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**FMUP** FACULDADE DE MEDICINA  
UNIVERSIDADE DO PORTO

**MESTRADO INTEGRADO EM MEDICINA**

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2020/2021

Carla Maria Rodrigues Miguel

Impacto da COVID-19 na saúde mental dos docentes e  
desafios do ensino remoto de emergência

**Impact of COVID-19 on lecturers' mental health and  
emergency remote teaching challenges**

ABRIL, 2021

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**Mestrado Integrado em Medicina**

Área: **Ciências Médicas e da Saúde**

Tipologia: **Dissertação – Artigo de Investigação**

Trabalho efetuado sob a Orientação de:

**Prof.<sup>a</sup> Doutora Ivone Duarte**

E sob a Coorientação de:

**Prof.<sup>a</sup> Doutora Luísa Castro**

Trabalho organizado de acordo com as normas da revista:

**HER – Health Education Research**

ABRIL, 2021

**FMUP**

Eu, **Carla Maria Rodrigues Miguel**, abaixo assinado, nº mecanográfico **2015050301**, estudante do 6º ano do Ciclo de Estudos Integrado em Medicina, na Faculdade de Medicina da Universidade do Porto, declaro ter atuado com absoluta integridade na elaboração deste projeto de opção.

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Faculdade de Medicina da Universidade do Porto, 08/04/2021

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DESIGNAÇÃO DA ÁREA DO PROJECTO

Ciências Médicas e da Saúde

TÍTULO DISSERTAÇÃO

Impacto da COVID-19 na saúde mental dos docentes e desafios do ensino remoto de emergência  
Impact of COVID-19 on lecturers' mental health and emergency remote teaching challenges

ORIENTADOR

Doutora Ivone Duarte

COORDENADOR (se aplicável)

Doutora Luísa Castro

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Faculdade de Medicina da Universidade do Porto, 08/04/2021

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## DEDICATÓRIA e AGRADECIMENTOS

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Aos meus pais, que cuidam de mim e apoiam-me em tudo, desde o primeiro dia. Estão sempre presentes, em todos os momentos e, para mim, são o maior exemplo, de resiliência, coragem, espírito de sacrifício e, na essência de tudo, amor.

Aos meus avós, pelo exemplo de trabalho e de coragem para lutar pelo que realmente queremos na vida, que só com esforço é que se chega ao sucesso.

Ao Xavier, por nunca me deixar desistir, por me dar sempre motivação para o passo extra que faz a diferença, por me mostrar que é nas coisas mais simples e genuínas que está o verdadeiro valor do que realmente importa, que mesmo no céu mais escuro, há sempre uma estrela pronta para guiar e iluminar o nosso caminho.

Aos orientadores deste projeto, que permitiram tornar este projeto possível. À Professora Doutora Ivone Duarte, por me ter lançado o desafio, por ter acreditado em mim, por toda a paciência, atenção, cuidado e disponibilidade. À Professora Doutora Luísa Castro, por também ter estado sempre disponível para esclarecer dúvidas e contribuir com sugestões. Uma palavra de agradecimento também ao Professor Doutor José Paulo e à Professora Doutora Carla Serrão, pelo contributo essencial para este projeto. Senti-me sempre parte de uma equipa, com quem foi um privilégio trabalhar e com quem tanto aprendi, desde o primeiro dia.

À Mariana Ribeiro, à Patrícia Gonçalves, à Marta Lisandra, à Liliana Silva, ao Martim Luz, à Ana Leite, ao António Gonçalves, à Inês Gomes, à Raquel Santos, à Diana Teixeira, ao Pedro Poças, à Helena Brito, ao Rui Miranda, à Catarina Costa, à Rita Neves, ao Manuel Donga, ao João Teles, à Beatriz Santos, à Mafalda Gonçalo, ao João Portugal, ao João Ribeiro, ao Miguel Moreira, ao Baltazar Oliveira, à Sofia Andrade, à Filipa Leitão, à Mariana Maia, ao João Fernandes, ao Gonçalo Figueirôa, à Sofia Teixeira, ao Hugo Veiga, ao Francisco Barros, ao João Rodrigues, ao Diogo Morais, ao Miguel Pimenta, ao João Rocha, ao Carlos Lobão, à Irene Santos, ao António Teixeira e a tantos outros, que ao longo destes seis anos, se cruzaram comigo e tornaram este percurso único, com recordações inesquecíveis. Guardo cada um de vós, num cantinho bem especial do meu coração, levo memórias únicas e inesquecíveis convosco e, acima de tudo, amizades para a vida.

À Sofia Silva, ao Joel Costa, ao Pedro Gaspar, ao Luís Delindro Gonçalves, um agradecimento muito especial por todo o apoio, paciência e confiança. Sem as nossas conversas, sem a nossa amizade, teria sido tudo bem mais complicado.

A todos os que me acompanharam e estiveram ao meu lado, mais perto ou mais distantes, mas sempre no meu coração, o meu muito obrigada.

“Para ser grande, sê inteiro: nada  
Teu exagera ou exclui.  
Sê todo em cada coisa. Põe quanto és  
No mínimo que fazes.  
Assim em cada lago a lua toda  
Brilha, porque alta vive.”

Ricardo Reis

Abril 2021  
Carla Maria Rodrigues Miguel

# Impact of COVID-19 on lecturers' mental health and emergency remote teaching challenges

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## KEY WORDS

COVID-19; teaching; burnout; lecturers; emergency remote teaching

## WORD COUNT FOR THE MAIN TEXT:

5440 (excluding the abstract, tables, figures and references)

## ABSTRACT

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COVID-19 has presented a novel pedagogical challenge: dealing with the sudden shift from classic, face-to-face instruction to emergency remote teaching (ERT). This has had a relevant impact on the well-being and mental health of lecturers worldwide, including increasing their risk of burnout. A cross-sectional, quantitative, qualitative and analytical study was conducted through an online questionnaire that collected participants' sociodemographic data, responses to open-ended questions regarding ERT and responses to mental health assessments using relevant instruments (CBI for burnout, the Resilience Scale, DASS for depression, anxiety and stress, and SWLS for satisfaction with life). Our findings indicated high personal burnout levels in 41.2% of participants, high work-related burnout in 37.3% and high student-related burnout in 15.7%. Satisfaction with life and sleep routine changes were determinants for all dimensions of burnout. Opportunities for pedagogical innovation were pointed out as the main advantages to ERT, while the main negative impacts were on practical lessons and social interaction. We conclude that ERT is not an effective teaching method for every student and learning context but combining the advantages of online and traditional learning methods in a so-called "blended learning" approach, with close collaboration and communication between all those involved, appears to achieve better results.

