

Emotions, Online Teaching and Online Evaluation in Higher Education during a Pandemic

Emoções, Formação e Avaliação Online no Ensino Superior em Contexto de Pandemia

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Abstract: The present exploratory study aims to identify and assess positive and negative emotions felt by students from two higher education institutions regarding the change in the evaluation paradigm (from on-site to online) during the lockdown period resulting from the COVID-19 pandemic. A questionnaire with two Likert scales (emotional Well-being and emotional Ill-being) was applied for data collection. The results reveal the experience of more positive than negative emotions, indicating that online evaluation does not intensify negative emotions besides those usually associated with the evaluation process itself. On the contrary, there is a higher record of positive emotions related to the newly instituted evaluation model. The exploratory study also suggests that the new teaching and evaluation model may benefit students' emotions and improve their academic success, promoting emotional well-being.

Keywords: emotions, teaching, online evaluation, higher education, foreign languages.

Resumo: O presente estudo exploratório tem como principal objetivo identificar e avaliar as emoções (positivas e negativas) que os estudantes de duas instituições de ensino superior experienciaram face à mudança de paradigma de avaliação, concretamente a realização de provas eletrónicas (online) na modalidade de ensino a distância, durante o período de confinamento decorrente da pandemia COVID-19. Para a recolha dos dados foi aplicado um questionário com duas escalas de Likert (Bem-estar e Mal-estar emocional). Os resultados obtidos revelam a vivência de emoções mais positivas do que negativas. Permitem-nos concluir que a avaliação online não acentua as emoções negativas para além daquelas que já habitualmente estão associadas ao próprio processo avaliativo. Pelo contrário, verificou-se um maior registo de emoções positivas associadas ao modelo de avaliação. Este modelo de formação e avaliação pode revelar-se benéfico para os estudantes em termos de emoções e potenciar o seu sucesso académico, pois promove o bem-estar emocional.

Palavras-chave: emoções; formação; avaliação online; ensino superior, línguas estrangeiras.

1. Introduction

The COVID-19 pandemic confirmed academia's responsiveness, adaptability and resilience to teach and evaluate students in virtual environments. Several challenges have arisen from this global health threat. One of those challenges consisted of adopting fully remote and online teaching models and practices, challenging the traditional ones that have, so far, worked in an in-person/on-site mode. Using digital technologies has proved extremely important and valuable in responding to these new teaching challenges. All around the world, on-site and online academic campuses have worked collaboratively to provide students with a learning experience that improves and fosters their progress while minimising feelings of isolation, frustration and diffidence. Regardless of how familiar and advanced education institutions were with innovative strategies for teaching in virtual environments, adjusting evaluation methodologies required teachers and students to reinvent themselves. On-site learning universities needed to implement online evaluation, just as online universities with on-site evaluations were faced with the need to redesign the on-site evaluation mechanisms to incorporate moments of digital assessment. Such a crucial and critical part of the academic career always triggers feelings of anxiety and nervousness, which become even more intense when everything is new regarding evaluation practices. Thus, in such a particular context, in which technology and humans meet and interact, an exploratory study was conducted in two higher education institutions during the lockdown period.

This study aimed to identify and assess the (positive/negative) emotions experienced by students in the face of new evaluation methodologies and practices resulting from higher education adaptation to virtual environments. These two institutions represent two different learning experiences in Portugal: the Higher Institute of Education and Sciences of Lisbon (ISEC), a private, on-site higher education institution; and Universidade Aberta (UAb), the only public remote learning university in Portugal. Despite being different in terms of teaching/learning experiences, both institutions needed to adjust and adopt formal and online evaluation methodologies during the lockdown period. The students who participated in this study attended different curricular units in diverse study cycles of higher education. At Universidade Aberta, the participants were English II students (corresponding to the B1.1 level of the Common European Framework of Reference for Languages). At the Higher Institute of Education and Sciences, the participants took the Ethics and Deontology curricular unit. To assess the students' emotional state, a questionnaire was conducted at the end of the 2nd semester of the academic year 2020/2021 in both institutions, consisting of two scales of emotional well-being/ill-being (Rebollo et al., 2008), already validated for the Portuguese population (Runa & Miranda, 2015). For this questionnaire, 132 responses were obtained.

Although preliminary, the results mainly express the experience of more positive emotions rather than negative ones. Nonetheless, the negative emotions may manifest as indicators of the need to reevaluate specific evaluation methodologies and practices, considering their contribution to the students' feelings of ill-being. Positive and/or negative emotions are associated and diverge due to several factors (time, technological

resources, among others). Although exploratory, this study aims to contribute to the reflection on the practices associated with online evaluation and points to the need for further in-depth and broader studies on other higher education institutions.

2. Emotions and online teaching

For decades, many higher education institutions have been offering teaching models in the modality of e-learning or b-learning. However, given the pandemic we experienced, the higher education institutions that always functioned in the on-site mode were forced to adopt online and on-site teaching models.

In an institutional culture with a strong and long tradition of in-person learning, challenges and resistance may be expected in integrating methodologies, tools and virtual spaces of teaching/learning and evaluation (Coll, Mauri & Onrubia, 2006).

For many adults who return to school and are accustomed to in-person learning, these teaching models represent, in their lives, a "drastic" change in the teaching paradigm. They require students to have a certain autonomy (self-study competences) in managing their learning. That may entail a variety of emotional experiences (positive/negative), associated with a new model, which have the potential to influence the learning process. Thus, it is crucial to study the role of emotions and their implications on the students' online learning process since it could be a decisive factor in academic success.

Emotions are part of our existence as individual beings and of our coexistence in the social domain of interactions. The etymological origin of the word "emotion" is found in the Latin word *emovere*, which means "set in motion", "move out" or "move through". In this sense, it is considered that emotions drive our actions. Emotions, associated with various feelings, thoughts and behaviours, play a central role in human activities.

Feelings and the emotions that originate from them "serve as internal guides and help us communicate to others signals that also can guide them" (Damásio, 1995, p. 17). Moreover, according to Damásio (2013), "well-directed emotion seems to be the support system without which reason cannot function effectively" (p. 62).

