes cursos. Para la obtención de los datos, se optó por utilizar la Escala de Identificación del Potencial Emprendedor y la Escala de Compromiso Laboral-Estudiantes de Utrecht, ambas validadas para Brasil, y un cuestionario sociodemográfico que caracteriza la muestra. Los resultados mostraron una adecuada calidad psicométrica de las escalas e índices moderados tanto de involucramiento como de potencial emprendedor. Además, fueron encontradas correlaciones significativas entre las dimensiones del potencial emprendedor y el involucramiento académico, lo que indica que estos constructos están conectados. Existen evidencias de que estas variables están asociadas y pueden ser funcionales para el desarrollo de diversas estrategias y acciones en distintos contextos académicos y profesionales que promuevan el emprendimiento y el desarrollo socioeconómico, asimismo en estudiantes que no vengán a ejercer prácticas emprendedoras. Se resalta que no fueron encontrados estudios que utilicen estas escalas concomitantemente. Tanto el potencial emprendedor como el involucramiento académico son temas relevantes especialmente en el escenario académico objetivando la preparación de estudiantes para el mercado laboral en el contexto de la cuarta revolución industrial. También se verificó la calidad psicométrica de escalas incipientemente estudiadas en Brasil. Se espera contribuir con la identificación de variables relevantes tanto en el escenario organizacional como en el educativo, una vez que el potencial emprendedor y el involucramiento son capaces de incrementar el desempeño y el bienestar en los más diversos contextos.

PALABRAS-CLAVE

Emprendimiento. Involucramiento. Universidad. Estudiantes. Compromiso.

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1 Introduction

Currently, society has been experiencing a moment of intense behavioral, technological, marketing and academic transformations, which, according to Schwab (2019), founder and president of the World Economic Forum (WEF), reveal the Fourth Industrial Revolution. These transformations are characterized by a scenario of uncertainty, complexity and ambiguity (PRESS et al., 2020). Thus, people increasingly need, regardless of their area of activity, entrepreneurial competence and skills to help them cope with challenges and uncertainties (CUALHETA et al., 2020).

Teaching these entrepreneurial skills in higher education has grown around the world (CUALHETA et al., 2020). However, this learning depends on several factors, among them, the engagement of students in the teaching and learning process due to the relevance this engagement has in the adhesion and performance in academic activities (PORTO-MARTINS; MACHADO, 2018).

In this process of promoting the development of entrepreneurial skills, Higher Education Institutions (HEIs) can be great allies, with the mission of training citizens capable of acting in the scenario of the Fourth Industrial Revolution, and contributing to socioeconomic development (SCHWAB, 2019). In addition to the traditional role in teaching and the academic role of research, universities must also add economic and social development to their attributes (LIMA et al., 2018). Corroborating these assumptions, Carneiro et al. (2017) state that universities are complex organizations that must seek continuous education in the age of knowledge, adapting to social and labor demands.

The challenge HEIs currently face is to create an environment of integration between students and the academic environment (SANTOS-JUNIOR; REAL, 2020), and a plural and flexible scenario, which can train students capable of acting in a context in which formal employment is in decline, demanding the preparation of alternative placements for students (IZUKA; MORAES, 2014). For these institutions to be successful, training must include both soft skills and hard skills (SCHWAB, 2019).

Soft skills are interpersonal skills related to emotional intelligence (RITTER et al., 2018) and are aligned with market needs. Some examples are communication, negotiation, leadership, teamwork and creativity skills (SANTOS et al., 2010; SCHWAB, 2019). Companies are carrying out selection processes based on soft skills, as having them shows competitive advantage, generating benefits such as increased quality, worker productivity and company profitability (BAILLY; LÉNÉ, 2013).

The appreciation of soft skills can be considered a novelty for HEIs, as traditionally, they have been committed to the development of hard skills, considered technical skills (SCHWAB, 2019). Considering that entrepreneurship (MARTINHO, 2019) and engagement (SCHWAB, 2019) can be considered soft skills, these topics deserve to be studied in depth, including the analysis of the relationship between them within the university context.

Thus, HEIs need to be able to engage students in activities (AUTOR; AUTOR, 2018), as well as to develop pedagogical and psychological strategies (ALMEIDA et al., 2018) that allow students to acquire theoretical concepts, transforming them into skills, applying them, through soft skills, to the development of actions that stimulate entrepreneurship (PEREIRA et al., 2015), as HEIs are the protagonists of the process of creating new companies and implementing entrepreneurial activities (VASCONCELOS et al., 2020).

Entrepreneurship can be considered paramount for society, especially in the face of changes in the world from the 20th century onwards (SILVA et al., 2018), which require people to act in an entrepreneurial, innovative and sustainable way (VASCONCELOS et al., 2020; SAES; MARCOVITCH, 2020).

