Pleasure, Suffering, and Engagement: Behavioral Triggers in Brazilian Research Scholarship Students

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Abstract

This study aimed to investigate the relationship between pleasure, suffering, and work engagement, along with its dimensions, in the professional context of postgraduate scholarship students in Brazil. The study was conducted with 1,027 scholarship recipients from different states in Brazil. It utilized theoretical frameworks from the Psychodynamics of Work, primarily based on the studies of Christophe Dejours, to analyze the subjective experiences of pleasure and suffering at work. The results indicated that freedom of expression negatively influences students' vigor and dedication. Professional fulfillment impacts vigor, dedication, and absorption positively. Professional exhaustion adversely affects vigor, and unexpectedly, the lack of recognition impacts the vigor of the students positively. The study concludes that emotional factors in the workplace, such as the ability to express emotions, professional fulfillment, emotional exhaustion, and recognition, significantly affect key aspects of work engagement among postgraduate scholarship students.

Keywords: pleasure-suffering, work engagement, psychodynamics of work, professional fulfillment, labor psychology

1. Introduction

The current field of studies on the relationship between humans and work, as well as the repercussions on workers' mental health, is known as the Psychodynamics of Work. This field is fundamentally based on the theories and research developed by Christophe Dejours. Its main objective is to examine the subjective experience of pleasure, suffering, and the strategies of mediation and defense employed in response to work organization (Pena & Remoaldo, 2019; Winterfeld et al., 2020). Pleasure is conceived as a positive emotion related to psychological stability that workers experience when they overcome the challenges posed by their occupation. This is often achieved through the skills they have acquired and the adaptive actions they take within their work context (Duarte et al., 2021). Suffering, conversely, is viewed as a negative emotional state linked to feelings such as fear, devaluation, powerlessness, dissatisfaction, and stress, among others. The conditions and organization of work, combined with worker characteristics, can precipitate this state of suffering (Lancman & Sznelwar, 2008). Emotions such as pleasure and suffering in the workplace can directly impact an individual's performance and, as a result, the organization's overall performance (Wang & Gorenstein, 2014; Potter et al., 2021).

Work engagement is a notion introduced by the Positive Psychology movement, which focuses on well-being and/or job satisfaction (Bakker & Leiter, 2010). This concept is defined as a positive mental state of work-related well-being, characterized by vigor, dedication, and absorption (Palumbo, 2021). However, it is pertinent to note that numerous activities are not classified as "employment" and hence do not fall within the purview of labor sciences (Oliveira et al., 2019). Nonetheless, postgraduate scholarship students face demands and expectations that include job-market requirements and aspirations for their personal and professional futures, similar to those experienced by organizational employees. This often leads to a high prevalence of mental and psychosocial issues (Padovani et al., 2014; Costa & Nebel, 2018).

Consequently, research has focused on the constructs of pleasure-suffering and work engagement in various

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sectors, including health, organizations, and universities, as explored by faculty members (Lamb et al., 2019; Pena & Remoaldo, 2019; Duarte et al., 2021; Winterfeld et al., 2020). However, studies concerning the work undertaken by postgraduate scholarship students remain limited. Within this framework, the present study seeks to determine if there is a relationship between pleasure and suffering and their dimensions with work engagement and its dimensions, in the context of postgraduate scholarship students at the *stricto sensu* level in Brazil.

1.1 Research Hypotheses

Work is linked to sources of pleasure and suffering for the human being, potentially affecting an individual's health positively or negatively (Duarte et al., 2021; Winterfeld et al., 2020). Simultaneously, the Psychodynamics of Work asserts that the relationship between workers and their jobs is determined through experiences of pleasure and suffering (Dejours, 1988). Pleasure constitutes positive experiences, wherein there is reinforcement of feelings of recognition, reward, and the individual's identification with their work. Conversely, suffering is associated with feelings of failure and frustration that the individual undergoes (Lamb et al., 2019). We formulated 12 hypotheses for this research, aiming to construct a model that could test the relationships between the dimensions of the model.