Different theories of emotion propose distinct approaches towards defining emotions and their functions. For example, evolutionary theories attempt to explain the reasons underlying humans' emotions today from a historical perspective, including the ideas of natural selection, adaptation and affect program emotion (Keltner et al., 2006; Plutchik, 1984; Griffiths, 2004). On the other hand, social theories analyse emotions as cultural and social constructions amplified by experience, social norms, values, and expectations (Parkinson, Fischer, & Manstead, 2005; Harré, 1986; Averill, 1980). The internal approach investigates the emotion process itself and includes cognitive and non-cognitive theories (Roseman, 1984; Ekman, 1992; Griffiths, 1997).

Based on these theories, current studies on emotions include four main influential perspectives: the basic emotion perspective (Ekman & Cordaro, 2011), the motivational theory (Scarantino, 2014), the component process model (Scherer, 2005; Menétrey et

al., 2022), and the psychological construction perspective (Barret & Russel, 2015). Studies also indicate that these theories share common features and do not necessarily exclude one another (Berkum, 2022).

In the context of the present analysis, the theoretical approach to emotions is especially relevant when associated with learning. Emotions may act as important catalysts for learning or obstacles to it: "emotions are important in adult learning because they can either impede or motivate learning" (Dirkx, 2001; Yorks & Kasl, 2002, cited by Zembylas, 2008, p. 72). According to Dirkx (2001), Rompelman (2002), Caine & Caine (2006), and Schutz & Pekrun (2007) cited by Rager (2009), emotions play a crucial role in the teaching and learning process.

Emotion and cognition are closely interconnected, indicating that all thought is imbued with emotion and vice versa. In a learning situation, the direction of attention, the stored contents and how they will be understood and retrieved will suffer the influence of an emotional component, even if this does not occur in a conscious way for the student (Phelps, 2006). From Damásio's perspective (1995), and with regard to adults, their assessment of the learning experience is strongly influenced by a whole repertoire of accumulated emotional knowledge, which allows associating a range of experiences with emotions and feelings previously felt, as well as to use this knowledge in the affective assessment of situations. The role of emotion in the teaching/learning process is such that, according to Rager (2009), one may have reached the ideal point to reformulate Descartes' famous statement, "I think, therefore I am", to "I feel, therefore, I Learn" (p. 31).

In the particular case of second language acquisition, feelings and emotions assume a particular relevance, as has been widely demonstrated (Imai, 2010; MacIntyre & Gregersen, 2012; Dewaele, & MacIntyre, 2014; Kırmızı, & Sarıçiban, 2020). As Wierzbicka (2004) observes, the very lexicon for emotions varies according to language, which implies that the set of concepts through which the speaker of a particular language understands his or her own feelings and those of others is specific to that language, which in turn gives them form and direction. The experience described by German multilingual Christoph Harbsmeier (2004) illustrates the decisive role played by the language we use to communicate:

A change of language brings with it a change of role. When I speak French, I can't stop making gestures with my hands. I learnt Danish at Oxford, because my wife-to-be, who is Danish, didn't like my Anglophone personality: when I was speaking English, I was becoming too intellectual. Fortunately, she liked my Danish personality (pp. 50, 51).

The otherness created and implicit in second language communication contains many positive and negative emotions, also present in a classroom, be it an in-person or a virtual one. Garrett & Young (2009), Bown & White (2010), Lopez & Aguilar (2013), among others, demonstrated the decisive role of emotions and the theoretical analysis of their significance in understanding bi- and/or multilingualism, as well as in the use of language, in general, from motivation.

Research indicates how the motivation to learn stems from the decisive role played by emotions (among others, Ryan & Deci, 2000; Dörnyei & Ushioda, 2011; Filgona et al., 2020), in the wake of Schumann's study (1998) that proposes motivation as a construct consisting of five categories. These categories may determine the different degrees of foreign language acquisition because they guide the students in assessing the stimulus: novelty, intrinsic pleasure, the meaning of the objective/need, potential for overcoming, and normative compatibility/self-compatibility.

However, it is also worth addressing negative emotions and how they impact learning, namely feelings of anxiety, failure or frustration. In this regard, Bailey's study (1983) demonstrates how anxiety and fear of failure before peers (more even than teachers), especially felt in moments of oral communication, contribute to creating a self-image of defeat and low self-esteem. Other studies that also focus on the learning process obtained similar results (Horwitz, 2002; Kormos, 2017). Understanding the existence of negative emotions is essential for creating strategies to minimise their effects, giving students a sense of power and autonomy (MacIntyre & Gregersen, 2012).

Thus, the multiple teaching/learning situations create a context conducive to a variety of emotional experiences that have the potential to influence the learning process (Nummenmaa, 2007). Despite not being the focus of the present paper, the theoretical understanding of the function and impact of feelings and emotions on learning contributes to analysing emotions in the evaluation context. As Boud and Falchikov (2007) observe, the evaluation affects people's lives and, in some cases, students' evaluation experience is so negative that it has an emotional impact that lasts for years, affects the choice of future careers, inhibits the motivation for new learnings, and alters behaviours. The affective assessment of stimuli is at the centre of cognition and directs our decision-making processes. As Schuman (1998) observed, learning motivation and evaluations are intertwined, especially given two considerations: first, emotional reactions influence the attention and the effort devoted to learning; second, the evaluation standards can be connected to what was considered motivation. Boud and Falchikov (2007) also point out the importance of assessment, particularly in higher education, in directing students' attention to what is truly important — some kind of motivation and incentive tool for learning.

As previously mentioned, positive or negative feelings, in a general way, are associated with students' experiences, especially in new situations. Such was the case with the online evaluation process in the context of the COVID-19 pandemic. For example, the anxiety experienced in using a computer is defined as a subjective emotional state, which translates into feelings of tension and concern arising from working with computers. Therefore, as Nummenmaa (2007) noted, it is essential to recognise students' emotions, especially negative ones, to provide appropriate and timely assistance for any intervention to be effective (p. 46).

3. Online learning evaluation

Assessment is generally imbued with numerous complexities since it is a critical element of the curriculum, closely related to concepts of academic-scientific, ethical, social, cultural and psychological dimensions. As aforementioned, the evaluation experience can positively or negatively affect a student's life, as if it were a tattoo. Such an image was proposed by Santos Guerra (2009) to define students' experiences regarding the assessment process, whose "psychological marks remain imprinted for a long time, sometimes for life" (p. 101).