It is also noteworthy that entrepreneurship is a field in full expansion, and can be studied from various perspectives (LIMA et al., 2018). Some examples are the studies conducted in the areas of Psychology and Economics (ALMEIDA et al., 2018; BAGGIO; BAGGIO, 2014; ROCHA et al., 2016), and the recognition of the need to expand studies in the academic environment (IZUKA; MORAES, 2014).

However, the polysemy of the term 'entrepreneurship' is noteworthy, varying according to the area that employs it (ALMEIDA et al., 2018; BAGGIO; BAGGIO, 2014; ROCHA et al., 2016). Economics, considered a pioneer, associates it with innovation; Psychology highlights attitudinal aspects in its field of study (ROCHA et al., 2016).

Even without consensus, 'entrepreneurship' can be defined as a process of creating something different, with added value, in which the necessary time and effort is dedicated (ROCHA et al., 2016). Or even, as the art of "making it happen" with creativity and motivation (BAGGIO; BAGGIO, 2014), with corresponding financial, psychological and social risks and aiming at economic rewards and personal satisfaction of individuals or organizations (ROCHA et al., 2016).

Studies in the area are commonly related to entrepreneurial behavior, such as recognition of opportunities and persistence; planning actions and issues related to power (e.g., ability to persuade, to establish a network of relationships and to be self-confident) and the very intention to start a business (SANTOS, 2008; DE SOUZA et al., 2017).

Entrepreneurial behavior refers to the way a person is able to identify opportunities for innovation and creation, taking risks, overcoming problems, seeking the necessary knowledge for their business, manifesting the value of their business and looking for other people to share ideas for making decisions. (ROCHA et al., 2016).

Some of the common characteristics found in entrepreneurs are: the search for information and opportunities, initiative, commitment, risk-taking, demand for efficiency, goal setting, independence, self-confidence, persuasion, network of contacts, planning, systematic surveillance and persistence in carrying out activities (SILVA et al., 2018). These

characteristics are of paramount importance to achieve goals and develop business (ROCHA et al., 2016).

Entrepreneurial behavior is linked to personal characteristics that can influence several areas of human life (VASCONCELOS et al., 2019), such as: professional fulfillment processes (sense of opportunity, persistence, quality, efficiency and risks), planning (identification of goals, information, planning and control) and power (of persuasion, network of relationships and self-confidence). The identification of these aspects helps in the detection of areas where there is high potential, but still in need of training and learning (SANTOS, 2008).

Encouraging entrepreneurial education, especially in higher education, can help spread an entrepreneurial culture (ALMEIDA et al., 2018). However, one of the challenges in this process is to transcend the mere acquisition of knowledge (IZUKA; MORAES, 2014) or content reproduction. To this end, approaches that favor interdisciplinary views and active methodologies are used (ABÍO et al., 2019). Thus, a necessary and useful aspect to achieve the pedagogical objectives within these approaches is high student engagement (MENG; JIN, 2017).

In this research, 'engagement' is considered a positive cognitive state, related to specific activities, persistent over time, of a motivational and social nature, not focused on a single objective or situation, associated with high performance in activities (CARVALHO et al., 2020; HARJU et al., 2016; SCHAUFELI, 2015).

Engagement is characterized by a behavioral and energetic factor, represented by high levels of energy and resilience (vigor); an emotional factor of a sense of significance and challenge (dedication); and a cognitive factor of high concentration and abstraction in activities (absorption). It is a construct that can be considered both individually and collectively (SCHAUFELI, 2012; 2017).

The topic is considered recent and with increasing interest in the literature (KULIKOWSKI, 2017). In the Brazilian context, it is a complex, multifaceted and little explored topic in the literature (OLIVEIRA; FERREIRA, 2016; PAYNE, 2019; ZHOC et al., 2019).

Academic engagement is a 'meta-construction' which brings together several aspects that contribute to student success in learning processes (ZHOC et al., 2019). It implies experimentation of sensations and actions from the students' perspective, that indicate a high degree of involvement in their studies, associated with high self-efficacy in activities (MENG; JIN, 2017; SILVA et al., 2018; DE SOUZA et al., 2017), performance, autonomy, well-being, enthusiasm, self-esteem and optimism in the face of learning processes (SILVA et al., 2018), in addition to other aspects such as persistence, resilience, academic integration in previous experiences, strong sense of purpose, emotional connection in activities, as well as a sense of belonging to the group the student is a part (PAYNE, 2019).