The constructs of pleasure and suffering that stand out as criteria for pleasure in work are professional achievement and freedom of expression, both of which allow workers to maintain their physical and mental health (Ferreira & Mendes, 2003; Baptista et al., 2022). As criteria for suffering, emotional exhaustion and lack of recognition stand out, often causing diseases, psychosomatic, and psychic imbalances (Ferreira & Mendes, 2003; Pena & Remoaldo, 2019).

Contrary to this negative trend and the suffering that work causes, engagement emerges, focused on positive psychology rather than solely addressing illnesses and mental problems, and prioritizing the psychological well-being of professionals. Engagement is a positive mental state related to work characterized by vigor, dedication, and absorption. Vigor refers to high levels of energy and mental resilience during work, as well as the commitment to direct efforts and perseverance at work despite adversities. Dedication relates to the pride felt as a result of one's work, while absorption involves deep concentration and commitment to activities (Schaufeli & Witte, 2017; Watanabe & Yamauchi, 2018; Palumbo, 2021; Maisyuri & Ariyanto, 2021; Jaya & Ariyanto, 2021).

Delving into the two dimensions, freedom of expression is part of the experiences of pleasure (Glanzner & Olschowsky, 2017; Fernandes et al., 2018). Thus, one of the ways to demonstrate pleasure in work is expressed through psychological constancy from the moment an individual overcomes the obstacles that occur every day at work (Duarte et al., 2021). Freedom of expression plays an important role in employees' work engagement (Bakke et al., 2012; Bedarker & Pandita, 2014; Kalia & Verma, 2017; Behrens et al., 2023), resulting in pleasurable experiences, as it allows employees to think, organize, and talk about their work (Mendes, 2007).

H1: Freedom of expression influences vigor;

H2: Freedom of expression influences dedication;

H3: Freedom of expression influences absorption.

Pleasure in work begins when workers are interested in their work and achieve solutions (Dejours, 2012). Consequently, workers can develop strategies to overcome the adversities that arise from work activities, generating a feeling of pleasure. That is, when a worker finds solutions to problems arising from their work, satisfaction and pleasure are created for the individual (Pimenta, 2020; Lamb et al., 2019; Stack, 2022). Simultaneously, professional fulfillment results in pleasurable experiences in the workplace, involving professional gratification, pride, and identification with the work being performed (Mendes, 2007). From this perspective, professional fulfillment occurs when individuals positively identify with their own effort and work, feeling valued for achieving their goals, which in turn results in self-esteem, vigor, and professional dedication, mutually reinforcing each other (Pêgo & Pêgo, 2016; Santos et al., 2022).

On the contrary, individuals lacking professional fulfillment experience situations in their work where they no longer bring any contribution to their colleagues and organization. In other words, they feel undervalued and believe they are incapable of meeting the demands of the profession (Pienaar & Willemse, 2008; Santos et al., 2022).

H4: Professional fulfillment influences vigor;

H5: Professional fulfillment influences dedication;

H6: Professional fulfillment influences absorption.

Furthermore, the suffering of workers significantly impacts individuals' health, both mental and physical (Lamb et al., 2019; Pena & Remoaldo, 2019; Winterfeld et al., 2020; González et al., 2023). Suffering at work affects

people's professional performance and personal lives, influencing social, economic, and organizational aspects of the work in which they are involved (Fernandes et al., 2018).

From this perspective, the constructs of emotional exhaustion and work engagement have served as the basis for various studies (Kasa et al., 2020; Salanova et al., 2005; Bakker, Van Emmerik, & Euwema, 2006; Schaufeli & Salanova, 2008), revealing the relationship between a high level of engagement and work performance, increased organizational commitment, reduced absenteeism rates, and a low level of turnover. Maslach and Leiter (1997) noted that work engagement scores diverge from the three dimensions of burnout. Diener (1999) stated that emotional exhaustion and work engagement are two independent and disparate variables, and Kasa et al. (2020) identified that variables related to work engagement were associated with higher emotional exhaustion.