In turn, Gomes (2009) emphasises the complexities around the evaluation process, including the teaching and learning conceptions in force at each moment, which condition... the instruments and techniques used for evaluation purposes (p. 131). Such was the case with the lockdown situational context following the COVID-19 pandemic, which led to a new evaluation paradigm following the validity, reliability and feasibility principles.

In the case of Universidade Aberta, students went from an in-person final exam system (p-fólios) to online final exams. According to the Virtual Pedagogical Model of the institution (Pereira et al., 2007; Mendes et al., 2018), the students may opt between two assessment modes: continuous and final evaluation. Universidade Aberta favours continuous evaluation since it promotes the student's engagement in the learning process, being mandatory in foreign language curricular units (Mendes et al., p. 36). The continuous evaluation generally consists of two (or more) e-folios (a term that combines the concepts of an electronically submitted sheet, *folium*), i.e., digital assignments authored by students. These assignments, carried out during the semester, have a weighting of 40% of the final grade and may include other forms of assessment tasks besides written assignments (speaking evaluation, projects, among others). The continuous evaluation mode is concluded with an in-person exam taken at the end of the semester (p-folios; 'p' for presential) with a weighting of 60%. The final evaluation mode is a single assessment moment, a final exam taken in-person and with a weighting of 100%. Due to the COVID-19 restrictions, all the in-person exams were replaced by digital evaluation assignments.

This change resulted in the analysis, discussion, and implementation of new resources, tools, and evaluation strategies, given the pressing need to clear away concerns about the credibility and validity of the new evaluation paradigm. In the context of foreign languages, the skills to evaluate (written production, oral production, written comprehension, oral comprehension) constituted the base for the assessment methodology arrangements, incorporating, for instance, the 'Quiz' tool of the Moodle platform at Universidade Aberta, Plataforma Aberta. The 'Quiz' is a versatile evaluation tool with a wide range of different types of questions, allowing the assessment of the students' competencies and proficiency in the subjects taught. For instance, including essay questions in the written production section (together with the anti-plagiarism software) also allowed assessing skills at the level of critical thinking, analysis and succinctness, among others. This essay question model complemented other continuous

evaluation assignments, associating — as Gomes (2009) proposes — the traditional evaluation model (focused on content) with a socio-constructivist approach centred on the learning process and the path made by students in the acquisition of skills. At the same time, it guaranteed the student's identity, whose profile and outputs were known to the teacher. Students were well informed about the new evaluation model, and they took several sample tests in advance to ensure a lower incidence of negative emotions.

In the case of ISEC Lisboa, specifically in the Ethics and Deontology curricular unit, the tests conducted online, using the Moodle 'Quiz' tool, were mainly of a formative assessment nature. These tests aimed to apply and/or assess the students' knowledge throughout the semester and allow students contact with a new online evaluation tool. The 'Quiz' tool immediate feedback option allowed students access to the correct answers and it also provided a mark after each submission. Students could therefore compare their answers and have them corrected. Alongside the 'Quiz' tool, other Moodle tools were used to request collaborative (e.g., discussion forums) and individual work (ethical cases analysis) tasks.

4. Method

This exploratory-oriented study is justified since there is little research in Portugal in the field of emotions, particularly regarding online teaching and evaluation models. It is about "stepping from a more inductive level, of discovering points of continuity in a given (exploratory) reality to a more deductive level in which it is necessary to test cause-effect relations, already properly studied" (Almeida & Freire, 2008, p.24).

Its main objective is to identify and assess the (positive and negative) emotions that the students from two higher education institutions experienced in the face of the evaluation paradigm shift, namely concerning the performance of electronic (online) tests in the remote learning mode during the lockdown period resulting from the COVID-19 pandemic.

This study's theoretical frame of reference entails analysing and reviewing the literature and various empirical studies carried out in the field of emotions, training, evaluation and online learning. Regarding the latter, some recommendations made by the researchers were considered, namely the need to pay close attention to the origin and nature of the emotions experienced by students. In the present study, specifically with regard to the subject under analysis, online assessment, our purpose was to ascertain the relationship between emotions and the change in the evaluation paradigm, time management, the virtual space, the available technological means, among other factors.

4.1. Procedures and instruments

The objective was to assess the emotional state of the students regarding the online evaluation tests they took in two curricular units: Foreign Languages (UAb) and Ethics and Deontology (ISEC Lisboa). During the lockdown period, a Google Forms questionnaire was created with two scales: well-being and emotional ill-being (Table 1).

The emotional well-being scale assesses positive emotions (20 items), and the emotional ill-being scale assesses negative emotions (20 items) - making up a total of 40 items -, through a 4-point Likert scale (0= never, 1= occasionally, 2= often 3= all the time).

Table 1
Scales of Emotional Well-Being and Ill-Being¹

Positive Emotions	0	1	2	3	Negative Emotions	0	1	2	3
Satisfaction					Annoyance				
Enthusiasm					Frustration				
Pride					Upset				
Optimism					Boredom				
Competence					Guilt				
Joy					Sadness				
Relief					Insecurity				
Serenity					Regret				
Euphoria					Loneliness				
Security					Anguish/Anxiety				
Peacefulness					Despair				
Perseverance					Stress/tiredness				
Accompaniment					Apathy/unwillingness				
Trust					Mistrust				
Guidance					Shame				
Attraction					Repugnance/loathing				
Recognition					Disorientation				
Gratefulness					Rage/anger				
Power					Powerlessness				
Stimulus					Tension/concern				

This measurement instrument (Rebollo et al., 2008), validated for the Portuguese population (Runa & Miranda, 2015), showed good psychometric properties. The results revealed that it was a very consistent and reliable measurement instrument in terms of its internal consistency and construct validity. The Cronbach's Alpha Coefficient of the two scales (well-being and ill-being) showed values of 0.940 and 0.948, respectively, indicating excellent reliability indexes. According to Maroco (2007) and Hill & Hill (2009), an Alpha value greater than 0.9 is considered "Excellent".