Overall, engagement is a predictor of academic performance (CADIME et al., 2016;

MENG; JIN, 2017; TIGHT, 2020; ZHOC et al., 2019), learning, academic effort, personal development, and life satisfaction (MENG; JIN, 2017). It influences aspects such as effort, achievement of goals, persistence, involvement and concentration in studies and commitment to learning (ESCOLANO-PÉREZ, 2014).

In university students, engagement can be seen as the result of a successful combination of 'good performance' and 'adequate integration into the university context', being a central construct to promote not only learning and performance, but also students' interest, pleasure and psychological well-being (MEDRANO et al., 2015), which affects the relationship between students and HEIs (RADETZKE; GULLICH, 2020).

The development of academic engagement must imply a mutually beneficial collaborative approach between students and their institutions (PETERS et al., 2019). Thus, the study of engagement in the educational context can help HEIs management to find instruments that contribute to the development of strategies to improve student performance and commitment in socio-academic activities (MENG; JIN, 2017; SANTOS-JUNIOR; REAL, 2020).

In the present study, specifically, both entrepreneurial potential and student engagement were considered, a perspective corroborated by Martinho (2019) who highlights the role of engagement as an important soft skill for professional performance. Schwab (2019), in turn, highlights the importance of committed HE students and future professionals, who have transversal skills linked to an entrepreneurial and innovative profile.

According to the above, the present research highlights the importance of HE students being highly engaged in their academic activities (MEDRANO et al., 2015) and having high entrepreneurial potential (SANTOS, 2008) to stimulate the development of functional competences for academic-professional training, social adaptation in college graduates and qualified adhesion to the job market. Thus, this article proposes to identify levels of entrepreneurial potential and academic engagement in students from two HEIs. In this way, the following sections present the methodological paths, the results and the analyzes carried out, as well as the final considerations of this research.

2 Methodological Procedures

This is a descriptive investigation, with quantitative research methodology and cross-sectional approach.

2.1 Participants

The sample is composed of students from different undergraduate and graduate courses from two HEIs (N=442). Of these, 166 (37.6%) students are male and 276 (62.4%) are female; 84 (19.0%) have children, and 358 (81.0%) do not. The mean age was 25.6 years (SD=7.94),

and the mode was 21 years. Regarding their school, 206 (46.6%) participants had exclusively attended public schools, 56 (12.7%) exclusively private schools, and 180 (40.8%) had attended both public and private schools.

Regarding their institutional affiliation, 364 (82.4%) participants were from HEI-PR, and 78 (17.6%) were from HEI-RS, and students were on average in the 5th period/term. Students from different areas (Humanities, Health and Exact Sciences) and courses participated in the study, with a greater number of participants from majors in Psychology (n= 113 / 25.5 %), Administration (n = 92 / 20.8%), Physical Education (n= 64 / 14.5%), and Nursing (n= 56 / 12.67%). Of the total, 412 (93.2%) students are from undergraduate courses, 15 (3.4%) from specialization courses, and 15 (3.4%) from stricto sensu courses. These data denote diversity of training and, to a lesser extent, academic level.

The selection was the convenient type, and the only inclusion criterion was to be a higher education student. It should be noted that the demographic variables will be used as independent variables.

2.2.1 Entrepreneurial potential scale (eps)

The EPS is a Brazilian instrument, developed by Santos (2008), which has 49 self-report items, grouped into 10 dimensions described below, in addition to a global measure that assesses the entrepreneurial potential itself. This scale has already been validated in Brazilian samples with 654 university students and 148 entrepreneurs (DE SOUZA et al., 2017). The EPS dimensions are defined as (SANTOS, 2008; DE SOUZA et al., 2017; VASCONCELOS et al., 2019):

- a) entrepreneurial intention: indicate the intention to own, whether by acquiring from someone else or starting from scratch their own business (e.g., *“I’ll definitely have my own business one day.”*);
- b) opportunity: show disposition for a sense of opportunity; be aware of what is happening around them, identifying people’s or market’s needs; take advantage of unusual situations to start new activities or businesses (e.g., *“I understand the needs of others and how they can be met.”*);
- c) persistence: remain firm in the pursuit of success, demonstrating persistence to achieve goals and targets, overcoming obstacles along the way; distinguish stubbornness from persistence; admit mistakes; and know how to redefine goals and strategies (e.g., *“I understand that obstacles exist to be overcome.”*);
- d) efficiency: do things right and, if necessary, quickly make changes to adapt to changes in the environment; be proactive (e.g., *“When necessary, I make the necessary adaptations to make things work.”*);

e) information: be available to learn and demonstrate a “thirst” for knowledge; be interested in finding new information in their area of expertise or even outside it (e.g., “*I try to be informed about things relevant to what I do.*”);