## INTRODUCTION

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One week after the World Health Organization (WHO) declared a global pandemic due to COVID-19 in early March 2020, the Portuguese government declared a state of emergency and began limiting the rights and freedoms of its citizens, profoundly altering daily life. The proportion of people working from home rose sharply, presenting an unexpected challenge for those suddenly forced into remote work [1][2].

Most countries around the world immediately closed all educational institutions, from kindergartens to universities, and halted face-to-face education. In Portugal, all activities involving in-person teaching were suspended on 16 March, a resolution that impacted the entire academic community [3]. Educational institutions were closed without time to draw up a planned shift from classic face-to-face teaching to online-based learning in an uncertain situation. Teachers were asked to quickly implement new teaching practices to promote student learning and, at the same time, maximize student safety [4]. Higher education was forced to make abrupt changes in a few days, fully transitioning curricula from face-to-face to distance education [3][5].

The novel pedagogical challenge presented by COVID-19 gave rise to the development of emergency remote teaching (ERT), a temporary shift from classic, face-to-face teaching to an alternative, online learning approach under high-pressure circumstances. Four phases were identified in the educational response to COVID-19: 1) rapid transition to remote teaching and learning; 2) (re-) adding basics; 3) extended transition during continued turmoil; and 4) an emerging new normal [6]. The main goal of ERT is to provide temporary and reliable educational support that is easy to configure and ready to implement instead of a robust, long-term educational program. In such a narrow time frame, the transition process without ERT may become stressful and not take full advantage of the online format [7].

The process of planning, preparing and developing a fully online higher education course is estimated to take between six to nine months and require around three iterations to become effective [7]. The minimal resources and urgency associated with quick approaches to online learning decrease its quality, as the effort required to develop a high-quality educational program cannot be met [7][8]. Barriers to the success of online teaching include a lack of technical skills,



institutional support, time, cost, motivation and poor interactive relationships built between teachers and students, as well as resistance to change [9][10]. Additionally, a successful e-learning experience is the result of three factors: interaction in a socially collaborative environment; cognitive reflection and communication; and the teacher's role in defining meaningful learning outcomes (pedagogical approach) [4]. Other important factors to take into account regarding e-learning include collaboration between learners and facilitators, taking students' motivations and expectations into consideration, using user-friendly technology and placing the pedagogical focus on students [11]. It may also be worthwhile to combine the advantages of the two approaches in so-called "blended learning" [9].

Lecturers require the ability to multitask in order to manage their professional careers, additional administrative work and their personal and social lives. Parallel to teaching, they must possess a wide range of skills and constantly keep themselves up to date and, adding research on top of this can increase stress and anxiety. When these stressors are persistent and not coupled with effective compensation mechanisms, they can lead to burnout [12][13][14].

Burnout is the result of an individual, continuous, chronic and gradual process and is characterized by three dimensions: the feeling of energy depletion or exhaustion; a lack of interest and motivation at work; and reduced professional efficacy. It is an occupational syndrome included in the WHO's International Classification of Diseases (ICD-11) since May 2019 [15][16].

Burnout research has been of particular interest in the field of academia. Teaching is considered to be a high-risk job, and the severity of burnout can be even higher in these professionals compared to health professionals [13]. A burned-out teacher can exhibit somatic symptoms such as anxiety, irritation and sadness, which can result in sleep disorders, headaches, gastrointestinal problems, alcohol and drug abuse. Rather than an identifiable cause, there is a set of combined factors that makes burnout a complex and multidimensional phenomenon [13][14][16].

There has been growing awareness of the adverse influence that the environment of higher education institutions has on the mental health of academics, who have shown high levels of stress and burnout and low levels of well-being [17]. A previous COVID-19 study of 520 higher education lecturers in Portugal concluded that stress levels decrease after 60 years of age, but are higher in female lecturers and those with less than 10 and more than 30 years of professional experience

[12]. Another study of teachers in Finland found that the absence of quality rest and leisure activities combined with non-restorative sleep increased the risk of burnout [18]. Regarding changes in sleep routine and quality during the COVID-19 lockdown, it was found that night-time sleep variations, poor sleep quality, a shift in sleep cycle to the delayed phase and sleep-deprivation can be associated with psychological distress in a sizable number of people [19].

A sample of 1316 lecturers from Spanish public universities was used to develop a model establishing a causal relationship between stress, burnout, emotional intelligence and non-verbal communication. Physical activity was shown to reduce cortisol and norepinephrine levels, the two hormones produced in situations of stress and anxiety, and increase endorphins, the “happiness hormones”. Prolonged stress was confirmed to be a strong predictor of burnout syndrome [14].

Stress at work can cause a negative balance between investment and productivity, which leads to exhaustion, one of the three dimensions of burnout. According to the International Labour Organization (ILO), one in ten workers suffer from chronic stress, anxiety, burnout and depression [14][20]. In addition to its impact at the professional level, stress also affects health, personal, social and economic life [14]. Approximately 20 to 30% of teachers and an estimated 25% of lecturers report that teaching is very or extremely stressful [14][18].

However, not all individuals exposed to these challenges develop burnout or stress. Psychological resilience [21] [22] – understood as the ability to positively adapt to situations that can potentially cause stress and anxiety, such as COVID-19 – and satisfaction with life can present themselves as protective variables.

A study conducted among Dutch teachers found a relationship between the validation of personal work with higher determination, flexibility and better results [23]. Meanwhile, an online survey of 1278 Canadian teachers seeking to understand the association between burnout and resilience during the COVID-19 pandemic found that family support, exercise, healthy eating and emotional self-care (such as meditation and mindfulness) were the most protective variables [24]. Focusing on well-being and resilience under these circumstances was also found to be a key to success in a study of South African lecturers [25]. In Portugal, a study analysing variables related to the professional well-being of Portuguese teachers during the COVID-19 pandemic found that ongoing monitoring of teachers’ well-being throughout their careers is essential to help them cope

with the pandemic [26]. The mediating role of subjective well-being in job burnout is well known, as is the association of poor well-being with high levels of burnout [27].

Studies on the impact of ERT on higher education are generally scarce [28], and the paucity of evidence concerning similar situations in the past makes it challenging to anticipate the future impact of these changes on the academic community [29]. Finally, the existing literature in this field is minimal.

This study aims to understand the impact of COVID-19 on lecturers from the Faculty of Medicine of the University of Porto (FMUP), a medical university in the northern region of Portugal. The goals of this study are to identify the factors that influence their susceptibility to the three dimensions of burnout and to explore lecturers' perceptions of ERT during the pandemic crisis. It is hoped that these results might contribute towards improving the theoretical framework applied in the subsequent waves of this pandemic and helping this professional group.

## **METHODS**

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### **Study design, context and participants**

A cross-sectional, quantitative, analytical and qualitative study was conducted and applied to all FMUP lecturers. The study protocol follows STROBE guidelines and was approved on 29 May 2020 by the Health Ethics Committee (CES) of the São João Hospital Centre/FMUP. It also follows the ethical principles enshrined in the Declaration of Helsinki (2013) and the Convention for the Protection of Human Rights and the Dignity of the Human Being in Biology and Medicine (2001).