Therefore, when a professional undergoes stressful situations leading to emotional exhaustion, which may result in psychological and physical problems, there will consequently be a loss of performance and vigor at work. There will also be barriers and destructive thoughts of the workers towards themselves, as well as their circle of personal and interpersonal relationships (Kasa et al., 2020).

H7: Emotional exhaustion influences vigor;

H8: Emotional exhaustion influences dedication;

H9: Emotional exhaustion influences absorption.

In this context, the lack of professional recognition, as well as devaluation, can also lead to experiences of suffering for workers (Glanzner & Olschowsky, 2017; Gumasing et al., 2022). Devaluation is considered a loss of value attributed to an individual's contribution, and a lack of recognition (Waleriańczyk, Hill, & Stolarski, 2022). For Waleriańczyk et al. (2022), vigor and dedication were negatively related to devaluation, while absorption was positively related to devaluation.

H10: Lack of recognition influences vigor;

H11: Lack of recognition influences dedication;

H12: Lack of recognition influences absorption.

Given the aforementioned information and referring to the theory and structure of the relationship between each variable, this study follows the model presented in Figure 1.

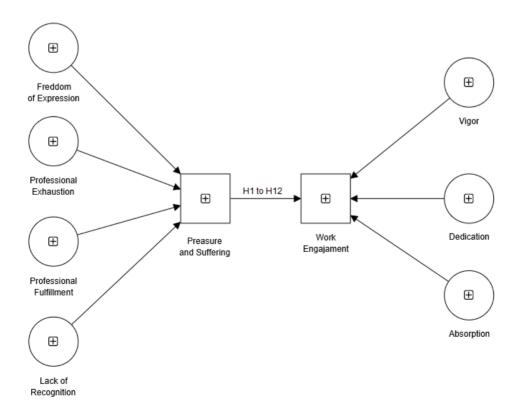


Figure 1. Proposed Conceptual Model

2. Materials and Methods

2.1 Participants

This research was conducted on a non-probability convenience sample of 1,027 scholarship students at the stricto sensu postgraduate level from different states in Brazil, with an age range of 26 to 35 years (62.22%), and an average age of 29 years (80.43% were students from public universities, 51.51% were pursuing a doctorate, and 67.09% lived in the Southern region of Brazil.

The inclusion criteria for participating in the research were being a scholarship student from a stricto sensu postgraduate program at public or private higher education institutions and agreeing to participate by signing an informed consent form.

The form provided all the information about the research and clarified that participation was voluntary. At any time, the respondent could choose not to continue. This study was approved by the research ethics committee, with approval number 073436 and the certificate of presentation for ethical consideration (CAEE) number 70642917.7.0000.5346.

2.2 Data Collection and Analysis

For data collection, we used the Google Forms platform, making the questionnaire available on specific groups on social media and emails, between March and August 2020.

In Appendix A, the questionnaire containing sociodemographic questions and the following validated scales will be presented:

The Pleasure and Suffering at Work Indicators Scale (*Escala de Indicadores de Prazer e Sofrimento no Trabalho, EIPST*) proposed by Mendes and Ferreira (2007), consisting of 31 questions divided into 4 dimensions: Freedom of Expression (FE), Professional Exhaustion (PE), Professional Fulfillment (PF), and Lack of Recognition (LR). Respondents used a 6-point Likert scale to indicate the occurrence of positive and negative feelings in the last 6 months.

The Utrecht Work Engagement Scale (UWES) by Schaufeli and Bakker (2003), adapted and validated for the Brazilian context by Angst et al. (2009), which consists of 17 questions divided into 3 dimensions: Vigor (VI), Dedication (DE), and Absorption (AB). Respondents used a 6-point Likert scale to indicate the occurrence of each feeling.

