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Engagement of University Students in Academic Activities*

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ABSTRACT

Engagement is a construct considered a positive cognitive state, persistent over time, of a motivational and social nature, not focused on a single objective or situation. Engagement, in the academic context, suggests an experimentation, on the part of students, of actions that indicate a high degree of involvement in their student activities. Therefore, the aim of this study was to investigate student engagement in academic activities. This is a quantitative, cross-sectional research, carried out with descriptive, correlation, comparison of means and standardized regressions. A socio-demographic questionnaire was used to characterize the sample and the Utrecht Work Engagement Scale - Students. This instrument presented high factor regressions ($\beta > 0.40$), positive and significant internal correlations ($p < 0.01$) and Cronbach's Alpha of the three dimensions greater than 0.80, indicating adequate psychometric quality. The sample consisted of 368 students from a Higher Education Institution in the state of Paraná. In general, average levels of academic engagement are observed. Significant average differences were also identified between the dimensions of the UWES-S and sociodemographic variables such as gender, children, course and semester. Finally, the results show that students show higher engagement at the beginning of the studies and that this must be carefully managed so as not to deteriorate over the years they have lived in academia.

KEYWORDS

Higher education. Students. Education. Psychological assessment. Student welfare.

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Engajamento de Estudantes Universitários em Atividades Acadêmicas

RESUMO

O engajamento é um constructo considerado um estado cognitivo positivo, persistente no tempo, de natureza motivacional e social, não focado em um único objetivo ou situação. O engajamento, no contexto acadêmico, sugere uma experimentação, por parte de estudantes, de ações que indicam elevado grau de implicação em suas atividades estudantis. Portanto, o objetivo deste estudo foi investigar o engajamento de estudantes nas atividades acadêmicas. Trata-se de pesquisa quantitativa, transversal, realizada com análises descritivas, de correlação, de comparação de médias e regressões padronizadas. Foram utilizados: questionário sociodemográfico para caracterização da amostra e o Utrecht Work Engagement Scale – Students. Este instrumento apresentou regressões fatoriais elevadas ($\beta > 0.40$), correlações internas positivas e significativas ($p < 0.01$) e Alpha de Cronbach das três dimensões superior a 0.80, indicando adequada qualidade psicométrica. A amostra foi composta por 368 acadêmicos de uma Instituição de Ensino Superior do estado do Paraná. Observa-se de forma geral, níveis medianos de engajamento acadêmico. Inclusive foram identificadas diferenças de médias significativas entre as dimensões do UWES-S e variáveis sociodemográficas como sexo, filhos, curso e período. Por fim, os resultados evidenciam que os estudantes apresentam engajamento mais elevado no início da graduação e que este deve ser cuidadosamente gerido para não ser deteriorado ao longo dos anos vividos na academia.

PALAVRAS-CHAVE

Ensino superior. Estudantes. Educação. Avaliação psicológica. Bem-estar do aluno.

Compromiso en Estudiantes Universitarios

RESUMEN

El compromiso es un constructo considerado como un estado cognitivo positivo, persistente en el tiempo, de naturaleza motivacional y social, no enfocado en un solo objetivo o situación. El compromiso en el contexto académico sugiere una experimentación, por parte de los estudiantes, de acciones que muestran un alto grado de participación en sus actividades estudiantiles. Por lo tanto, el objetivo de este estudio fue investigar el compromiso de los estudiantes en actividades académicas. Es una investigación cuantitativa, transversal realizada con análisis descriptivos, correlación, comparación de medias y regresiones estandarizadas. Fueron utilizados: cuestionario sociodemográfico para caracterizar la muestra y la Escala Utrecht Work Engagement Scale - Estudiantes. Este instrumento tiene regresiones factoriales elevadas ($\beta > 0.40$), correlaciones internas positivas y significativas ($p < 0.01$) y alfa de Cronbach de las tres dimensiones mayores que 0.80, indicando adecuada calidad psicométrica. La muestra fue composta por 368 estudiantes de una Institución de Educación Superior del estado de Paraná. Se observa de forma general, niveles medianos de compromiso académico. Incluso fueron identificadas diferencias significativas de medias entre las dimensiones del UWES-S y las variables sociodemográficas como el sexo, hijos, curso y el período. Por fin, los resultados evidencian que los estudiantes presentaron el compromiso más alto al comienzo de la graduación y que este debe ser cuidadosamente regidos para no deteriorarse a lo largo de los años vividos en la universidad.