The questionnaire also includes a sociodemographic characterisation section and another for multiple-choice questions, which aimed to ask the students about the factors that contributed to experiencing positive and negative emotions. Participants could also indicate relevant and decisive factors for their emotional state in an open-ended answer field. The access link to the questionnaire was made available from May to June 2021 in each Moodle courses' virtual classrooms.

In total, 132 responses were collected. Of this total, 39 were from ISEC Lisboa, from the following courses: Bachelor's Degree in Aeronautical Sciences; Short Cycle (CTeSP) in Hotel Management, Child Care and Multimedia Product Development. The remaining 93

¹ Runa, A.I. & Miranda, G. (2015). *Validação portuguesa das escalas de bem-estar e de mal-estar emocional*. RISTI

responses were from UAB's students, from the Bachelor's Degrees in Applied Languages, European Studies, History and Humanities.

Although the main objective of this paper does not include an inferential analysis by gender and age group, these analyses were carried out so that the differences in the results can be further investigated and explained. The significance of the difference between the mean values of the emotional experiences by gender was assessed with the student's t-test for independent samples, with the assumptions of this statistical method (namely, the normality of distributions and the homogeneity of variances in the two groups) being assessed, respectively, with the Kolmogorov-Smirnov test and the Levene test.

A two-way ANOVA was conducted to assess whether age significantly affected the emotions experienced, followed by a Tukey's post-hoc test, as described by Maroco (2007). The assumption of normal distribution was assessed using the Kolmogorov-Smirnov test with the Lilliefors correction, and the assumption of homogeneity of variance was validated with the Levene test.

The SPSS Software (v.25; SPSS Inc. Chicago, IL) was used to calculate descriptive and inferential statistics, and differences between means whose p-value of the test were less than or equal to 0.05 were considered statistically significant.

4.2. Participants

Of the 132 students who participated in this study (Table 2), 57 (43.2%) are male, and 75 (56.8%) are female.

Of these participants, 29.5% are between 18 and 25 years old, 6.8% are in the age group between 26 and 30 years old, and 63.6% are 30 years old or older. The distribution per age group does not differ regarding gender ($\chi^2(2) = 4.415$, p-value=0.110).

Table 2

Distribution by gender and age group

Age	Male	Female	Total
18-25	20 (35.1%)	19 (25.3%)	39 (29.5%)
26-30	6 (10.5%)	3 (4.0%)	9 (6.8%)
>30	31 (54.4%)	53 (70.7%)	84 (63.6%)
Total	57 (43.2%)	75 (56.8%)	132 (100%)

As for the attendance regime in the courses, 68.2% of students have the working student status, and this did not differ in gender ($\chi^2(2)=3,367$, p-value=0,067). In the 18-25 age group, 17.9% are student-workers, and in the remaining age groups (26-30; >30), this proportion rises to 88.95% and 89.3%, respectively.

In general, the students dealt positively with the evaluation model. We observed a tendency to experience more positive than negative emotions (with a mean value greater than 1 on the emotional well-being scale) (Table 3).

Table 3*Emotional Well-Being Scale (mean, standard deviation)*

Positive Emotions	M	SD
Satisfaction	2,10	,727
Enthusiasm	1,89	,876
Pride	1,84	,824
Optimism	2,00	,835
Competence	2,02	,753
Joy	1,80	,842
Relief	1,87	,941
Serenity	1,77	,901
Euphoria	1,10	,886
Security	2,08	,910
Peacefulness	1,95	,920
Perseverance	2,05	,824
Accompaniment	1,75	,883
Trust	1,87	,865
Guidance	1,74	,876
Attraction	1,53	1,034
Recognition	1,83	,872
Gratefulness	1,92	,946
Power	1,35	,970
Stimulus	1,69	,906
Valid N (of list)	133	

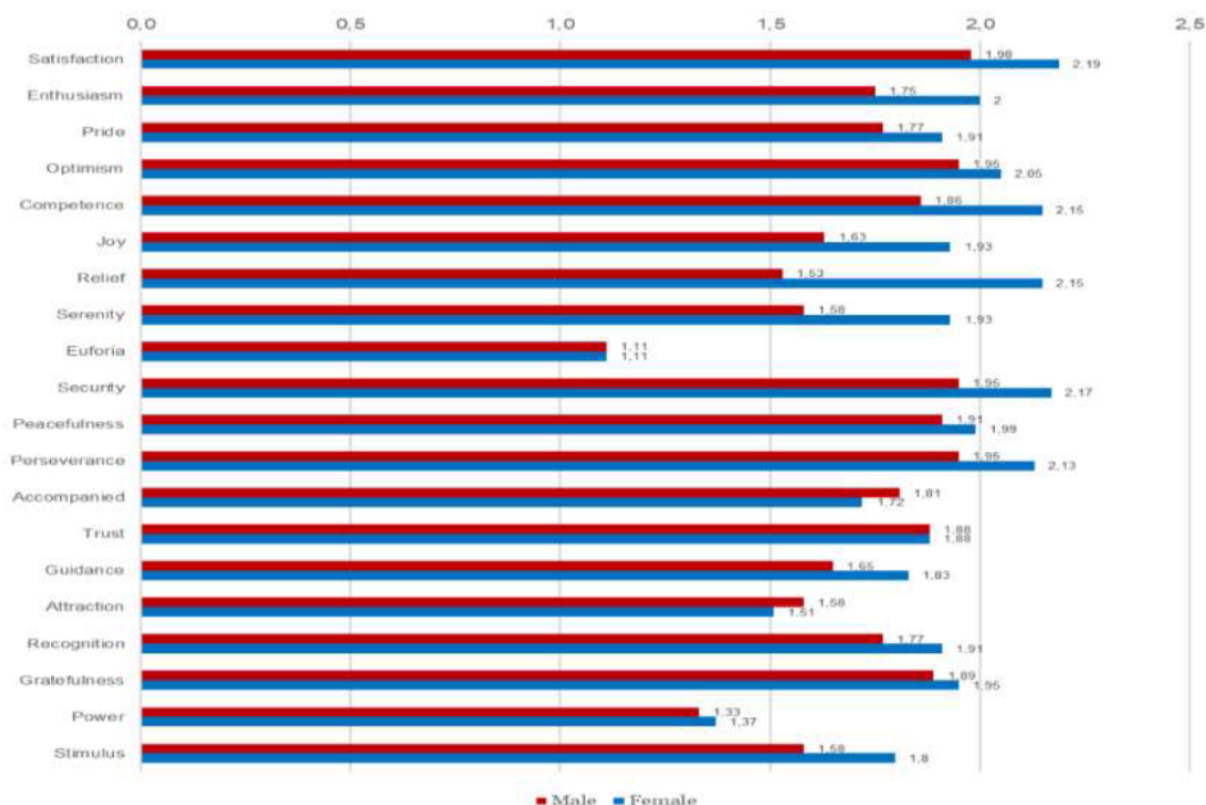
"Satisfaction", "Optimism", "Competence", "Security" and "Perseverance", with the highest means (around 2 points), were the positive emotions that students experienced on "quite a few occasions". However, other positive emotions, such as "Peacefulness" (1.95 points) and "Gratefulness" (1.92 points), also obtained a high value in terms of average, whereas "Euphoria" was the emotion with the lowest score (1.10 points), having been experienced only "occasionally".