f) planning: plan their activities in detail, defining objectives; act with planning, as well as with execution and control; believe in the importance of planning (e.g., “*I establish where I want to go and detail all the steps I must follow.*”);

g) goals: show determination and a sense of direction; and establish measurable goals and objectives, clearly defining where they want to go (e.g., “*I can clearly determine what my goals and targets are.*”);

h) control: follow the execution of elaborated plans; keep records and use them in the decision-making processes; check the scope of the obtained results; and make changes and adaptations whenever necessary (e.g., “*I often take notes and keep records of my actions.*”);

i) persuasion: influence people, motivating and leading in the execution of tasks or actions that enable the achievement of their objective. Ability to convince and motivate people, lead teams and encourage them using the right words and actions to influence and persuade them (e.g., “*I can convince people to overcome conflicts and act as a team to achieve a certain result.*”);

j) network of relationships: ability to establish a good network of relationships with acquaintances, friends and various people, who may be useful for achieving goals. (e.g., “*I try to establish a good network of relationships with acquaintances, friends and people who can be useful to me.*”)

The EPS also has a global measure, which represents the sum of all its 10 dimensions, named Entrepreneurial Potential (EP). The instrument aims to measure the EP, and can be applied to subjects of different age groups, who are in the labor market or in the academic environment (VASCONCELOS et al., 2019).

Items are answered on an 11-point Likert scale (0 for strongly disagree/not likely) to 10 (strongly agree/absolutely certain). Regarding statistical quality, De Souza et al. (2017) validated this instrument with a sample of 480 students, obtaining Cronbach's Alpha indexes above 0.70 for all dimensions (ranging from 0.78 for 'Opportunity' to 0.91 for 'Persuasion'), and adequate confirmatory factorials analysis with: Comparative Fit Index (CFI)= 0.97; Adjusted Goodness of Fit Index (AGFI)= 0.97; Root Mean Square Residual (RMR)= 0.07 and Chi Squared/Degree of Freedom (χ^2/DF)= 1.453.

2.2.2 Utrecht Work Engagement Scale-Students (UWES-S)

Utrecht Work Engagement Scale-Students (UWES-S) is an instrument for measuring student engagement, developed by Schaufeli and Bakker (2003), adapted to the Brazilian context by Porto-Martins and Benevides-Pereira (2008).

This instrument is composed of 17 self-reported items, which constitute three dimensions (Vigor, Dedication and Absorption), in addition to providing a global measure. The following are examples of these dimension:

- a) vigor: *“When at work, I feel full of energy”*;
- b) dedication: *“I think the work I do is full of meaning and purpose”*;
- c) absorption: *“When I am working, I forget everything going on around me.”*

The validation of the original scale in English was conducted with a sample of 527 students from the Social Faculty of Utrecht University (SCHAUFELI; BAKKER, 2003), with adequate Cronbach's Alpha for the three dimensions ("Vigor" = 0.63; "Dedication" = 0.81 and "Absorption" = 0.72), as well as satisfactory data from confirmatory factor analysis (CFI= 0.85; AGFI= 0.86; RMSEA= 0.08; $\chi^2= 59.00$ and DF= 116).

Regarding the instrument validation in a Brazilian sample, the study by Silva et al. (2018) counted with the participation of 537 students and showed adequate statistical quality, as it presented CFI= 0.95; GFI= 0.95 and RMSEA= 0.07 and beta regression indexes above 0.40.

2.3 Data Collection Procedures and Ethical Considerations

The application of the instruments was carried out through a questionnaire between the months of September and November 2019, using the Google Forms platform. The search for participants took place through direct contact with various sectors of the two involved HEIs. The protocol with the Free and Informed Consent Term and the instruments were sent by e-mail to the respective HEIs' students after approval by those responsible. It was not possible to calculate the response rate, as there is no way to guarantee the protocol was actually delivered to all of the HEIs' students.

The research project was approved by a research ethics committee with human beings from one of the participating HEI. Presentation Certificate to Ethical Assessment (CAAE) number 14940819.9.0000.0020.

2.4 Data Analysis Procedures

Data analysis was carried out using quantitative methods that involved the measurement of variables, using descriptive statistical tests (frequencies, means, medians and standard deviation), psychometric tests (confirmatory factor analysis and Cronbach's Alpha internal consistency indicator), correlation tests (Pearson's P) and comparison of means (Student's t), calculated with the Statistical Package for the Social Sciences (SPSS) and AMOS software, both in version 22.0.