The estimation method was Structural Equation Modeling (SEM), with Partial Least Squares (PLS) adjustment estimation model using SmartPLS® version 4.1.0.3 (Ringle et al., 2022), following the steps and principles proposed by Hair et al. (2017) and Lopes et al. (2020).

3. Analysis and Discussion of the Results

The model stabilized after 5 iterations, and the model fit was determined by the Standardized Root Mean Square Residuals (SRMR), Square Euclidean Distance (d_{SED}), Geodesic Distance (d_{G}), and the Normed Fit Index (NFI). The structural model fit the data with acceptable indices, such as SRMR = 0.072, d_{SED} = 7.626, d_{G} = 2.071, NFI = 0.918. The SRMR value was below 0.08, and the NFI was above 0.9, indicating a satisfactory and adequate structural model (Henseler et al., 2015).

First, we assessed the weight of the factor loadings of the indicators with their respective dimensions. We observed that two indicators, VI_06 (λ = 0.570) and AB_06 (λ = 0.376), had loadings below 0.60 (Table 1), meeting the assumptions of reliability and discriminant validity.

Table 1. Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE) for the dimensions of the model

Dimensions	Loading	CA	CR	AVE
Absorption (AB)		0.829	0.875	0.551
AB_01	0.808			
AB_02	0.753			
AB_03	0.746			
AB_04	0.863			
AB_05	0.802			
AB_06				
Dedication (DE)		0.909	0.933	0.737
DE_01	0,852			
DE_02	0.905			
DE_03	0.906			
DE_04	0.909			
DE_05	0.775			
Vigor (VI)		0.878	0.909	0.625
VI_01	0.870			
VI_02	0.881			
VI_03	0.858			
VI_04	0.790			
VI_05	0.728			
VI_06				
Freedom of Expression (FE)		0.893	0.912	0.567
FE_01	0.685			
FE_02	0.722			
FE_03	0.715			
FE_04	0.730			
FE_05	0.831			
FE_06	0.803			
FE_07	0.771			
FE_08	0.753			
Professional Fulfillment (PF)		0.931	0.942	0.673
PF_01	0.877			
PF_02	0.890			
PF_03	0.829			
PF_04	0.892			
PF_05	0.882			
PF_06	0.809			
PF_07	0.808			
PF_08	0.830			
PF_09	0.860			
Professional Exhaustion (PE)		0.917	0.932	0.663
PE_01	0.810			
PE_02	0.820			
PE_03	0.838			
PE_04	0.683			
PE_05	0.894			
PE_06	0.831			
PE_07	0.807			
Lack of Recognition (LR)		0.933	0.940	0.729
LR_01	0.862			
LR_02	0.873			
LR_03	0.881			
LR_04	0.844			
LR_05	0.815			
LR_06	0.823			
LR_07	0.794			
LR_08	0.649			

Source: Software SmartPLS® v. 4.1.0.6 (Ringle et al., 2022).

The model demonstrated Discriminant Validity (Table 2) based on the assessment criteria: Fornell-Larcker (FL) and the Heterotrait-Monotrait Ratio (HTMT) (Hair et al., 2011). For the FL criterion, all values in the column related to the square root of the AVE are greater than the correlations of the other dimensions (correlation matrix), according to Fornell and Larcker (1981). Regarding the HTMT criterion, for Netemeyer et al. (2003), it is a more robust criterion than FL because it uses the bootstrapping method, and the upper limit values of HTMT should not exceed 1.0.