As already pointed out, the main objective of the present study was not to analyse possible differences in terms of gender and age group. However, the data obtained allow us to observe differences.

Women experienced more positive emotions than the man (Figure 1) and the statistically significant differences for positive emotions comprehend "Competence" ($t(130)=-2.191$, $p\text{-value}=0.03$), "Joy" ($t(130)=-2,065$, $p\text{-value}=0,041$), "Relief" ($t(130)=-3,955$, $p\text{-value}<0,000$), and "Serenity" ($t(130)=-2.271$, $p\text{-value}=0.028$).

Figure 1

Comparison by gender of the Emotional Well-Being Scale



On the other hand, some emotions are more experienced with increasing age (Table 4), with statistically significant differences between the 18-25 age groups and those over 30 years old. Those emotions are "Satisfaction" ($p_{\text{tukey}}=0.031$), "Enthusiasm" ($p_{\text{tukey}}=0.011$), "Pride" ($p_{\text{tukey}}=0.008$), "Optimism" ($p_{\text{tukey}}=0.028$), and "Perseverance" ($p_{\text{tukey}}=0.001$).

Table 4

Comparison by age group of the Emotional Well-Being Scale (mean, standard deviation)

Item	18-25	25-30	>30	F-test and p-value
Satisfaction	1.87 ± 0.767	1.89 ± 0.601	2.23 ± 0.700	F(1,2)=3.687, p=0.028
Enthusiasm	1.56±0.912	1.89±1.167	2.05±0.876	F(1,2)=4.260, p=0.016
Pride	1.54±0.884	1.67±0.866	2.01±0.752	F(1,2)=4.906, p=0.009
Optimism	1.74±0.910	1.78±0.667	2.15±0.784	F(1,2)=3.761, p=0.028
Competence	1.82±0.885	1.89±0.782	2.13±0.673	F(1,2)=2.448, p=0.09
Joy	1.54±0.996	1.89±0.782	1.92±0.748	F(1,2)=2.813, p=0.064
Relief	1.62±1.016	1.89±0.782	2.00±0.905	F(1,2)=2.267, p=0.108
Serenity	1.56±1.021	1.67±0.707	1.89±0.850	F(1,2)=1.869, p=0.158
Euforia	0.90±0.821	1.22±0.667	1.19±0.925	F(1,2)=1.558, p=0.215
Security	1.87±1.031	1.89±0.601	2.08±0.913	F(1,2)=1.848, p=0.162
Peacefulness	1.90±1.021	1.67±0.500	2.01±0.912	F(1,2)=0.670, p=0.513
Perseverance	1.69±0.832	1.78±0.667	2.25±0.774	F(1,2)=7.304, p=0.001
Accompaniment	1.90±0.680	1.56±0.882	1.71±0.964	F(1,2)=0.823, p=0.442
Trust	1.69±0.950	1.56±0.726	2.00±0.821	F(1,2)=2.409, p=0.094
Guidance	1.90±0.641	1.44±0.726	1.71±0.976	F(1,2)=1.170, p=0.314
Attraction	1.41±0.880	1.56±0.882	1.60±1.110	F(1,2)=0.428, p=0.653
Recognition	1.74±0.785	1.67±0.866	1.92±0.895	F(1,2)=0.752, p=0.474
Gratefulness	1.77±0.931	2.11±0.928	1.98±0.957	F(1,2)=0.824, p=0.441
Power	1.21±0.951	1.44±0.726	1.42±0.996	F(1,2)=0.676, p=0.511
Stimulus	1.31±0.800	1.56±0.726	1.90±0.900	F(1,2)=6.539, p=0.002

When asked about the factors that most contributed to experiencing positive emotions, the students highlighted "time" as the main factor (39%), followed by the "change in the evaluation model" (25%); the "virtual space" and "technological means" were mentioned by 19% and 17%, respectively.

With regard to negative emotions (Table 5), "Tension/Concern" (1.43 points), "Stress/Tiredness" (1.40 points), and "Distress/Anxiety (1.24 points) stand out from the remaining emotions. That is, students "occasionally" experienced those negative emotions when undergoing online evaluations.