To estimate instrument reliability, Cronbach's alphas were calculated, with values equal to or greater than 0.70 as desirable (HAIR et al., 2010). For the confirmatory factor analysis, adequate parameters were considered for the indicators: Chi square/degrees of freedom (CMIN/DF) <5.0 (PIMENTEL; GOUVEIA; FONSECA, 2005); Root Mean Square Error of Approximation (RMSEA) <0.80 (BYRNE, 2010); SRMR <0.08 (HU; BENTLER, 1999); Comparative Fit Index (CFI) >0.90 and Standardized Regression Index (beta) >0.40 (HAIR et al., 2010). To analyze the magnitude of correlations, moderate intensity between 0.30 and 0.49 and high intensity for values greater than 0.50 were considered (MILES; SHEVLIN, 2001). The scrutiny of the instruments was used to calculate the levels of entrepreneurial potential and academic engagement.

3 Results and Analysis

3.1 Analysis of Psychometric Properties

As the instrument versions (UWES-S in Portuguese and EPS) have not yet been extensively researched, confirmatory factorial analyzes of their theoretical models were performed. The second-order non-recursive models showed good fit indexes (TABLE 1) and presented values adequate to the established criteria, except for the EPS's CFI index, which presented a value close to adequate (0.87).

As for the factorial loadings, the EPS presented values between 0.665 (Item 25 ← Planning) to 0.889 (Item 2 ← Entrepreneurial Intention). For the UWES-S, the values ranged between 0.561 (Item 16 ← Absorption) and 0.842 (Item 11 ← Absorption), indicating adequate regression values.

Table 1. EPS and UWES-S adjustment indexes

Scale	Nº	%
EPS	3	2.4
UWES-S	16	13.6

Caption: χ^2 : chi-square; DF: Degrees of Freedom; CFI: Comparative Fix Index; RMSEA: Root Mean Square Error of Approximation; SRMR: Standardized Root Mean Square Residual.

Source: the authors, field research.

Scale reliability also showed adequate results according to the parameters. Regarding the EPS results, they all were above 0.84 (TABLE 2).

Table 2. EPS and UWES-S adjustment indexes

Dimension	Intention	Opportunity	Persistence	Efficiency	Information	Planning	Goals	Control	Persuasion	Network	Potencial
Mean	5.99	6.92	7.89	8.38	8.42	6.74	7.12	6.54	7.10	7.49	7.36
SD	2.78	1.79	1.69	1.73	1.51	2.07	2.03	2.30	1.92	2.00	1.44
Minimum	0.00	1.20	1.50	0.00	2.40	0.00	0.00	0.00	0.00	0.00	1.84
Maximum	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.89
α	0.92	0.84	0.91	0.85	0.91	0.85	0.93	0.92	0.93	0.90	0.97

Caption: χ^2 : chi-square; DF: Degrees of Freedom; CFI: Comparative Fix Index; RMSEA: Root Mean Square Error of Approximation; SRMR: Standardized Root Mean Square Residual; α : Cronbach's Alpha.

Source: the authors, field research.

In relation to the EPS descriptive analyzes (TABLE 2), the sample presented the highest weighted mean for the dimension "Information" with value of 8.42 (SD = 1.51) followed by "Efficiency" (M = 8.38 / SD = 1.73). At the opposite pole, the lowest value was "Entrepreneurial Intention" (M= 5.99 / SD= 2.78), followed by "Control" 6.54 (SD= 2.30). These data show that students consider themselves well-informed about their area of activity or outside of it, with perceived efficiency to entrepreneur, which indicates the ability to operationalize activities related to entrepreneurship. However, they do not always have the entrepreneurial intention, which may have influenced the low value of "Control", as the latter refers to the ability to follow the prepared plans. This data highlights the opportunity to rethink actions focused on entrepreneurial education in these HEIs, as Cualheta et al. (2020) point out, it is not enough for students to think, speak and understand about entrepreneurship, they need to experience it, testing and applying knowledge in their daily lives.

It is noteworthy that the means obtained in the present study were lower when compared to the validation study by the authors De Souza et al. (2017) and Guedes, Botechia, Rodrigues and Mendes (2018). On the other hand, when compared to the study by Cortez et al. (2019) and Vasconcelos et al. (2019), the present sample obtained higher indexes in the dimensions "Planning" (6.25 and 6.35, respectively, to the cited studies), "Efficiency" (7.99 and 8.27, respectively), "Goals" (6.85 and 6.82, respectively) and "Control" (6.01 and 6.52, respectively), which allows us to infer that the data from the present sample are neither high nor low when compared to studies in different contexts.

For the UWES-S, all values were greater than 0.85 (TABLE 3). Results that denote adequate psychometric quality of the scales.