PALABRAS CLAVE

Enseñanza superior. Estudiante. Educación. Psicometría. Bienestar del estudiante.

1 Introduction

Student engagement in academic activities has been a growing concern in Higher Education Institutions (HEIs), as it is known that the student's commitment to these activities may be linked to their academic success and it is up to institutions to promote actions that lead students to this engagement (GUTIERREZ *et al.*, 2019). Thus, one of the ways to stimulate students' success is through strategies that stimulate the commitment, health and well-being of academics (PORTO-MARTINS *et al.*, 2018), which are studied by “Positive Psychology”.

In this scenario, it should be noted that, according to data from the National Institute of Educational Studies and Research Anísio Teixeira (INEP) in 2000, the number of students enrolled in Higher Education was 2,694,245 and, in 2019, it exceeded the mark of eight million students, showing growth of over 200% in 17 years (BRASIL, 2019). Therefore, it is important to promote actions that contribute to the integration of students into the academic environment. (JUNIOR; REAL, 2020).

In this perspective, it should be noted that Psychology has historically focused on the study of problems, symptoms, and diseases, not prioritizing the investigation of aspects associated with human potential (PENA *et al.*, 2011). A proof of this fact is the number of publications on negative states as compared to positive ones from 14 to one (BAKKER *et al.*, 2008), which denotes that nosology prevails over positive and healthy aspects. To reduce this discrepancy, researchers have dedicated themselves to the study of aspects related to positive elements of the human being, a movement called “Positive Psychology”, whose aspects can be generalized to different contexts of human behavior (SALANOVA; SCHAUFELI, 2009).

For this reason, in 1998, Martin Seligman, then president of the American Psychological Association (APA), elected “Positive Psychology” as the theme of his mandate. It is noteworthy that Seligman's contribution is in the dissemination and encouragement of the study of positive elements in Psychology and not in terms of the novelty of the subject. Thus, the study of academic engagement is inserted in this context, being an example of the change of focus in Psychology, prioritizing aspects of human functioning (POCINHO; PERESTRELO, 2011).

Accordingly, research on engagement is considered a consequence of research on Burnout Syndrome (BAKKER *et al.*, 2012). Since, based on Burnout studies, they were moved to what can be considered their opposite pole: engagement (POCINHO; PERESTRELO, 2011; SCHAUFELI, 2012). Historically, among the precursors to the study of engagement, it is possible to identify world-renowned authors who previously investigated the Syndrome and collaborated in the development of studies on engagement (MASLACH *et al.*, 2001; MASLACH; LEITER, 2008; SCHAUFELI; BAKKER, 2004; SALANOVA; SCHAUFELI, 2009; SCHAUFELI, 2012).

Thus, by its very origin, engagement is directly related to occupational health (SALANOVA; SCHAUFELI, 2009; SCHAUFELI; BAKKER, 2004). It is a construct considered a positive cognitive state, persistent over time, of a motivational and social nature, not focused on a single objective or situation (HARJU *et al.*, 2016; SCHAUFELI, 2015).

It should be noted that engagement is characterized by a behavioral and energetic factor represented by high levels of energy and resilience (dimension "vigor"); an emotional factor of a sense of significance and challenge ("dedication" dimension); and a cognitive factor of high concentration and abstraction in activities (dimension "absorption") (SCHAUFELI, 2017). Still, it refers to a construct that can be considered both individually and collectively, since it is closely connected to individual and organizational performance (ACOSTA *et al.*, 2011; SALANOVA; SCHAUFELI, 2009; SCHAUFELI, 2012).

The engagement in the academic context implies an experimentation, on the part of the students, of actions that indicate a high degree of involvement in their student activities (PORTO-MARTINS *et al.*, 2018), in addition to being associated with high levels of self-efficacy, performance, autonomy, well-being, enthusiasm, self-esteem and optimism towards learning processes (PÉREZ-FUENTES *et al.*, 2018; SILVA *et al.*, 2018). Still, it is a predictor of high academic performance (CADIME *et al.*, 2016; MENG; JIN, 2017), learning, effort, personal development and satisfaction with life (MENG; JIN, 2017), also influencing the reach of goals, persistence, involvement and commitment in learning (ESCOLANO-PÉREZ, 2014).

Along this line, student engagement is also identified as a protective factor against behavioral problems, whether they are indiscipline, violence, delinquency (CADIME *et al.*, 2016) and other situations of psychological distress (SALMELA-ARO; UPADYAYA, 2014). Another characteristic of engaged students is that, in the face of difficulties, they are highly likely to be able to structure effective strategies to solve problems (MEDRANO *et al.*, 2015). In such a way, according to Radetke and Gullich (2020), the levels of engagement have an impact on the relationship between students and HEIs.