An online questionnaire was created using Google Forms and disseminated on FMUP and the Centre for Research in Health Technologies and Services (CINTESIS)'s websites. Disclosure e-mails were also sent to all FMUP lecturers. The survey was applied to a convenience sample and made available between 19 June and 31 July 2020, encompassing exams season and the first weeks of student summer holidays. Participants were duly informed about the aims of the study, the anonymization of responses, the confidentiality of data and the mean duration time to complete the questionnaire, as well as the ability to give up at any time, and provided their free and informed consent. Fifty-one participants completed the questionnaire, and no missing data was found.

### **Variables, measurement instruments and questionnaire sections**

The applied questionnaire included sociodemographic questions regarding gender, age, marital status, number and age of children. It also included questions regarding professional experience and educational qualifications, previous teaching experience in professional virtual learning, their professional situation during the pandemic and their current mode of work. Participants were asked about their chronic diseases, mental health medications and changes to their sleep routine (number of hours, bedtime and/or wake up time). This section was followed by five open-ended questions focusing on the advantages, disadvantages, worries, challenges and solutions of ERT. Lecturers were also asked if they agreed with the closure of higher education facilities.

In addition to the sociodemographic section, the questionnaire contained the following instruments, with authorization from the original authors: Copenhagen Burnout Inventory (CBI)

[30][31]; Resilience Scale [32][33]; Depression, Anxiety and Stress Scales (DASS) [34][35]; Satisfaction with Life Scale (SWLS) [36][37].

The CBI [30], adapted and validated for the Portuguese population [31], consists of 19 items distributed across three subscales: personal burnout, composed of six items, assesses the experienced degree of physical, psychological and mental exhaustion; work-related burnout, consisting of seven items, analyses the perceived degree of physical and psychological fatigue and exhaustion while at work; and student-related burnout, consisting of six items, assesses the perceived degree of physical and psychological fatigue and exhaustion resulting from working with students. The three subscales were not presented sequentially to avoid patterns of stereotyped responses. All the items were scored on a 5-point Likert scale. The score obtained for each subscale was the average of all item scores within the subscale ranging from 0 to 100, and it was considered high-level burnout when  $\geq 50$  points [30][31]. The Cronbach's Alpha,  $\alpha$ , for the Portuguese version was 0.86 [31]. In this study, 0.935 was obtained for personal burnout, 0.878 for work-related burnout, and 0.830 for student-related burnout.

The Resilience Scale [32], translated and adapted for the Portuguese population [33], is composed of 25 items scored on a 7-point Likert scale, from "disagree" (1 point) to "strongly agree" (7 points). The theoretical variation ranges from 25 (low resilience) to 175 (high resilience). For the Portuguese version,  $\alpha$  was 0.89 [33] and the value obtained in this study was 0.941.

DASS [34] validated for the Portuguese population [35] consists of 21 items and is organized into three self-reported subscales to evaluate the negative emotional states of depression, anxiety and stress. Each subscale has 7 items on a 4-point Likert scale, from "did not apply to me at all" (0 points) to "applied to me very much or most of the time" (3 points). The recommended cut-offs for the conventional severity labels were used in each subscale. For the depression subscale, normal is from 0 to 4, mild is from 5 to 6, moderate from 7 to 10, severe from 11 to 13 and extremely severe from 14 to 21. For the anxiety subscale, normal is 0 to 3, mild is 4, moderate is from 5 to 7, severe is 8 and 9 and extremely severe from 10 to 21. For the stress subscale, normal is from 0 to 7, mild is 8 and 9, moderate is from 10 to 12, severe is from 13 to 16 and extremely severe from 17 to 21 [38]. In this study,  $\alpha$  was 0.896 for the stress subscale, 0.899 for the anxiety subscale and 0.917 for the depression subscale.

The SWLS [36], validated for the Portuguese population [37], aims to assess the cognitive component of subjective well-being. It consists of 5 items on a 5-point Likert scale. In the Portuguese version, this instrument ranges between 5 to 25 points, where a higher result indicates greater satisfaction with life. The Cronbach's Alpha for the Portuguese version was 0.77 [37] and 0.911 was obtained in this study.

### **Data analysis and statistical methods**

Data was exported from Google Forms in a Microsoft Excel file and analysed using SPSS® Statistics (version 26.0; SPSS Inc., Chicago, Illinois, USA) and Jamovi software (The Jamovi project (2021). Jamovi (Version 1.6) [Computer Software]). Categorical variables were described using absolute and relative frequencies. Quantitative variables for which normality was not rejected were described by the mean and respective standard deviation. Ordinal or continuous variables not normally distributed were described by the median and the inter-quartile interval, [IQI]. The variables' normality was assessed by analysing the histograms and confirmed using the Kolmogorov-Smirnov test.

For each outcome – personal burnout, work-related burnout and student-related burnout – a separate multiple linear regression analysis was performed. Simple linear regressions were conducted for each independent variable to choose the relevant ones or potential predictors of burnout levels. Only the variables correlated with the outcome at  $p < 0.20$  in the simple linear regression were included in each multiple linear regression analysis. Only the significant variables ( $p < 0.05$ ) were maintained in the final multivariate models for personal, work-related, and student-related burnout. Unstandardized coefficients ( $\beta$ ), 95% confidence intervals (95% CIs), and  $p$ -values were used to present the results of linear regressions. Models were evaluated using the F-statistic of the overall model test,  $p$ -values and coefficients of determination ( $R^2$ ). The assumptions of the linear regression models were verified using the following three conditions: 1) histograms were used to assess the normality of residuals; 2)  $T$ -tests were performed to verify zero mean of the residuals; and 3) plots of residuals *versus* the fitted predictive values were used to check homoscedasticity.

The internal consistency of each scale of the questionnaire in the study sample was assessed using Cronbach's Alpha,  $\alpha$ , and a value above 0.7 was considered acceptable [39]. In all tests performed,  $p$  values were considered significant if they were less than 0.05.

### **Analysis of open-ended questions**

The answers to the open-ended questions were analysed using the six-phase Thematic Analysis method [40] supported in NVivo 12 ®. Phases 2 through 5 were implemented by two data analysts (authors) working separately in series.

After perusing the data imported into NVivo, one data analyst generated the initial codes, which grounded code collating into subthemes and themes by the other data analyst, who also reviewed the themes along with the original subjects' responses. Then, the data analyst named both subthemes and themes. These roles were reversed across the five open-ended questions: advantages, disadvantages, worries, challenges, and solutions regarding ERT. Finally, both data analysts met to clear up pending divergences, having agreed upon the hierarchical organization of themes, subthemes, and grounding codes. Memos describing the noteworthy aspects that emerged from the data were written for each theme and then for each open-ended question as a whole.