Table 2. Discriminant validity analysis using the Fornell-Larcker and HTMT criteria

Dimension	\sqrt{AVE}	Pearson Co	Pearson Correlation Matrix							
		AB	DE	FE	LR	PE	PF	VI		
AB	0.742	1.000								
DE	0.859	0.734	1.000							
FE	0.753	0.416	0.421	1.000						
LR	0.821	-0.374	-0.436	-0.564	1.000					
PE	0.814	-0.406	-0.474	-0.427	0.722	1.000				
PF	0.854	0.682	0.751	0.653	-0.640	-0.655	1.000			
VI	0.790	0.725	0.720	0.434	-0.440	-0.531	0.745	1.000		
		Upper Limi	Upper Limit (HTMT) _{97.5%}							
DE		0.833								
FE		0.508	0.497							
LR		0.459	0.501	0.651						
PE		0.488	0.513	0.486	0.784					
PF		0.779	0.836	0.726	0.712	0.705				
VI		0.822	0.815	0.512	0.496	0.579	0.818			

Source: Software SmartPLS® v. 4.1.0.6 (Ringle et al., 2022).

The model did not exhibit collinearity issues, meaning the variance inflation factor (VIF) values were less than 5, and the coefficients of determination had strong effects for the three dimensions of engagement ($R^2 > 0.19$) (Lopes et al., 2020). The Q^2 values, Root Mean Squared Error (RMSE), and Mean Absolute Error (MAE) in the analysis of the predictive model were relevant, as the Q^2 values were greater than zero, and both RMSE and MAE fluctuated from 31 to 53% in their predictions, both overestimating and underestimating (Manley et al., 2021).

In this regard, aiming to indicate the hypothesis tests presented in the theoretical framework of the study, Table 3 indicates the developed hypotheses. Based on the presented results, we observed that hypotheses H1, H2, H4, H7, H8, H9, H10 were supported, with a significance at the level of p < 0.05 (Hair et al., 2017).

Table 3. Relationships proposed in the model

Hypotheses	Structural Relationships	Coefficient	t-Stat.	p-value	Result
H_1	$FE \rightarrow VI$	-0.062	2.048	0.041	Accepted
H_2	$FE \rightarrow DE$	-0.121	3.920	0.000	Accepted
H_3	$FE \rightarrow AB$	-0.053	1.536	0.125	Rejected
H_4	$PF \rightarrow VI$	-0.136	4.258	0.000	Accepted
H_5	$PF \rightarrow DE$	0.015	0.541	0.589	Rejected
H_6	$PF \rightarrow AB$	0.027	0.810	0.418	Rejected
H_7	$PE \rightarrow VI$	0.771	25.462	0.000	Accepted
H_8	$PE \rightarrow DE$	0.884	30.577	0.000	Accepted
H_9	$PE \rightarrow AB$	0.777	22.916	0.000	Accepted
H_{10}	$LR \rightarrow VI$	0.117	3.471	0.001	Accepted
H_{11}	$LR \rightarrow DE$	0.050	1.597	0.110	Rejected
H ₁₂	$LR \rightarrow AB$	0.063	1.753	0.080	Rejected

Source: Software SmartPLS® v. 4.1.0.6 (Ringle et al., 2022).

By analyzing freedom of expression in its relationship with work engagement, specifically in relation to its dimensions, we confirmed a negative influence on vigor (H1) and dedication (H2), but there was no influence on absorption (H3). Being exposed to negative emotions can lead to a more stressful and less motivating environment.

vigor and motivation (Behrens et al., 2023). The freedom to express emotions can lead to a higher emotional burden, where students feel overwhelmed by their own emotions and those of others. This, in turn, can lead to reduced levels of energy and resilience, key components of vigor (Lobo, 2023).

In environments where the free expression of thoughts and feelings is not valued, students who exercise their freedom of expression may face negative reactions from peers or teachers, which can impact their dedication (Eberle & Hobrecht, 2021). Exposure to a wide range of opinions and perspectives can, in some cases, lead to conflicts or confusion, which may decrease students' dedication (Hayes et al., 2020).

The relationship between freedom of expression and absorption was not significant, justified by the fact that some individuals may find the ability to freely express their opinions helps them engage more with work, while others may not experience this effect. Freedom of expression and absorption can be influenced by different sets of factors and, therefore, may operate independently of each other.

Absorption may be more influenced by the nature of the task, the work environment, and individual characteristics, while freedom of expression may depend more on organizational culture and interpersonal relationships (Amerstorfer & Freiin Von Münster-Kistner, 2021).