In short, academic engagement can be considered a combination of high levels of performance, psychological well-being, and commitment to academic activities (MEDRANO *et al.*, 2015; PORTO-MARTINS; MACHADO, 2018). Therefore, it is a desirable factor in the various educational and work contexts (PORTO-MARTINS; MACHADO, 2018).

The study of engagement in the context of education can help HEIs to develop strategies to improve the productivity and quality of life of academics (MENG; JIN, 2017), which may contribute to the challenge of training students for a globalized world (CLEMENTE; MOROSINI, 2021). Therefore, the objective of this article is to identify the levels of engagement in higher education students.

2 Method

It is a cross-sectional research, which used descriptive quantitative analyzes, correlation, reliability, comparison of means, as well as factorial regressions. The sample consisted of 368 academics from an HEI in the capital of the state of Paraná.

It is noteworthy that the project of this research was submitted and approved by a research ethics committee of an HEI, under CAE: 14940819.9.0000.0020.

2.2 Instruments

A sociodemographic questionnaire was structured with the purpose of characterizing the sample in aspects such as: gender, age, education, course, and semester. To measure engagement, a version adapted to the national scenario (PORTO-MARTINS; BENEVIDES-PEREIRA, 2008) of the Utrecht Work Engagement Scale (UWES-S), by Schaufeli and Bakker (2004) was used. This instrument has versions in nineteen (19) languages and has an increasing number of publications (KULIKOWSKI, 2017) and can be analyzed both in a single-factor (global scale) and three-factor (dimensions "vigor", "dedication" and "absorption") (SCHAUFELI; BAKKER, 2004).

The UWES-S has a 7-point likert scale, ranging from 0 (for "never/no time") to 6 ("always/every day") and consists of 17 items, arranged in three dimensions: vigor - 6 items (example: "When I do my activities as a student, I feel full of energy"); dedication - 5 items (example: "I can continue studying for long periods of time"); absorption - 6 items (example: "I am immersed (focused) in my studies").

3 Results and Methods

In relation to sociodemographic data, the majority of women is highlighted (n = 234 / 63.6%); students without children 307 (83.4%), followed by 61 students (16.6%) who have at least one child. In addition, when analyzing the academic condition, the following composition was found: 114 (30.98%) Psychology students; 78 (21.19%) of Business; 70 (19.02%) of Physical Education; 58 (15.76%) of Nursing; 13 (3.53%) of Law; 11 (2.99%) of Pedagogy; 7 (1.90%) in Pharmacy; 6 (1.63%) from Biomedicine and 11 (2.99%) from other courses that represent less participation. The results of the sociodemographic questionnaire are described in detail in Table 1.

Table 1. Sociodemographic results

Sociodemographic variables	Category	N	%
Gender	Female	234	63,6
	Male	134	36,4
Age	Average	24,92	
Children	Yes	61	16,6
	No	307	83,4
Schooling	Fully private	47	12,2
	Fully public		
	Partially public/private	174	47,3
		147	40,5
Semester	1°	45	12,2
	2°	87	23,6
	3°	21	5,7
	4°	25	6,8
	5°	16	4,4
	6°	57	15,5
	7°	4	1,1
	8°	62	16,8
	9°	7	1,9
	10°	44	12

Source: the authors in study

In order to analyze the reliability of UWES-S in relation to the sample of the present study, Cronbach's Alpha indices were calculated, which showed satisfactory indices, since all exceeded the parameter of > 0.70 defended by several authors (GRIEP *et al.*, 2003; HAIR *et al.*, 2010; MAROCO; GARCIA-MARQUES, 2006). The adequacy of this index shows that the instrument has a high degree of internal consistency with regard to the measure proposed (MAROCO; GARCIA-MARQUES, 2006). The reliability data for the dimensions and the global scale of the instrument are shown in Table 2.

Table 2. Averages, weighted averages, standard deviation, minimum, maximum, Cronbach alphas and percentages of UWES-S dimensions

Dimensions	Averages	SD	Weighted Average	Min	Max	α
VI	22.57	6.89	2.84	2.00	36.00	.84
DE	23.65	5.44	3.64	4.00	30.00	.86
AB	22.08	7.40	3.08	1.00	36.00	.87
UWES-S	69.30	18.51	3.14	12.00	102.00	.94

Source: the authors in study

Note: VI= Vigor; DE= Dedication; AB= Absorption; UWES-S= Academic engagement; SD= Standard deviation; Min= Minimum; Max= Maximum; α = Cronbach's Alpha.