## RESULTS

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### Participant characteristics

A sample of 51 participants completed the questionnaire: 35 women (68.6%) and 16 men (31.4%), with an average age of  $48 \pm 11$  (SD) and ranging from 25 to 68 years old, all residents in the northern region of Portugal. Thirty-seven (72.5%) were married or in a civil union, 8 (15.7%) were divorced and 6 (11.8%) were single. Regarding academic qualifications, 34 (66.7%) held a doctoral degree, 9 (17.6%) held a bachelor's degree, 7 (13.7%) held a master's degree and 1 (2.0%) held a post-doctorate or aggregation.

A set of 19 participants (37.3%) lived with people at risk for COVID-19, 6 (11.8%) had lost relatives or friends during the pandemic and 7 (13.7%) were caregivers – 4 (7.8%) of whom dealt with older people and 3 (5.9%) with dependent people. One participant (2.0%) had asked for medical support (Family Medicine). Regarding the COVID-19 test, 15 (29.4%) had already taken one, 8 (15.7%) were interested in taking one, and 28 (54.9%) were not interested in taking one. The distribution of these and other significant sociodemographic variables is shown in **table I**.

### Levels of burnout dimensions and psychological variables

**Table II** shows the categorical results obtained in the questionnaire for personal burnout, work-related burnout, student-related burnout, resilience, stress, anxiety and depression.

Higher levels of personal burnout were found in 21 (41.2%) participants, 19 (37.3%) for work-related burnout and 8 (15.7%) for student-related burnout. Resilience was moderate in 25 (49.0%) and high in 19 (37.3%) participants. Anxiety (84.3%), depression (82.4%) and stress (78.4%) were normal in most participants, as shown in **table II**. The lecturers from our sample showed a median [IQI] of 20 [17; 23] points on the scale of satisfaction with life.

### Factors associated with different burnout subscales: simple and multiple linear regression analyses

For each sociodemographic, professional and psychological variable considered relevant or a predictor of potential burnout level, a simple linear regression analysis was computed with



results presented in **table III**. For each burnout dimension, significant variables from the simple regressions at a level of  $p < 0.2$  were selected for the multiple regression model. Professional experience, satisfaction with life, current mode of professional activity and sleep routine changes were included in the multiple regression model for personal burnout. Professional experience, satisfaction with life, current mode of professional activity, sleep hours and sleep routine changes were included in the multiple model for work-related burnout. Satisfaction with life, current mode of professional activity, chronic diseases and sleep routine changes were included in the multiple regression model for student-related burnout.

For all dimensions of burnout, only two variables were significant in the final multivariate linear regression models: satisfaction with life and sleep routine changes, explaining approximately 40.1%, 36.4% and 31.4% of the total data variance in personal, work-related and student-related burnout, respectively (**table IV**). Higher levels of satisfaction with life were significantly associated ( $p < 0.001$ ) with lower levels of all burnout dimensions:  $\beta = -3.13$  for personal burnout,  $\beta = -2.76$  for work-related burnout and  $\beta = -2.38$  for student-related burnout. Sleep routine changes were significantly associated with higher levels of personal burnout, and those participants scored, on average, 17.76 points higher in personal burnout levels, 10.81 points higher in student-related burnout levels and 10.24 points higher in work-related burnout levels, compared to lecturers without changes in their sleep routine (**table IV**).

Given the sample size, the achieved power in the multiple regression was computed using G\*Power online software [41]. In the final multiple regression using 2 predictors, a sample of 51 participants, a significance level of 0.05 and an effect size of 0.20 (considered between medium and large [42]), the power obtained was 0.80.

### **ERT from the lecturers' perspective: a qualitative analysis**

The questionnaire included five open-ended questions focusing on the advantages, disadvantages, worries, challenges and solutions of ERT. The main themes that emerged from the answers for each topic are summarized in **tables V and VI**.

In terms of advantages, the most addressed theme is the class itself, followed by the lecturer, the student and the impact on society. Some respondents claim that the only benefit of

ERT is that it allows classes to continue during the lockdown. If the class itself was already the epicentre of classroom lecturing, it continues to deserve the spotlight among the advantages of ERT. The most referred to advantages include flexibility (specifically, time flexibility) and the opportunity for pedagogical innovation, such as making recordings of the classes available asynchronously, providing more diverse study materials, or more easily hosting guest speakers. There is the perception that all these aspects contribute to more effective classes, which translates into better results. Time management, convenience and comfort due to the elimination of the daily commute and working from home are also positives mentioned by respondents. They also highlighted greater student autonomy and responsibility and the ability to stay home (for those from different cities). Finally, participants recognize that ERT has contributed to controlling the pandemic, which is important for society.

As for the disadvantages, classes and socialisation were the primary concern, but the lecturer theme was also addressed. Class dynamics are an issue in ERT, as it is difficult to motivate students to participate when they often have their webcams off. The inability to hold practical classes, considered to be of major importance in medical education, was recurrently identified as a disadvantage, and one to which ERT does not yet have suitable solutions. All these issues compromise the teaching-learning process. The lack of socialisation was another repeated drawback, mainly concerning the interaction between lecturers and students. As for the lecturer theme, reported difficulties were related with the adaptation to a new system and technologies without proper institutional support.

The dominant theme that emerged during data analysis of the worries surrounding ERT was the teaching-learning process, followed by socialisation and the students. The teaching-learning process worries centre on two issues: poor practical classes, which lack an actual practical component; and, similarly, poor contact with patients and clinical cases, both precluding the necessary acquisition of knowledge and skills required to become a doctor. Student assessment is also a worry, mainly due to the possibility of cheating. Student demotivation was another concern, as was poor socialisation in ERT environments. The dehumanization and depersonalization of teaching was also a worry for the lecturers surveyed, and they feared an increased risk of mental illness associated with this situation.

The challenges were closely connected with the worries that emerged. The main one was how to re-invent practical classes, mostly in laboratories, and contact with patients and clinical cases, primarily in the hospital. Other identified challenges were how to ensure effective learning and student motivation, as well as monitoring of mental health to avoid overloading students and lecturers with personal and work issues, protecting their psychological well-being and preventing burnout.

Study participants were also invited to contribute with solutions. Their answers were classified into two themes: the teaching-learning process and the lecturer. Remarkably, there are respondents whose contribution was to provide no solutions; since lecturers and students will return to the traditional classes as soon as the pandemic is eradicated, they argued, it would be a waste of time. The proposed solution to the teaching-learning process should focus on a combined method that still encompasses practical classes and live clinical cases. Considering the answers, this method is known as “blended learning” (b-learning) and combines online classes (synchronous and asynchronous) with in-situ ones. Practical education, conducting experiments, contact with patients, etc., would be taught in in-situ classes. The theoretical content could be delivered through online classes, which could be asynchronous (increased weight) and/or synchronous (less weight). Still in this vein, respondents refer to using active classroom pedagogies, materials that benefit from digital formats (like videos) and keeping webcams on. But the solutions must also address lecturers’ involvement, as they must invest more time in designing the classes and study materials, providing extra support to students through individual or small group tutorials, for example, and learning about the world of digital technologies for education.