Table 3. Means, weighted means, standard deviations, Cronbach's alphas and percentage of UWES-S dimensions

Dimension	Weighted Mean	SD	α	Very high %	High %	Average %	Low %	Very low %
Vigor	3.79	1.13	0.85	3.6 (n=16)	18.6 (n=82)	47.3 (n=209)	21.3 (n=94)	9.3 (n=41)
Dedication	4.69	1.09	0.86	19.9 (n=88)	32.1 (n=142)	38.7 (n=171)	7.7 (n=34)	1.6 (n=7)
Absorption	3.70	1.21	0.87	6.1 (n=27)	23.5 (n=104)	48.6 (n=215)	16.5 (n=73)	5.2 (n=23)
UWES-S	4.02	1.07	0.94	4.8 (n=21)	26.0 (n=115)	51.6 (n=228)	14.0 (n=62)	3.6 (n=16)

Caption: UWES-S= Academic Engagement; SD= Standard Deviation; α = Cronbach's alpha.
Source: research data.

Regarding the results in Table 3, it is noteworthy that the dimension “Vigor” presented a weighted mean of 3.79 (SD= 1.13); “Dedication” was 4.69 (SD=1.09); and “Absorption” was 3.70 (SD=1.21). For the “Academic Engagement” scale, the mean was 4.02 (SD=1.07), also denoting a moderate level in the sample as a whole. When compared to other studies (CADIME et al., 2016; SALMELA-ARO; UPADYAYA, 2014), the obtained means were higher. On the other hand, the present sample obtained lower values in all dimensions when compared to the Brazilian UWES-S validation study, which obtained means of 4.33 (SD= 1.35) for “Vigor”; 5.20 (SD= 1.12) for “Dedication”; 4.61 (SD= 1.16) for “Absorption” and 4.79 (SD= 1.04) for the “Academic Engagement” scale. The application of the UWES version for students does not present data regarding the means in the official manual.

3.2 Analysis of Instrument Results

As there are indications that engagement and entrepreneurship are related (CORRÊA; VALE, 2013), correlations were made between the dimensions of the instruments to verify whether, specifically, academic engagement and entrepreneurial potential are associated (TABLE 4).

Table 4. Means, weighted means, standard deviations, Cronbach's alphas and percentage of UWES-S dimensions.

		Vigor (VI) Dedication (DE)	Absorption (AB)	Engagement (ENG)	Intention (INT)	Opportunity (OPO)	Persistence (PER)	Efficiency (EFF)	Information (INF)	Planning (PLA)	Goals (GOA)	Control (CON)	Persuasion (PER)	Network (NET)	Potential (POT)		
VI	<i>Corr, (r)</i>	1	.765**	.868**	.945**	.173**	.323**	.411**	.416**	.360**	.248**	.369**	.353**	.346**	.235**	.451**	
	<i>p</i>		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
DE	<i>r</i>		1	.791**	.898**	.047	.222**	.358**	.372**	.332**	.207**	.275**	.288**	.228**	.201**	.359**	
	<i>p</i>			.000	.000	.321	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
AB	<i>r</i>			1	.957**	.155**	.259**	.357**	.385**	.337**	.271**	.325**	.348**	.299**	.230**	.412**	
	<i>p</i>				.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
UWES-S	<i>r</i>				1	.140**	.290**	.402**	.419**	.367**	.262**	.349**	.356**	.316**	.239**	.439**	
	<i>p</i>					.003	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
INT	<i>r</i>					1	.637**	.403**	.279**	.302**	.318**	.373**	.309**	.365**	.331**	.492**	
	<i>p</i>						.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
OPO	<i>r</i>						1	.625**	.427**	.556**	.329**	.546**	.428**	.587**	.483**	.738**	
	<i>p</i>							.000	.000	.000	.000	.000	.000	.000	.000	.000	
PER	<i>r</i>							1	.609**	.664**	.366**	.616**	.456**	.511**	.497**	.785**	
	<i>p</i>								.000	.000	.000	.000	.000	.000	.000	.000	
EFF	<i>r</i>								1	.593**	.453**	.439**	.494**	.350**	.368**	.654**	
	<i>p</i>									.000	.000	.000	.000	.000	.000	.000	
INF	<i>r</i>									1	.468**	.576**	.487**	.514**	.512**	.773**	
	<i>p</i>										.000	.000	.000	.000	.000	.000	
PLA	<i>r</i>										1	.558**	.631**	.323**	.333**	.655**	
	<i>p</i>											.000	.000	.000	.000	.000	
GOA	<i>r</i>											1	.696**	.557**	.555**	.857**	
	<i>p</i>												.000	.000	.000	.000	
CON	<i>r</i>												1	.418**	.447*	.768**	
	<i>p</i>													.000	.000	.000	
PER	<i>r</i>													1	.699**	.752**	
	<i>p</i>														.000	.000	
NET	<i>r</i>														1	.726**	
	<i>p</i>															.000	
POT	<i>r</i>																1

Caption: **= Correlation is significant at 0.01; N= 442.