Table 5

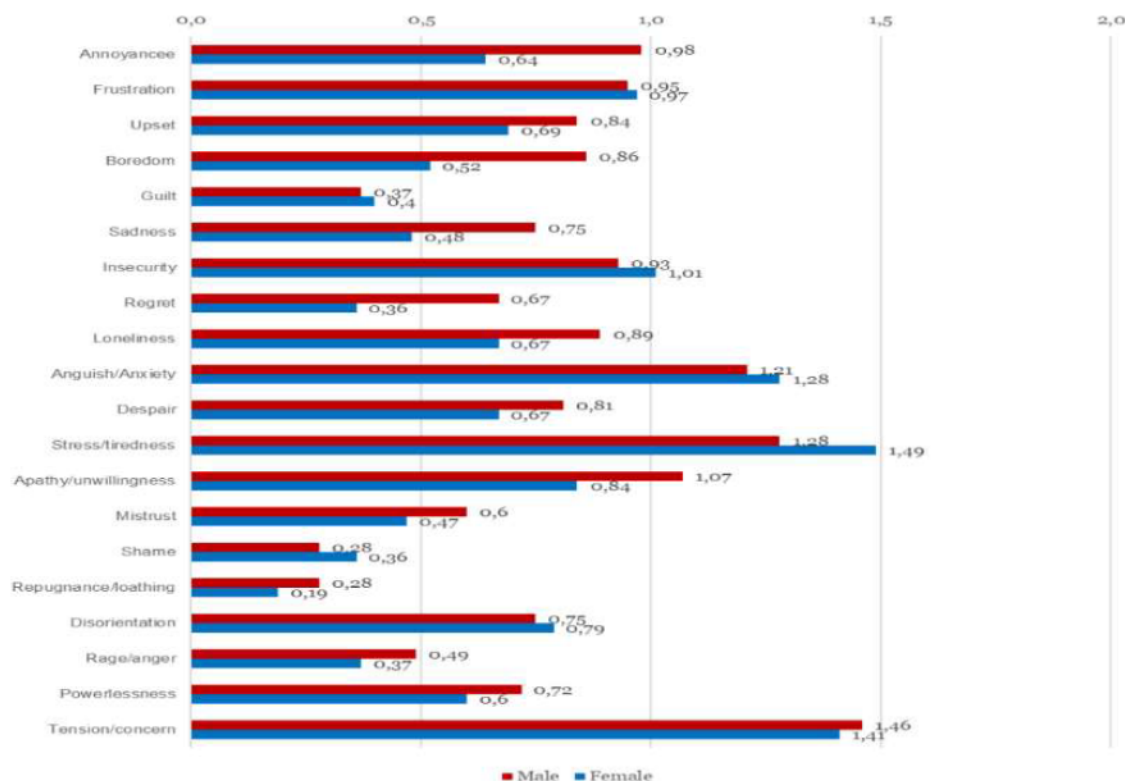
Emotional Ill-Being scale (mean, standard deviation)

Negative Emotions	M	SD
Annoyance	,79	,844
Frustration	,96	,848
Upset	,75	,829
Boredom	,66	,920
Guilt	,38	,648
Sadness	,60	,834
Insecurity	,97	,904
Regret	,49	,794
Loneliness	,76	1,024
Anguish/Anxiety	1,24	1,024
Despair	,72	,980
Stress/tiredness	1,40	,992
Apathy/unwillingness	,93	,939
Mistrust	,52	,784
Shame	,32	,669
Repugnance/loathing	,23	,658
Disorientation	,77	,893
Rage/anger	,42	,771
Powerlessness	,65	,817
Tension/concern	1,43	,948
Valid N (of list)	133	

The female gender experienced fewer Ill-Being scale emotions (figure 2). There were statistically significant differences in the emotions "Annoyance" ($t(130)=2.339$, p -value=0.021), "Boredom" ($t(130)=2.125$, p -value=0.036), and "Regret" ($t(130)=2.109$, p -value=0.038).

Figure 2

Comparison by gender of the Emotional Ill-Being Scale



The differences found by age group regarding negative emotions were not statistically significant (Table 6).

When asked about the factors that most contributed to experiencing negative emotions, the students highlighted "time" as the main factor (58%), with "technological means", "virtual space", and "change of the evaluation model" having a heft of 17%, 14% and 11%, respectively.

Table 6

Comparison by age group of the Emotional Ill-Being Scale (mean, standard deviation)

Item	18-25	25-30	>30	F-test and p-value
Annoyance	1.05 ± 0.887	0.78 ± 0.833	0.67 ± 0.812	0.063 F=2.821
Frustration	1.05±0.887	0.78±0.833	0.94±0.841	0.639 F=0.449
Upset	0.74±0.880	0.89±0.782	0.76±0.820	0.887 F=0.120
Boredom	0.82±0.914	0.67±1.118	0.60±0.907	0.455 F=0.793
Guilt	0.31±0.569	0.67±1.000	0.39±0.640	0.326 F=1.130
Sadness	0.62±0.877	0.78±1.093	0.57±0.796	0.775 F=0.256
Insecurity	1.03±0.932	1.22±0.972	0.93±0.889	0.605 F=0.505
Regret	0.56±0.852	0.78±1.093	0.43±0.733	0.368 F=1.007
Loneliness	0.62±0.907	0.89±1.054	0.82±1.077	0.548 F=0.604
Anguish/Anxiety	1.38±1.067	1.11±0.928	1.20±1.015	0.602 F=0.509
Despair	0.90±1.119	0.67±1.118	0.65±0.898	0.438 F=0.830
Stress/Tiredness	1.44±0.968	1.33±1.000	1.39±1.018	0.954 F=0.047
Apathy/Unwillingness	1.18±1.121	1.11±0.601	0.81±0.857	0.107 F=2.272
Mistrust	0.74±0.938	0.56±0.726	0.42±0.698	0.098 F=2.360
Shame	0.46±0.643	0.33±0.707	0.26±0.679	0.310 F=1.182
Repugnance/Loathing	0.33±0.737	0.22±0.667	0.18±0.624	0.485 F=0.728
Disorientation	0.95±0.972	0.56±0.726	0.71±0.872	0.305 F=1.199
Rage/Anger	0.67±0.8691	0.22±0.441	0.33±0.734	0.059 F=2.888
Powerlessness	0.74±0.850	0.78±0.833	0.60±0.808	0.580 F=0.547
Tension/Concern	1.59±0.993	1.33±0.866	1.37±0.941	0.467 F=0.767

A content analysis was also carried out on the open-ended questions included in the questionnaire. Thus, with regard to positive emotions, the responses concerning states of tranquillity, security, satisfaction, trust and gratitude can be explained by what the students referred to as, for example: “[Knowing that I was safer from the virus]”; “[Being in the tranquillity of my home taking the exam]”, and “[The online evaluation model brings more tranquillity, comfort, confidence, security]”.

Students’ answers also provide useful information regarding the advantage of this evaluation model and the fact that they do not need to take the evaluation exams in-person in their universities: “[Remote evaluation is more practical because it does away with commuting and stress over the little time we have for evaluations]”; “[To be able to take the test in any part of the country/world]”; “[Not to have to commute to the place (given that it takes a long time when using public transports), thus preventing some stress and fatigue]”.