Regarding the closure of higher education facilities, 10 participants (19.6%) agreed with the decision, 17 (33.3%) neither agreed nor disagreed and 24 (47.1%) disagreed. The public health preoccupation in reducing the risk of the COVID-19 infection was the most consensual justification for the decision. Lecturers who did not agree with this decision argued that the situation must be faced, due to the temporal unpredictability of eradication of the virus, and it was better to return to face-to-face education with mitigation measures that guarantee the safety of those involved, or to at least try a mixed regime with face-to-face practical classes and remote theoretical lessons. The participants considered remote education to be non-viable in the long run and something that

should only be used as a temporary and complementary resource, since traditional education provides a unique experience. Lecturers who remained neutral considered the evolution of the pandemic to be the main conditioning factor for the type of teaching regime to be adopted, in addition to the logistical conditions and characteristics of each course and curricular unit, always maintaining the safety conditions of all those involved.

## DISCUSSION

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The COVID-19 pandemic has had a relevant impact on the well-being and mental health of lecturers around the world, including by increasing the risk of burnout [1][4]. The immediate shift from the classic, face-to-face teaching approach to ERT seems to have contributed to this complex and multidimensional phenomenon. A cross-sectional, quantitative, analytical and qualitative study was conducted using an online questionnaire that included sociodemographic questions, five open-ended questions focused on ERT and mental health assessment instruments (CBI for burnout, the Resilience Scale, DASS for depression, anxiety and stress, and SWLS for satisfaction with life).

Our findings show high personal burnout levels in 41.2% of participants, high work-related burnout in 37.3% and high student-related burnout in 15.7%. These results were average, putting them into alignment with previous studies, such as one with 300 university lecturers, readers and professors in India [43] and another with 648 university academicians in Turkey [44]. The questionnaire was applied during exams season and after the initial societal adaptation to the COVID-19 pandemic. The fact that participants had already had to adjust their parental, family and professional responsibilities to the new reality months ago may explain the average burnout levels found.

The results of the psychological assessment instruments show moderate resilience in 49.0% of the sample, high resilience in 37.3% and normal levels for anxiety (84.3%), depression (82.4%) and stress (78.4%) in most of the participants. These levels are lower than those found in other studies, such as one with 200 Libyan schoolteachers that found 44.5% for depression, 56% for anxiety and 39.5% for stress [45]. Another study with 2530 students and staff at a Spanish university found 35.18%, 48.10% and 40.32% for anxiety, depression and stress scores, respectively [46]. These results also support the need for close collaboration and communication between all those involved in teaching and learning, as they are all affected by these variables and can make a relevant contribution towards a more effective system. In addition, around 65% of participants had over 15 years of teaching experience and, as already mentioned, the initial adaptation to COVID-19 had already taken place, which may explain the enhanced ability to cope with anxiety and stress.

The effect of sociodemographic and psychological variables on the three dimensions of burnout were explored, and in the final multiple linear regression models, only satisfaction with life and sleep routine changes were significant for all of them. Evidence shows that sleep routine changes lead to fatigue, tiredness and exhaustion and can increase the risk of burnout [14][18][19]. In our study, this variable was presented in the three models, where lecturers with sleep routine changes scored, on average, 17.76 points higher in personal burnout levels, 10.81 points higher in student-related burnout and 10.24 points higher in work-related burnout levels than those without changes. However, there is a lack of quantitative evidence describing the relationship between burnout and sleep routine changes and further research could be done to better characterize this association. Satisfaction with life and subjective well-being are also known to play a mediating role in job burnout by reducing its levels [26][27], which our results support.

This study also sought to understand lecturers' opinions and suggestions regarding ERT. Considering the advantages, the most mentioned theme was the class itself having more flexibility and opportunity for pedagogical innovation, followed by comfort and convenience for the lecturer, student autonomy and responsibility (which is aligned with the literature [7][8][11]) and the societal impact of reducing the risk of COVID-19 in the current pandemic context. Regarding the disadvantages, the inability to hold practical classes – considered to be of major importance in medical education – and socialisation came first, but the lecturer theme was also addressed in terms of the extra work required to adapt to the new teaching system. The most common worry theme that emerged during the data analysis was the teaching-learning process, followed by socialisation and students. The teaching-learning process worries concentrate around the poor practical classes and poor contact with patients and clinical cases. All of these barriers and worries have already been mentioned in previous research [9][10][11].

Online learning is not an effective teaching method for every student in every learning context, and a combined method – practical lessons would be taught in-situ while theoretical content would be delivered through online classes – appears a hopeful solution, which is in alignment with previous research [9]. It is also relevant to emphasize lecturers' additional availability to monitor their students more closely. Therefore, the results were aligned with the three-factor model for a successful higher education e-learning experience: interaction in a socially

collaborative environment, cognitive reflection and communication and the lecturer's role in defining meaningful learning outcomes [4].

Almost half of the participants disapproved of the decision to close higher education facilities, which are an important part of the process to improve teaching strategies and help lecturers deal with these pressing circumstances. Lecturers pointed out that training and institutional support might play a key role in improving Information Technology (IT) skills, as is already known [8][25]. Online platforms, material support for distance learning and even a possible reformulation of the study plan could have an important effect on lecturers' subjective well-being and, consequently, improve the learning process, as has been reported in previous research [4][11] and explored in previous paragraphs.

Although the obtained results were able to provide useful information, some limitations can be pointed out. This study was shared online and applied to a convenience sample, which could have limited its accessibility and not have reached most of the study population. Lecturers might not regularly visit the official websites used to share the study and might not read the kinds of e-mails that were sent out. Furthermore, the questionnaire was shared during exams season, a period associated with tiredness and that could have led to a smaller than expected number of answers. Another limitation is the observational nature of the study, which does not establish causal relationships between variables, but rather provides suggestions of causality through the associations found that can be further explored in future studies and experiments.

Further research could benefit from the topics addressed in the open-ended questions, improving their results with important items that were forgotten or not referred to despite their importance. These could provide a good starting point for additional quantitative studies to better characterize and understand how the teaching-learning process could be improved.

There is no perfect solution or decision, but close collaboration and communication between all those involved in teaching seems to be the best option. This extraordinary situation is an opportunity to increase teaching flexibility, and the opportunity to identify the best strategies and plan the most effective online-based learning environments should be seized. When the COVID-19 pandemic is over, the practical knowledge acquired from this situation might be used to improve teaching methodologies instead of simply returning to the traditional teaching-learning process.