Regarding professional fulfillment, it was found to be negatively related to vigor (H4) and not related to dedication (H5) and absorption (H6). Students who have already achieved a certain level of professional fulfillment may feel satisfied with their achievements and, therefore, may have less energy and motivation (vigor) to pursue new challenges or dedicate themselves to academic tasks.

Achieving professional fulfillment may shift students' focus from their studies to professional activities, which can result in lower academic vigor. At times, professional fulfillment may not meet students' expectations, leading to feelings of disillusionment and reducing vigor (Stack, 2022). The pressure to maintain a high level of performance after achieving professional fulfillment can increase stress, which, in turn, can negatively affect students' vigor (Yasmin et al., 2020).

The lack of a relationship between professional fulfillment and dedication and absorption may be because they exist in different domains of a student's life. Fulfillment in one domain (professional) does not necessarily influence engagement in the other domain (academic). Dedication and absorption may be more influenced by intrinsic factors, such as interest and passion for studies, while professional fulfillment may be motivated by extrinsic rewards, such as salary and recognition, which do not directly affect academic engagement (Ng et al., 2023).

Students who have achieved professional fulfillment may be balancing their academic and professional responsibilities, leading to a separation of the two domains and resulting in a lack of relationship between professional fulfillment and academic engagement (Farrell & Brunton, 2020). The absence of a significant relationship may be due to the specific measures used in this study or the specific context in which it was conducted.

Regarding emotional exhaustion, also known as Burnout, it is directly related to vigor (H7), dedication (H8), and absorption (H9). This is because emotional exhaustion is characterized by a feeling of emotional and physical exhaustion, which can impact engagement and overall well-being. Emotional exhaustion depletes students' energy and psychological resources, affecting vigor when they engage in their academic activities (González et al., 2023).

Burnout can diminish students' intrinsic motivation, leading to a decrease in dedication and engagement in academic tasks, impairing concentration and attention, and making it challenging for students to fully immerse themselves in their academic activities (Cho et al., 2023; Popescu et al., 2023).

The reduction in psychological well-being associated with emotional exhaustion can result in lower satisfaction and pleasure in academic activities, thus decreasing vigor and dedication. Emotional exhaustion is often the result of chronic stress. Chronic stress can negatively impact the physical and mental health of students, reducing their ability to engage and dedicate themselves to their studies (Guidetti et al., 2020; Farris et al., 2021).

Finally, the lack of recognition is related to vigor (H10), but not related to dedication (H11) and absorption (H12). This may be because the lack of recognition can directly impact the energy and motivation (vigor) of students, as they may feel that their efforts are not valued, leading to feelings of devaluation and apathy, and thus reducing vigor (Gumasing et al., 2022).

Dedication and absorption can be more intrinsic and self-motivated; some students may continue to be dedicated and absorbed in their academic activities even without external recognition, especially if they have intrinsic interest and passion for what they are studying (Wong & Liem, 2021). Some students may be more affected in terms of vigor, but others may maintain dedication and absorption, possibly due to individual differences regarding

resilience, self-efficacy, and intrinsic and extrinsic motivations (Park et al., 2023).

Even when external recognition is lacking, some students may find ways to compensate internally, maintaining dedication and absorption by focusing on personal goals, intrinsic satisfaction, and self-fulfillment (James, 2021). The discrepancy in the relationships may also be the result of methodological differences in how constructs were measured or may reflect specific characteristics of the student sample or educational context. The result of the structural model is shown in Figure 2.