The “dedication” dimension had the highest average (23.65 / SD = 5.44), followed by “vigor” which obtained an average of 22.57 (SD = 6.89) and “absorption” 22.08 (SD = 7.40). As for the general academic engagement scale, “UWES-S”, the average value was 69.30 (SD = 18.51).

It should be noted that there is no presentation of averages and sieves in the official UWES manual regarding the version of UWES-S, a version dedicated to students. Precisely because there is no such information, the results of the present study were compared to other investigations, national and international. The averages obtained were higher when compared to the publications of Cadime *et al.* (2016), based on data from 229 Portuguese university students from different courses, which obtained values of VI = 21.06 (SD = 6.41), DE = 22.36 (SD = 5.52) and AB = 20.63 (SD = 6.78). On the other hand, they were inferior when compared to the studies of: Salmela-Aro and Upadyaya (2014), carried out with 1,709 Finnish academics who presented only a weighted average of academic engagement (3.56 / SD = 1.76); Silva *et al.* (2018) who carried out a national validation study of UWES-S, with different samples of academics from different university courses and weighted average presentations (VI > 4.48 / SD = 1.21 - DE > 5.20 / DP = 1.12 - AB > 4.67 - DP = 1.12); and from the studies by Pérez-Fuentes *et al.* (2020), attended by 86 Spanish university students, and also presented weighted averages (VI = 3.94 / DP = 0.75 - DE = 4.09 / DP = 0.77 - AB = 3.63 / DP = 0.78).

In short, it is inferred that the students in the present sample have average engagement, since the result was similar to the studies used as a comparison, as well as a weighted average of the global scale (UWES-S of 3.14) in a score that fluctuates in 7 points, that is, with an average value of 3.5.

Still referring to the averages, when the items were analyzed individually against the whole instrument, the highest three were item 10 (M = 4.89 / DT = 1.33) “I am proud of my studies”; followed by item 2 (M = 4.87 / DT = 1.3) “I consider my studies to be full of meaning and purpose” and item 7 (M = 4.61 / DT = 1.46) “My study inspires me”. As these three items are part of the same dimension - “dedication” - it is shown that this is the most powerful aspect of engagement for the present sample, which is in line with the fact that this dimension has the highest weighted average (M = 3.64).

It is observed in Table 3 that all the correlations, between the dimensions and the general scale of the UWES-S, were positive and significant, indicating that the factors are strongly associated with each other.

Table 3. Correlations of dimensions assessed by UWES-S

Dimension		VI	DE	AB	UWES-S
VI	r	1	.764	.875	.947
DE	p r		1	.791	.895
AB	p r			1	.959
UWES-S	p r p				1

Source: the authors in study

Caption: VI= Vigor; DE= Dedication; AB= Absorption; UWES-S= Academic engagement. * The correlation was significant in terms of 0,01.

Among the scales specifically, the values ranged between $r = 0.764$ ("Vigor" \leftrightarrow "Dedication") and $r = 0.875$ ("Vigor" \leftrightarrow "Absorption"). These data are in line with the correlations presented in the instrument manual, by Schaufeli and Bakker (2004), which oscillated between $r = 0.51$ ("Dedication" \leftrightarrow "Absorption") and $r = 0.67$ ("Vigor" \leftrightarrow "Absorption"). These correlations were found in the studies carried out by Meng and Jin (2017) and de Silva *et al.* (2018), in which university students also participated, also obtaining positive and significant correlations.

When considering the "Academic Engagement" scale, given the dimensions, the values were even higher and fluctuated between $r = 0.895$ ("Academic Engagement" \leftrightarrow "Dedication") and $r = 0.959$ ("Academic Engagement" \leftrightarrow "Absorption") Reinforcing the solidity of the instrument, considering that the three dimensions converge to the same macro dimension.

Correlations were also verified in the model through confirmatory factor analysis and revealed greater intensity between the dimensions "vigor" \leftrightarrow "absorption" (1.00) followed by "absorption" \leftrightarrow "dedication" (0.92) and, finally, "vigor" \leftrightarrow "dedication" (0.90). These findings are in line with other studies, which point out that the dimensions of vigor and absorption can be considered as the core of engagement (ACOSTA *et al.*, 2011; MACHADO *et al.*, 2014; PORTO-MARTINS *et al.*, 2013).