Source: the authors, field research.

Regarding the internal EPS results, the values were all positive and significant (at $p < 0.01$), denoting the uniqueness of the scale around the same construct. The lowest obtained value was 0.279 in the relation “Entrepreneurial Intention” and “Efficiency” ($INT \leftrightarrow EFF$), consistent with the study by Viana et al. (2018) who obtained positive and significant correlations, with values from this same relationship, but with a lower value ($r = 0.194$). However, the highest correlation between the specific dimensions was $r = 0.699$ for “Network of Relationships” and “Persuasion” ($NET \leftrightarrow PER$), showing that fostering good networks of relationships can be functional to exert persuasion on others in activities related to entrepreneurship and vice versa.

When considering the “Entrepreneurial Intention” scale (which implies a sum of other dimensions, specified in the methodological procedures), the highest value was 0.857 with the “Goals” dimension (POT \leftrightarrow GOA), denoting strong relationship between these factors and the importance of setting specific goals when it comes to developing entrepreneurial potential. Moreover, in relation to the dimension “Entrepreneurial Intention”, which is not part of the POT scale, an expressive value was also obtained ($r=0.492$). This result indicates the association of entrepreneurial potential with the entrepreneurial intention as directly associated aspects and which should be encouraged.

Regarding the UWES-S dimensions, they were all positive, significant and high (at $p>0.001$ level), ranging between $r=0.765$ (“Vigor” \leftrightarrow “Dedication”) and $r=0.868$ (“Vigor” \leftrightarrow “Absorption”). The data converge with the correlations obtained in the instrument manual, correlations that ranged from $r=0.51$ (“Dedication” \leftrightarrow “Absorption”) to $r=0.67$ (“Vigor” \leftrightarrow “Absorption”) (SCHAUFELI; BAKKER, 2003). These correlations also converge with studies by Meng and Jin (2017) and Silva et al. (2018), carried out with university students, in which positive and significant correlations were also obtained. These results indicate that the dimensions “Vigor”, “Dedication” and “Absorption” are strongly associated. When considering the global scale of academic engagement, in view of its specific dimensions, the values ranged between $r=0.898$ (“Academic Engagement” \leftrightarrow “Dedication”) and $r=0.957$ (“Academic Engagement” \leftrightarrow “Absorption”), reinforcing the integrity of the instrument as the three dimensions converge to the same macro dimension.

Regarding the correlations of the dimensions between the instruments (UWES-S and EPS), only one case resulted in a non-significant value: between the dimensions “Dedication” and “Entrepreneurial Intention” ($p=0.321$) indicating, in the present sample, weak relationship between the desire for entrepreneurship and dedication to academic activities. On the other hand, the highest correlations were between the dimensions “Vigor” and “Entrepreneurial Potential” ($r=0.451 / p=0.001$), “Efficiency” ($r=0.416 / p=0.001$) and “Vigor” and “Persistence” ($r=0.411 / p= 0.001$), which indicates that especially “Vigor” in the UWES-S is directly correlated to all dimensions of the EPS, indicating that students who have high energy and resilience in academic activities also have high entrepreneurial potential.

When considering the global scale “Academic Engagement” (UWES-S) and the general scale “Entrepreneurial Potential” (POT), the second highest value was obtained among the instruments $r=0.439 / p=0.001$ (UWES-S \leftrightarrow POT), revealing that the constructs “engagement” and “entrepreneurial potential” have a significant and moderate correlation, according to the analysis criteria adopted for the present study, and in most cases higher correlation in relation to their isolated dimensions. This evidences the plausibility of considering that investing in student engagement can reflect on the development of their entrepreneurial potential and vice versa. This result converges on the theoretical premise that there is a positive relation between engagement and the development of entrepreneurial actions (CORRÊA; VALE, 2013; FERNANDES; SANTOS, 2008), a desirable aspect, as an engaged person tends to be more productive and happier in the performed activities (MEDRANO et al., 2015), just as an

individual with high entrepreneurial potential tends to take advantage of work opportunities for their own and collective benefit (SAES; MARCOVITCH, 2020).

Regarding the comparison of means, the UWES-S and EPS scores (as a dependent variable) were calculated with sociodemographic variables (considered as independent variables) related to the academic context and entrepreneurship.