Regarding negative emotions associated with the time factor, some responses suggest further readjustments: “[Some tests were so extensive that time was not enough to complete it]”, “[Very long tests and little time to do them with the quality intended]”.

5. Conclusions

Positive and negative emotions are associated with different education and online evaluation situations, methods and practices. In the present study, including an essay question in the questionnaire allows us to interpret some of the results obtained and relate them to the scale of emotions experienced.

When students were asked about the factors that had most positively influenced their emotional state, the “Time” factor was decisive, receiving a high percentage of responses. These can serve as indicators for future reflection on the functioning of this evaluation model, combining the students’ success in the various evaluation moments with lower levels of stress and anxiety. Time and resources are freed when it comes to students’ commuting, and university institutions will also benefit from implementing the online evaluation model. Considering the increasing number of students seeking admission to higher education, such an evaluation model will contribute to a broader response by institutions, as long as the conditions of validity, reliability and feasibility of online evaluation are safeguarded (Gomes, 2009; Santos Guerra, 2009).

In their turn, although to a lesser extent, students also experienced negative emotions, such as “Tension/Worry”, “Stress/ Tiredness” and “Distress/Anxiety”. Although these emotions are usually associated with evaluation moments per se (Boud & Falchikov 2007; Santos Guerra, 2009), the change in the evaluation paradigm could have enhanced the degree to which they were experienced. Nonetheless, the results indicate that positive emotions predominated over negative ones.

However, it is essential to understand the causes that may have contributed to the negative emotions referred to in this exploratory study. As a result of the students’

answers to the open-ended questions, we know that "time" appears with a significant percentage which may seem inconsistent given the evidence associated with this same factor and positive emotions. Therefore, the 'time' factor can be analysed by taking into account two distinct approaches. On the one hand, teachers must propose evaluation assignments adjusted and adapted to the available time. Time awareness should also guide online teaching since several students have mentioned overwork and lack of time to perform the tasks/activities throughout the semester (see Zembylas, 2008; Guedes & Mutti, 2010; Rebollo et al., 2014). On the other hand, students' time management struggles (Rebollo et al., 2008) should be considered in line with the distracting factors when performing evaluations at home or in other less formal and academic contexts. For example, essay questions addressed issues such as the need to reconcile the presence of children and exam taking. We must also consider other distracting factors, such as access to online resources and chats.

Despite being an exploratory study in the context of a pandemic, the results allow us to conclude that the online evaluation does not accentuate negative emotions besides those already associated with the evaluation process *per se*. On the contrary, this evaluation model had a higher record of positive emotions, particularly among women.

Therefore, this education and evaluation model proves beneficial for students regarding emotions and academic success, given that it promotes emotional well-being. Notwithstanding emotional benefits associated with online evaluation, the success of this assessment model also relies on the close attention given to ethical issues (students' equal access to online evaluation assignments, reliability of the evaluation process, among others) and structural proceedings (for instance, adaptability of and accessibility to the technological resources, assignments/questions adequacy, timely provision of guidance/instructions on the evaluation tasks, evaluation feedback).

Finally, it should be noted that this exploratory study's results recommend further research to understand and substantiate some of the differences regarding gender and age group.

References

- Almeida, L., & Freire, T. (2008). *Metodologia da investigação em Psicologia da Educação (3ª ed.)*. Psiquilíbrios.
- Averill, J. R. (1980). A constructivist view of emotion. In R. Plutchik & H. Kellerman (Eds.), *Emotion: Theory, research, and experience* (pp. 305–339). New York: Academic Press.
- Bailey, K. (1983). Competitiveness and Anxiety in Adult Second Language Learning: Looking at and through the diary studies. In H. Seliger & M. Long (Eds.), *Classroom-oriented research in second language acquisition* (pp. 67–103). Newbury House.
- Barret, L.F. & Russel, J.A. (Eds.). (2015). *The Psychological Construction of Emotion*. New York and London: The Guildford Press.

- Berkum, J. (2022). 1 A survey of emotion theories and their relevance to language research. In G. Schiewer, J. Altarriba & B. Ng (Ed.), Volume 1 (pp. 1-28). Berlin, Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110347524-001>
- Bown, J. & White, C.J. (2010). Affect in a self-regulatory framework for language learning. *System* 38, 432-443. <https://doi.org/10.1016/j.system.2010.03.016>
- Coll, C., Mauri, T. & Onrubia, J. (2006). Análisis y resolución de casos-problema mediante el aprendizaje colaborativo. In Badia, A. (Ed.) Enseñanza y Aprendizaje con TIC en la Educación Superior. *Revista de Universidad y Sociedad del Conocimiento (RUSC)*.3 (2). www.uoc.edu/rusc/3/2/dt/esp/coll_mauri_onrubia.pdf
- Damáso, A. (1995). *O Erro de Descartes*. Europa América.
- Damáso, A. (2013). *O Sentimento de Si*. Círculo de Leitores.
- Dewaele, J.M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, 4(2), 237-274. <https://doi.org/10.14746/ssl.2014.4.2.5>
- Dörnyei, Z. & Ushioda, E. (2011). *Teaching and Researching Motivation* (2nd ed.). Longman. <https://doi.org/10.4324/9781315833750>
- Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion*, 6, 169–200.
- Ekman, P., & Cordaro, D. (2011). What is Meant by Calling Emotions Basic. *Emotion Review*, 3(4), 364–370. <https://doi.org/10.1177/1754073911410740>
- Filgona, J., Sakiyo, J., Gwany, D. M., & Okoronka, A. U. (2020). Motivation in Learning. *Asian Journal of Education and Social Studies*, 10(4), 16-37. <https://doi.org/10.9734/ajess/2020/v10i430273>
- Garret, P., & Young, R. F. (2009). Theorizing affect in foreign language learning: An analysis of one learner's responses to a communicative Portuguese course. *The Modern Language Journal*, 93(2), 209-226. <https://doi.org/10.1111/j.1540-4781.2009.00857.x>
- Gomes, M.J. (2009). Contextos e práticas de avaliação em educação online. In Guilhermina, L.M. (Org.) *Ensino Online e Aprendizagem Multimédia* (pp. 124-153). Relógio d'Água Editores.
- Griffiths, P. E. (1997). *What emotions really are: The problem of psychological categories*. Chicago: University of Chicago Press.
- Griffiths, P. E. (2004). Is emotion a natural kind? In R. C. Solomon (Ed.), *Thinking about feeling: Contemporary philosophers on emotions* (pp. 233–249). New York: Oxford University Press.
- Guedes, S. & Mutti, C. (2010). Affections in learning situations: a study of an entrepreneurship skills development course. *Journal of Workplace Learning*, 23(3), 195-208. <https://doi.org/10.1108/13665621111117224>
- Harbsmeier, C. (2004) Portrait. *Epok* 43 (Février), 50,51.
- Harré, R. (1986). An outline of the social constructionist viewpoint. In R. Harré (Ed.), *The social construction of emotions* (pp. 2–14). Oxford, UK: Blackwell.
- Hill, M. M. & Hill, A. (2009). *Investigação por questionário* (2^a Ed.). Edições Sílabo Lda.