In short, all correlations were positive and significant ($p < 0.01$) for both the dimensions and the items of the UWES-S, showing an intense relationship between the items, which is appropriate, since they all form part of the "academic engagement" construct. Corroborated data when analyzing the beta values (standardized regression factorial loads) of all items, calculated in a first order recursive model, covarying the three dimensions among themselves, which were also all positive and above 0.40, which denotes a high ratio of items compared to their respective dimensions. The highest beta values were for items 11 ($\beta = 0.84$), 7 ($\beta = 0.83$) and 5 ($\beta = 0.82$), showing the importance of the variables "I am immersed (focused) in my studies" (item 11), "My study inspires me." (item 7) and "I'm excited about my studies" (item 5), the latter two being constituents of the "dedication" dimension and that of the "absorption" dimension. Results that can be useful in the study of academic engagement, as they specifically indicate which aspects of the dimensions are higher for the present sample and indicate how involved the dimensions are with each other and how they interfere in the general levels of engagement.

At the opposite pole, the three correlations between less intense items were between item 8 \leftrightarrow item 13 ($r = 0.29$); item 8 \leftrightarrow item 17 ($r = 0.33$) and ($r = 0.35$) for the correlations item 13 \leftrightarrow item 6; item 13 \leftrightarrow item 4 and item 13 \leftrightarrow item 16. Data aligned with the lowest betas values items 13 ($\beta = 0.56$), item 8 ($\beta = 0.60$) and item 16 ($\beta = 0.61$). This made it possible to infer that "For me, my studies are challenging" (item 13 / dedication), "When I wake up in the morning, I want to go to class" (item 8 / vigor) and "It is difficult to disconnect from my studies" (item 16 / absorption) showed less strength compared to academic engagement in the present study.

In order to deepen the results of the UWES-S against the sociodemographic indicators, the averages of academic engagement in relation to the variables gender, children, course and semester were verified.

As for the differences in averages compared to the variable “gender,” female participants obtained higher averages in all cases, especially for the “Academic Engagement” scale (69.33 / SD = 18.19) versus 66.52 (DEP = 18.99) for the male participants, with $p = 0.162$. However, the difference was not significant in any of these cases.

Regarding the variable "having a child", this showed a significant difference for all cases at level $p = 0.01$, and those participants who have at least one child had higher levels of engagement, especially for the UWES-S scale as a whole (79.77 / SD = 13.99 versus 65.99 / SD = 18.51, respectively), data that shows that having children stimulates student engagement in their academic activities.

Regarding the course, the averages of courses with the highest number of participants were calculated, with the courses of Psychology, Nursing, Administration and Physical Education included in the analysis, the participants of other courses were grouped in the same category. Thus, significant average differences were found only for the “dedication” dimension ($p = 0.02$), with the Nursing course presenting the highest average (25.77 / SD = 4.17) and the Administration course the lowest for the present study (22.76 / SD = 4.17). The same pattern is observed when analyzing the UWES-S, Nursing with the highest average (73.95 / SD = 16.22) and Business with the lowest (65.35 / SD = 16.11), however, with no significant average difference.

In relation to the semester attended by the participants, the highest averages of academic engagement were found for students of the 1st semester (76.80 / SD = 14.57). On the other hand, the lowest averages were for academics in the 5th semester (62.83 / SD = 17.82), a significant difference (at the 0.01 level). These results show that students show higher engagement at the beginning of graduation, therefore, it must be carefully managed so as not to deteriorate over time.

4 Final Considerations

It is considered that the objective of the present study was achieved, considering that the levels of academic engagement in Higher Education students were identified. The study of the theme is considered fundamental for the educational development of students, as well as the social (SALMELA-ARO; UPADAYA, 2014). The aspects raised in this study can help HEIs in decision making to improve academic performance in different contexts, levels and through different learning methods. Remembering to consider the complexity of students' needs, be it academic, laborial or social.

As main limitations of this research, it is highlighted that the sample comes from only one HEI; the causal reasons for the indicators of academic engagement have not been identified; neither were longitudinal collections performed to check the variations of the indicators over time. In order to investigate factors that influence the students' academic and professional life, future studies are suggested to understand the aspects that interfere with the levels of academic engagement, especially in Higher Education, which is the context of this research. This, since the development of actions that strengthen student integration to the social-academic environment allows their high involvement in the practices of educational institutions (SANTOS JUNIOR; REAL, 2020).

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