Remote education, although far from perfect when used on its own, could be used as a complementary resource to expand the potential of both online and in-situ learning.



## LIST OF ABBREVIATIONS

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- CBI – Copenhagen Burnout Inventory
- CES – Health Ethics Committee
- CINTESIS – Centre for Research in Health Technologies and Services
- COVID-19 – Coronavirus Disease 2019
- DASS – Depression Anxiety Stress Scale
- ERT – Emergency Remote Teaching
- FMUP – Faculty of Medicine of the University of Porto
- ICD-11 – International Classification of Diseases
- ILO – International Labour Organization
- IQI – Inter Quartile Interval
- IT – Information Technology
- MAAS – Mindful Attention Awareness Scale
- SD – Standard Deviation
- SPSS – Statistical Package for the Social Sciences
- STROBE – Strengthening the Reporting of Observational Studies in Epidemiology
- SWLS – Satisfaction with Life Scale
- WHO – World Health Organization

## **ACKNOWLEDGEMENTS**

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We would like to thank the institutions and professional organizations that promoted the study on their internet platforms (Faculty of Medicine of University of Porto, FMUP and the Centre for Health Technology and Services Research, CINTESIS), and all the lecturers who participated in this study.

## **FINANCIAL SUPPORT AND SPONSORSHIP**

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None.

## **CONFLICTS OF INTEREST**

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The authors declare no potential competing interests with respect to the research, authorship, and/or publication of this article.

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**TABLES**


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**Table I** – Distribution of sociodemographic variables

Variables	n (%)
<b>Gender</b>	
Men	35 (68.6)
Women	16 (31.4)
<b>Marital Status</b>	
Single	6 (11.8)
Married/Civil Union	37 (72.5)
Divorced/Separated	8 (15.7)
<b>Children</b>	
No	11 (21.6)
≤ 12 years old	19 (37.3)
> 12 years old	21 (41.2)
<b>Academic qualifications</b>	
Bachelor's degree	9 (17.6)
Master's degree	7 (13.7)
Doctoral degree	34 (66.7)
Post-doctoral or aggregation	1 (2.0)
<b>Professional experience</b>	
≤ 5 years	7 (13.7)
6 to 15 years	11 (21.6)
> 15 years	33 (64.7)
<b>Previous experience with virtual learning</b>	
Yes	12 (23.5)
No	39 (76.5)
<b>Professional activity during state of emergency</b>	
Active at workplace	19 (37.3)
Active at telework	28 (54.9)
Layoff	2 (3.9)
Maternity/paternity license	1 (2.0)
Other	1 (2.0)
<b>Current mode of professional activity</b>	
Only at workplace	32 (62.7)
Only at telework	14 (27.5)
Partial telework	5 (9.8)
<b>Chronic diseases</b>	
Yes	11 (21.6)
No	40 (78.4)
<b>Household</b>	
Living alone	6 (11.8)
Not living alone	45 (88.2)

Variables	n (%)
<b>Living with people at risk of COVID-19</b>	
Yes	19 (37.3)
No	32 (62.7)
<b>Death of a relative or friend during the pandemic</b>	
Yes	6 (11.8)
No	45 (88.2)
<b>Asked for medical support</b>	
Yes (Family Medicine)	1 (2.0)
No	50 (98.0)
<b>Have taken a COVID-19 test</b>	
Yes	15 (29.4)
No, and no interest in taking one	28 (54.9)
No, but interested in taking one	8 (15.7)
<b>Sleep hours</b>	
< 6 hours	6 (11.8)
6 to 8 hours	43 (84.3)
> 8 hours	2 (3.9)
<b>Sleep routine changes</b>	
Yes (number of hours, bedtime and/or wake up time)	26 (51.0)
No	25 (49.0)
<b>Caregiver during pandemic</b>	
Of older people	4 (7.8)
Of dependent people	3 (5.9)
Total	7 (13.7)



**Table II** – Burnout, resilience, stress, anxiety and depression levels.

<b>Burnout (CBI)</b>	<b>n (%)</b>
<b>Personal</b>	
- High levels	21 (41.2)
- Not high levels	30 (58.8)
<b>Work-related</b>	
- High levels	19 (37.3)
- Not high levels	32 (62.7)
<b>Student-related</b>	
- High levels	8 (15.7)
- Not high levels	43 (84.3)
<b>Resilience</b>	<b>n (%)</b>
High	19 (37.3)
Moderate	25 (49.0)
Reduced	7 (13.7)
<b>Stress (DASS)</b>	<b>n (%)</b>
Normal	40 (78.4)
Mild	4 (7.8)
Moderate	6 (11.8)
Severe	0 (0.0)
Extremely severe	1 (2.0)
<b>Anxiety (DASS)</b>	<b>n (%)</b>
Normal	43 (84.3)
Mild	4 (7.8)
Moderate	3 (5.9)
Severe	0 (0.0)
Extremely severe	1 (2.0)
<b>Depression (DASS)</b>	<b>n (%)</b>
Normal	42 (82.4)
Mild	4 (7.8)
Moderate	3 (5.9)
Severe	1 (2.0)
Extremely severe	1 (2.0)

**Table III** – Regression unstandardized coefficients ( $\beta$ ) for CBI dimensions as outcomes and socio-demographic, professional and emotional variables as predictors in simple linear regression analysis models.