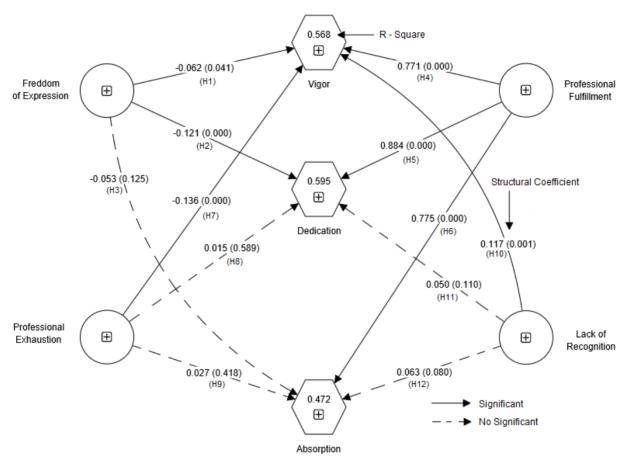


Figure 2. Final structural model

Source: Software SmartPLS® v. 4.1.0.6 (Ringle et al., 2022).

4. Conclusion

This study explored the relationships between pleasure and suffering dimensions and their associations with work engagement and its components among postgraduate scholarship students in Brazil. Drawing on theory and prior research, 12 hypotheses were developed, tested, and the findings reveal that: i) the dimension of Freedom of Expression of Emotions detrimentally affects Vigor and Dedication among these students; ii) Professional Fulfillment is inversely related to Vigor; iii) Emotional Exhaustion negatively influences Vigor, Dedication, and Absorption levels; iv) Lack of Recognition diminishes the Vigor of participants.

The research provides essential insights into how the dynamics between pleasure and suffering are related to work engagement in the specific context of Brazilian postgraduate scholarship students. The results emphasize that emotional workplace factors significantly affect critical components of work engagement, such as vigor, dedication, and absorption. This underscores the vital role emotional and psychological factors play in academic settings, highlighting the need for strategies to enhance work engagement and overall well-being.

It was observed that freedom of expression significantly and negatively influences the students' vigor and dedication. This suggests that while essential for fostering a healthy academic environment, freedom of expression might also lead to emotional challenges that diminish students' energy and motivation.

Professional fulfillment was found to negatively correlate with vigor, suggesting that students who feel professionally fulfilled may experience decreased motivation for seeking new challenges, leading to lower energy levels.

Emotional exhaustion, or burnout, significantly undermines vigor, dedication, and absorption among students, stressing the critical need for interventions to alleviate stress and prevent burnout to encourage greater work engagement and well-being.

The study also found that a lack of professional recognition negatively affects students' vigor, indicating that feelings of undervaluation can cause apathy and diminished energy. This highlights the necessity for systems that recognize and appreciate the academic efforts of students.

Higher education institutions are encouraged to adopt emotional and psychological support services for postgraduate students to lessen emotional exhaustion and foster better academic engagement. While promoting freedom of expression is crucial, creating a supportive environment where emotions can be expressed safely and constructively is essential to mitigate adverse effects on energy and dedication.

The research faced limitations due to its reliance on quantitative data acquisition, which restricted our understanding of the variables that may influence the findings. We recommend complementary studies that assess whether sociodemographic characteristics have a direct or indirect effect on these findings. Furthermore, identifying practices that could heighten pleasure experiences and minimize suffering in stricto sensu academic contexts within the country might be of significant value.

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Authors' contributions

Dr. L.F.D.L., Dr. A.F., Dr. L.C.B., and Dr. D.J.C.S. were responsible for study design and revising. Dr. L.F.D.L., Dr A.F. and Dr. L.C.B. was responsible for data collection. Dr. L.F.D.L, Dr. A.F. and Dr. D.J.C.S. drafted the manuscript and Dr. A.F., Dr. L.C.B, Dr. D.J.C.S., Msc. E.S.S, Msc. G.B.V and Msc. V.H.D. revised it. All authors read and approved the final manuscript. In this paragraph, also explain any special agreements concerning authorship, such as if authors contributed equally to the study.

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Competing interests

The authors declare that the research was carried out in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest. All authors take responsibility for all aspects of the work, including ensuring its accuracy and integrity.

Informed consent

Obtained.