- Horwitz, E. (2002). It Ain't Over 'til It's Over: On Foreign Language Anxiety, First Language Deficits, and the Confounding of Variables. *The Modern Language Journal* 84(2), 256-259. <https://doi.org/10.1111/0026-7902.00067>
- Imai, Y. (2010). Emotions in SLA: new insights from collaborative learning for an EFL Classroom. *The Modern Language Journal*, 94(2), 278-292. <https://doi.org/10.1111/j.1540-4781.2010.01021.x>
- Keltner, D., Haidt, J., & Shiota, M. N. (2006). Social functionalism and the evolution of emotions. In M. Schaller, J. A. Simpson, D. T. Kenrick (Eds.), *Evolution and Social Psychology* (pp. 115–142). New York: Psychology Press.
- Kırmızı, Ö. & Sarıçiban, A. (2020). An investigation of the relation between pre-service EFL teachers' emotions and their approaches to teaching. *Journal of Language and Linguistic Studies*, 16(4), 1968-1986. <https://doi.org/10.17263/jlls.851029>
- Kormos, J. (2002). *The Second Language Learning Processes of Students with Specific Learning Difficulties*. Routledge. <https://doi.org/10.4324/9781315692371>
- MacIntyre, P., & Gregersen, T. (2012). Emotions that facilitate language learning: The positive-broadening power of the imagination. *Studies in Second Language Learning and Teaching*, 2(2), 193-213. <https://doi.org/10.14746/ssl.t.2012.2.2.4>
- Maroco, J., (2007). *Análise estatística com o SPSS Statistics*. Edições Sílabo, Lda.
- Mendes, A.Q., Bastos, G., Amante, L., Aires, L.L. & Cardoso, T. (2018). *Modelo Pedagógico Virtual: Cenários de Desenvolvimento*. Universidade Aberta.
- Méndez, M. G. & Aguilar, A. P. (2013). Emotions as learning enhancers of foreign language learning motivation. *Profile*, 15(1), 109-124
- Menétray, M. Q., Mohammadi, G., Leitão, J., & Vuilleumier, P. (2022). Emotion Recognition in a Multi-Componential Framework: The Role of Physiology. *Frontiers in Computer Science*. <https://doi.org/10.3389/fcomp.2022.773256>
- Nummenmaa, M. (2007). Emotions in a web-based learning environment. *Turun Yliopiston Julkaisuja Annales Universitatis Turkuensis, Sarja-serie.b Osa-tom.* 304 Humaniora, 7-52.
- Pavlenko, A., & Dewaele, J.-M. (Eds.). (2004). Languages and emotions: A crosslinguistic perspective. *Journal of Multilingual and Multicultural Development*, 25, 2&3. <https://doi.org/10.1080/01434630408666522>
- Pereira, A., Mendes, A.Q., Morgado, L., Amante, L. & Bidarra, J. (2007). *Modelo Pedagógico Virtual da Universidade Aberta: para uma Universidade do Futuro*. Universidade Aberta.
- Plutchik, R. (1984). Emotions: A general psychoevolutionary theory. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 197–219). Hillsdale, NJ: Lawrence Erlbaum.
- Rager, K. B. (2009). I feel, therefore, I learn: the role of emotion in self-directed learning. *New Horizons in Adult Education and Human Resource Development*, 23(2), 22-33.
- Rebollo, M. A. C., Pérez, R.G., Sánchez, R.B., Garcia, O.B., Caro, L.V. (2008). Las Emotions en el Aprendizaje Online. *RELIEVE*, 14(1), 1-23. <https://doi.org/10.7203/relieve.14.1.4201>

- Rebollo, M.A., García-Pérez, R., Buzón, O. y Vega, L. (2014). Las emociones en el aprendizaje universitario apoyado en entornos virtuales: diferencias según tipo de actividad y motivación del alumnado. *Revista Complutense de Educación*, 25(1), 69-93.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology*, 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Roseman, I. J. (1984). Cognitive determinants of emotions: A structural theory. In P. Shaver (Ed.), *Review of Personality and Social Psychology: Vol. 5. Emotions, relationships, and health* (pp. 11–36). Beverly Hills, CA: Sage.
- Runa, A.I.& Miranda, G. (2015). Validação portuguesa das escalas de bem-estar e de mal-estar emocional. *Revista Ibérica de Sistemas e Tecnologias de Informação*. <https://doi.org/10.17013/risti.16.129-144>
- Santos Guerra, M.Á. (2009). Almas tatuadas: Aprendizagens sobre avaliação a partir da experiência. *Sísifo/Revista de Ciências da Educação*, 09,101–114.
- Scarantino, A. (2014). 'The Motivational Theory of Emotions', in Justin D'Arms, and Daniel Jacobson (eds), *Moral Psychology and Human Agency: Philosophical Essays on the Science of Ethics*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198717812.003.0008>
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44(4), 695–729. <https://doi.org/10.1177/0539018405058216>
- Schumann, J. (1998). *The neurobiology of affect in language*. Blackwell.
- Wierzbicka, A. (2004). Preface: Bilingual lives, bilingual experience. *Journal of Multilingual and Multicultural Development*, 25, 2&3, 94-104. <https://doi.org/10.1080/01434630408666523>
- Zembylas, M., (2008). Adult learner's emotions in online learning. *Distance Education*, 29(1), 71-87. <https://doi.org/10.1080/01587910802004852>