Variable	Personal burnout	Work-related burnout	Student-related burnout
	$\beta$ [95 % CI]		
<b>Gender</b>			
Men	Reference	Reference	Reference
Women	6.35 [-7.28; 20.0] <i>p</i> =0.354	2.03 [-9.51; 13.6] <i>p</i> =0.726	-5.86 [-16.9; 5.14] <i>p</i> =0.289
<b>Children</b>			
≤ 12 years old	Reference	Reference	Reference
No	-1.32 [-18.6; 15.97] <i>p</i> =0.879	0.12 [-14.4; 14.61] <i>p</i> =0.987	-7.08 [-21.0; 6.82] <i>p</i> =0.311
> 12 years old	-6.47 [-20.9; 7.97] <i>p</i> =0.372	-5.76 [-17.9; 6.36] <i>p</i> =0.344	-6.46 [-18.1; 5.15] <i>p</i> =0.269
<b>Professional experience</b>			
≤ 5 years	Reference	Reference	Reference
6 to 15 years	<b>30.8 [10.82; 50.8]</b> <i>p</i> =0.003	<b>22.59 [5.24; 39.9]</b> <i>p</i> =0.012	9.20 [-8.63; 27.0] <i>p</i> =0.305
> 15 years	10.2 [-6.98; 27.4] <i>p</i> =0.238	8.52 [-6.41; 23.5] <i>p</i> =0.257	5.66 [-9.68; 21.0] <i>p</i> =0.462
<b>Previous experience with virtual learning</b>			
No	Reference	Reference	Reference
Yes	-5.13 [-20.1; 9.84] <i>p</i> =0.494	-0.847 [-13.5; 11.8] <i>p</i> =0.893	-0.641 [-12.8; 11.5] <i>p</i> =0.916
<b>Satisfaction with life</b>	<b>-2.80 [-4.21; -1.39]</b> <i>p</i> <0.001	<b>-2.56 [-3.71; -1.41]</b> <i>p</i> <0.001	<b>-2.18 [-3.34; -1.02]</b> <i>p</i> <0.001
<b>Current mode of professional activity</b>			
Only at workplace	Reference	Reference	Reference
Only at telework	<b>-11.8 [-25.50; 1.95]</b> <i>p</i> =0.091	<b>-10.6 [-22.23; 1.05]</b> <i>p</i> =0.074	<b>-10.27 [-21.59; 1.05]</b> <i>p</i> =0.074
Partial telework	<b>17.6 [-2.97; 38.23]</b> <i>p</i> =0.092	<b>12.0 [-5.50; 29.43]</b> <i>p</i> =0.175	8.96 [-8.03; 25.95] <i>p</i> =0.294
<b>Chronic diseases</b>			
No	Reference	Reference	Reference
Yes	-5.64 [-21.1; 9.78] <i>p</i> =0.466	-5.55 [-18.5; 7.39] <i>p</i> =0.393	<b>-12.4 [-24.4; -0.044]</b> <i>p</i> =0.044
<b>Household</b>			
Living alone	Reference	Reference	Reference
Not living alone	-3.43 [-23.2; 16.3] <i>p</i> =0.729	-2.98 [-19.6; 13.6] <i>p</i> =0.721	-8.89 [-24.7; 6.94] <i>p</i> =0.264

Variable	Personal burnout	Work-related burnout	Student-related burnout
	$\beta$ [95 % CI]		
<b>Sleep hours</b>			
< 6 hours	Reference	<b>Reference</b>	Reference
6 to 8 hours	-7.49 [-27.3; 12.3] <i>p</i> =0.449	<b>-11.5 [-28.0; 4.98]</b> <b><i>p</i>=0.167</b>	-1.87 [-17.9; 14.1] <i>p</i> =0.815
> 8 hours	-22.22 [-59.2; 14.8] <i>p</i> =0.233	-16.7 [-47.6; 14.24] <i>p</i> =0.284	-18.06 [-48.0; 11.9] <i>p</i> =0.231
<b>Sleep routine changes</b>			
No	Reference	Reference	Reference
Yes	<b>14.1 [2.02; 26.2]</b> <b><i>p</i>=0.023</b>	<b>7.04 [-3.50; 17.6]</b> <b><i>p</i>=0.186</b>	<b>8.04 [-2.02; 18.1]</b> <b><i>p</i>=0.115</b>

Bold:  $p < 0.20$

**Table IV** – Regression unstandardized coefficients ( $\beta$ ) for CBI subscales as outcomes and socio-demographic, professional, and emotional variables as predictors from multiple linear regression models.

Variable	Personal burnout	Work-related burnout	Student-related burnout
	$\beta$ (95 % IC)		
<b>Satisfaction with life</b>	-3.13 [-4.42; -1.85] <i>p</i> <0.001	-2.76 [-3.87; -1.64] <i>p</i> <0.001	-2.38 [-3.49; -1.27] <i>p</i> <0.001
<b>Sleep routine changes</b>	Reference	Reference	Reference
No	17.76 [7.66; 27.85] <i>p</i> <0.001	10.24 [1.49; 18.98] <i>p</i> =0.023	10.81 [2.07; 19.55] <i>p</i> =0.016
Yes			
<b>R<sup>2</sup></b>	0.401	0.364	0.314
<b>F (<i>p</i>-value)</b>	16.1 ( <i>p</i> < 0.001)	13.7 ( <i>p</i> < 0.001)	11.0 ( <i>p</i> < 0.001)

**Table V** – Advantages and disadvantages of ERT: results of qualitative analysis.

Advantages	Disadvantages
<p><b>The class</b></p> <ul style="list-style-type: none"> <li>- time flexibility</li> <li>- opportunity for pedagogical innovation</li> <li>- diverse studying materials</li> <li>- invite guest lecturers</li> </ul>	<p><b>The class</b></p> <ul style="list-style-type: none"> <li>- difficult to motivate students to participate</li> <li>- webcams off</li> <li>- practical classes</li> </ul>
<p><b>The lecturer</b></p> <ul style="list-style-type: none"> <li>- time management</li> <li>- commute/travel savings</li> <li>- convenience</li> <li>- comfort (home)</li> </ul>	<p><b>The lecturer</b></p> <ul style="list-style-type: none"> <li>- extra work</li> <li>- adaptation to technology</li> </ul>
<p><b>Societal impact</b></p> <ul style="list-style-type: none"> <li>- contributes to controlling the pandemic</li> </ul>	<p><b>Socialisation</b></p> <ul style="list-style-type: none"> <li>- poor interactions between lecturers-students</li> </ul>
<p><b>The student</b></p> <ul style="list-style-type: none"> <li>- improves autonomy</li> <li>- improves responsibility</li> <li>- convenience</li> </ul>	
<p><b>Just to overcome the pandemic</b></p>	

**Table VI** – Worries, challenges and possible solutions for ERT: results of qualitative analysis.

Worries	Challenges	Solutions
<p><b>Teaching-learning system</b></p> <ul style="list-style-type: none"> <li>- poor practical classes</li> <li>- poor contact with patients</li> <li>- lack of clinical cases</li> <li>- students assessment</li> </ul>	<p><b>Teaching-learning system</b></p> <ul style="list-style-type: none"> <li>- re-invent practical classes (labs)</li> <li>- make contact with patients possible</li> <li>- enable real clinical cases</li> <li>- effective student learning</li> </ul>	<p><b>Teaching-learning system</b></p> <ul style="list-style-type: none"> <li>- combine practical and theoretical classes</li> <li>- blended learning</li> <li>- practical classes live and in-situ</li> <li>- theoretical classes online (asynchronous and/or synchronous)</li> <li>- active pedagogies</li> <li>- digitally-based study materials (focus on videos)</li> <li>- webcams on</li> </ul>
<p><b>The lecturer</b></p> <ul style="list-style-type: none"> <li>- risk of mental illness</li> </ul>	<p><b>The lecturer</b></p> <ul style="list-style-type: none"> <li>- keep mentally healthy</li> </ul>	<p><b>The lecturer</b></p> <ul style="list-style-type: none"> <li>- improve class design</li> <li>- improve study materials</li> <li>- close monitoring of students</li> <li>- add individual/group tutorial sessions</li> <li>- learn digital technologies for education</li> </ul>
<p><b>The student</b></p> <ul style="list-style-type: none"> <li>- demotivation</li> <li>- risk of mental illness</li> </ul>	<p><b>The student</b></p> <ul style="list-style-type: none"> <li>- motivate students</li> <li>- keep mentally healthy</li> </ul>	
<p><b>Socialisation</b></p> <ul style="list-style-type: none"> <li>- lack of human contact</li> <li>- dehumanisation</li> <li>- depersonalisation</li> </ul>		