Ethics approval

This research was approved by the research ethics committee of the Federal University of Santa Maria (CAAE 70642917.7.0000.5346 and opinion no. 073436).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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Appendix A

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± ±	
Questionnaire	
Sociodemographic Data	
Sex: () Female () Male () Other	
Age: years	
University you attend: () Public () Private	
Field of study:	
Currently studying: () Master's () Doctorate	
Year of study:	
Are you in the dissertation or thesis development phase?	
() 1. Yes () 2. No	
In which Brazilian state do you study:	
Type of scholarship:	_
Marital status: () Married/Common-law marriage () Single () Others	
Do you have dependents (children under 18 years old): () Yes () No	
Weekly study dedication hours:	

() 20 hours () 30 hours () 40 hours () More than 40 hours

Instrument of Pleasure and Suffering at Work

(EIPST – Mendes and Ferreira 2007)

In this questionnaire, you should evaluate your work in the last six months. Mark the number of times (with an X next to the desired option) that positive and negative experiences occurred. Assign an importance level from 0 (none) to 6 or more times for each variable according to the scale below.

0	1	2	3	4	5	6
Never	Once	Twice	Three times	Four times	Five times	Six times or more

- 1. Freedom with management to negotiate what is needed
- 2. Freedom to talk about my work with colleagues
- 3. Solidarity among colleagues
- 4. Trust between colleagues
- 5. Freedom to express my opinion at the workplace
- 6. Freedom to use my creativity
- 7. Freedom to talk about my work with management
- 8. Cooperation among colleagues
- 9. Satisfaction
- 10. Motivation
- 11. Pride in what I do
- 12. Well-being
- 13. Professional achievement
- 14. Appreciation
- 15. Recognition
- 16. Identification with my tasks
- 17. Personal gratification with my activities
- 18. Emotional exhaustion
- 19. Stress
- 20. Dissatisfaction
- 21. Overload
- 22. Frustration
- 23. Insecurity
- 24. Fear
- 25. Lack of recognition for my effort
- 26. Lack of recognition for my performance
- 27. Devaluation
- 28. Indignation
- 29. Uselessness
- 30. Disqualification
- 31. Injustice
- 32. Discrimination

In addition to the questions above, describe some situations of pleasure and suffering you have experienced or are experiencing in your graduate studies that have marked you positively and negatively.

Are you undergoing psychological or psychiatric treatment or taking medications due to situations arising from your postgraduate studies?

Work Engagement Instrument (UWES)

Schaufeli and Bakker (2003), adapted and validated for Portuguese by Angst Benevides-Pereira and Porto-Martins (2009)

The following statements refer to YOUR FEELINGS ABOUT YOUR CURRENT WORK. Please read each item

carefully and select the option that you think best applies to you. If you have never had such a feeling, answer "0" (zero). If affirmative, indicate the frequency (from 0 to 6) that best describes your feelings, remembering that the higher the number, the more this feeling occurs in you.

0	1	2	3	4	5	6
Never	Almost Never	Sometimes	Regularly	Frequently	Almost Always	Always

- 1. In my work, I feel full of energy.
- 2. At work, I feel strong and vigorous.
- 3. When I wake up in the morning, I feel like going to work.
- 4. I can continue working for long periods.
- 5. In my work, I am mentally resilient.
- 6. At work, I am persistent even when things are not going well.
- 7. I find the work I do is full of meaning and purpose.
- 8. I am enthusiastic about my job.
- 9. My work inspires me.
- 10. I am proud of the work I do.
- 11. To me, my job is challenging.
- 12. Time flies when I am working.
- 13. When I am working, I forget everything else around me.
- 14. I feel happy when I work intensely.
- 15. I am absorbed in my work.
- 16. I "get carried away" by my work.
- 17. It is difficult for me to detach myself from my work.

Cite aspects/situations in your daily postgraduate life that make you feel engaged and motivated at work:

And what makes you feel demotivated at work (aspects and situations):	

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