Regarding the HEI, despite the disparity in the number of participants, no significant difference was observed in means in any of the analyzed cases, which may show similar behavior among students from different HEIs in relation to "Academic Engagement" and "Entrepreneurial Potential". Therefore, it can be inferred that the sample, even in contexts of different HEIs, presented a similar pattern of response, which is desirable when analyzing the group as a whole, as conducted in the present study.

Although the institutional link did not show significant differences, when the perception of HEI support for entrepreneurship was analyzed, the results were different. All UWES dimensions, especially UWES-S ($F=5.002$; $p=0.001$) showed significant differences in means when comparing the level of support. According to the theoretical assumption, the highest means were found in participants who reported high support in relation to those who did not. Regarding the EPS, the dimensions INT ($F= 4.389$; $p=0.002$), OPP ($F= 2.516 / p= 0.041$), PER ($F= 2.771 / p= 0.027$), CON ($F= 3.289 / p= 0.011$), PER ($F= 6.021/ p= 0.000$), NET ($F= 3.201/ p= 0.013$), POT ($F= 4.256/ p= 0.002$) showed significant differences in relation to the level of HEI support for entrepreneurship. Data that reinforce the importance encouraging HEIs to promote academic engagement (PORTO-MARTINS; MACHADO, 2018) and the development of entrepreneurial potential (SILVA et al., 2018).

Consistent with the assumption of the instrument, in relation to variables directly associated with entrepreneurship, those **who are already entrepreneurs** developed their potential even more, presenting significantly higher means in the dimensions than participants who have not yet been entrepreneurs: INT $t= 5.482 / p= 0.000$; OPP $t=3.606 / p=0.000$; GOA $t=2.368 / p=0.018$; CON $t= 1.924 / p= .055$; PER $t=2.131 / p=0.034$; NET $t=1.957 / p=0.051$; POT $t= 2.590 / p= 0.010$.

Among those students who have a **high wish to become entrepreneurs** compared to those who do not, all scales measured by the EPS showed significant differences in means, from EFF ($F=3.561$; $p=0.007$) to INT ($F=77.916$; $p=0.007$). On the other hand, in no UWES dimension a significant difference in means was found. It is possible to claim that entrepreneurial potential involves the wish to be an entrepreneur, but for the present study these aspects were not significantly associated with the engagement in academic activities.

As for **confidence to be an entrepreneur**, for all dimensions, those who feel very confident presented significantly higher values than those who do not know or feel little prepared to be an entrepreneur, with emphasis on the values of UWES-S ($F= 5.809/ p= .000$) and especially for POT ($F= 26.916/ p= .000$), denoting the importance of controlling this

variable for the development of entrepreneurial potential and engagement in academic activities.

4 Conclusion

This study verified the levels of entrepreneurial potential and academic engagement in students from two HEIs. The results showed that students from both institutions had, in general, moderate levels of engagement and entrepreneurial potential.

Significant correlations were also identified between dimensions of entrepreneurial potential and academic engagement, revealing that these constructs are related and may reciprocally drive the development of entrepreneurial actions.

Regarding the entrepreneurial potential, even students who do not engage in entrepreneurial practices can benefit, in their training, from the development of knowledge and skills provided by entrepreneurship teaching and learning, such as managerial, technical and interpersonal skills (ALMEIDA et al., 2018; CUALHETA et al., 2020). As for academic engagement, it was observed that it is a desirable aspect that affects the relationship between students and HEIs (RADETZKE; GULLICH, 2020), as it is associated with higher levels of productivity, learning, psychological well-being and quality in exercised activities, in addition to helping the student to deal with academic, social and psychological pressures and challenges (MEDRANO et al., 2015). In short, the development of entrepreneurial potential and academic engagement is a desirable factor in different educational and work contexts.

Considering the importance of the development of soft skills in the academic environment, the moderate presence of these factors can be interpreted as an indication that these HEIs already have actions in the desired direction, but also that it is still possible to advance in the sense of increasing the “moderate” to “high” rates.

As a contribution, the positive relationship between the concepts of engagement and entrepreneurial potential in the HEIs context is evident, a verification that can be considered scarce, especially considering the used instruments. Another aspect to consider is the expansion of the results that attest to the psychometric quality of the instruments that are still incipient.

From the obtained data, it is considered that the study of entrepreneurial potential together with the study of academic engagement can encourage the preparation of strategies for review and updating portfolio, teacher training, student recruitment and retention.

The investigation also highlights the need for further studies on concrete actions that develop entrepreneurial potential and stimulate academic engagement in students in professional training, as well as investigations that identify causal relationships between these variables in different institutional contexts, as indications point that they can be functional for the development of different strategies and actions in academic and professional management.

Finally, the study suggests investigations of cases in which students are engaged and develop both hard and soft skills in entrepreneurial activities within the educational context.

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