# ANEXOS

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## **ANEXO I**

Checklist – *Reporting Guidelines* – STROBE Statement (cross-sectional studies)  
Estudos Observacionais Transversais

## **ANEXO II**

Parecer da Comissão de Ética para a Saúde (CES) do Centro Hospitalar de São João (CHSJ) / Faculdade de Medicina da Universidade do Porto (FMUP)

## **ANEXO III**

Normas de Publicação – Instruções para o Autor  
Revista HER – Health Education Research

# ANEXO I

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Checklist – *Reporting Guidelines*  
STROBE Statement (cross-sectional studies)  
Estudos Observacionais Transversais

Abril 2021  
Carla Maria Rodrigues Miguel



## STROBE Statement

Checklist of items that should be included in reports of *cross-sectional studies*

### TITLE AND ABSTRACT

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#### 1 (a) Indicate the study's design with a commonly used term in the title or the abstract – PAGE 2

“A cross-sectional, quantitative, qualitative and analytical study was conducted (...)” – Abstract

#### 1 (b) Provide in the abstract an informative and balanced summary of what was done and what was found – PAGE 2

“A cross-sectional, quantitative, qualitative and analytical study was conducted through an online questionnaire that collected participants' sociodemographic data, responses to open-ended questions regarding ERT and responses to mental health assessments using relevant instruments (CBI for burnout, the Resilience Scale, DASS for depression, anxiety and stress, and SWLS for satisfaction with life). Our findings indicated high personal burnout levels in 41.2% of participants, high work-related burnout in 37.3% and high student-related burnout in 15.7%. Satisfaction with life and sleep routine changes were determinants for all dimensions of burnout. Opportunities for pedagogical innovation were pointed out as the main advantages to ERT, while the main negative impacts were on practical lessons and social interaction. We conclude that ERT is not an effective teaching method for every student and learning context but combining the advantages of online and traditional learning methods in a so-called “blended learning” approach, with close collaboration and communication between all those involved, appears to achieve better results.”

### INTRODUCTION

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#### Background/rationale – 2: Explain the scientific background and rationale for the investigation being reported – PAGES 3, 4, 5 and 6

“Most countries around the world immediately closed all educational institutions, from kindergartens to universities, and halted face-to-face education. In Portugal, all activities involving in-person teaching were suspended on 16 March, a resolution that impacted the entire academic community [3]. Educational institutions were closed without time to draw up a planned shift from classic face-to-face teaching to online-based learning in an uncertain situation. Teachers were asked to quickly implement new teaching practices to promote student learning and, at the same time, maximize student safety [4]. Higher education was forced to make abrupt changes in a few days, fully transitioning curricula from face-to-face to distance education [3][5].”

“The novel pedagogical challenge presented by COVID-19 gave rise to the development of emergency remote teaching (ERT), a temporary shift from classic, face-to-face teaching to an alternative, online learning approach under high-pressure circumstances.”

“Lecturers require the ability to multitask in order to manage their professional careers, additional administrative work and their personal and social lives. Parallel to teaching, they must possess a wide range of skills and constantly keep themselves up to date and, adding research on top of this can increase stress and anxiety. When these stressors are persistent and not coupled with effective compensation mechanisms, they can lead to burnout [12][13][14].”

- No fundo, é toda a introdução, com exceção do último parágrafo.

### **Objectives – 3: State specific objectives, including any prespecified hypotheses – PAGE 6**

“This study aims to understand the impact of COVID-19 on lecturers from the Faculty of Medicine of the University of Porto (FMUP), a medical university in the northern region of Portugal. The goals of this study are to identify the factors that influence their susceptibility to the three dimensions of burnout and to explore lecturers’ perceptions of ERT during the pandemic crisis. It is hoped that these results might contribute towards improving the theoretical framework applied in the subsequent waves of this pandemic and helping this professional group.”

## **METHODS**

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### **Study design – 4: Present key elements of study design early in the paper – PAGE 7**

“A cross-sectional, quantitative, analytical and qualitative study was conducted and applied to all FMUP lecturers. The study protocol follows STROBE guidelines and was approved on 29 May 2020 by the Health Ethics Committee (CES) of the São João Hospital Centre/FMUP.”

### **Setting – 5: Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection – PAGE 7**

“An online questionnaire was created using Google Forms and disseminated on FMUP and the Centre for Research in Health Technologies and Services (CINTESIS)’s websites. Disclosure e-mails were also sent to all FMUP lecturers. The survey was applied to a convenience sample and made available between 19 June and 31 July 2020, encompassing exams season and the first weeks of student summer holidays. Participants were duly informed about the aims of the study, the anonymization of responses, the confidentiality of data and the mean duration time to complete the questionnaire, as well as the ability to give up at any time, and provided their free and informed consent.”

### **Participants – 6: (a) Give the eligibility criteria, and the sources and methods of selection of participants – PAGE 7**

“An online questionnaire was created using Google Forms and disseminated on FMUP and the Centre for Research in Health Technologies and Services (CINTESIS)’s websites. Disclosure e-mails were also sent to all FMUP lecturers. The survey was applied to a convenience sample”

### **Variables – 7: Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable – PAGES 7 and 8**

“The applied questionnaire included sociodemographic questions regarding gender, age, marital status, number and age of children. It also included questions regarding professional experience and educational qualifications, previous teaching experience in professional virtual learning, their professional situation during the pandemic and their current mode of work. Participants were asked about their chronic diseases, mental health medications and changes to their sleep routine (number of hours, bedtime and/or wake up time). This section was followed by five open-ended questions focusing on the advantages,

disadvantages, worries, challenges and solutions of ERT. Lecturers were also asked if they agreed with the closure of higher education facilities.

In addition to the sociodemographic section, the questionnaire contained the following instruments, with authorization from the original authors: Copenhagen Burnout Inventory (CBI) [30][31]; Resilience Scale [32][33]; Depression, Anxiety and Stress Scales (DASS) [34][35]; Satisfaction with Life Scale (SWLS) [36][37].”

**Data sources/ measurement – 8\*: For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group – PAGES 7, 8 and 9**

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In addition to the sociodemographic section, the questionnaire contained the following instruments, with authorization from the original authors: Copenhagen Burnout Inventory (CBI) [30][31]; Resilience Scale [32][33]; Depression, Anxiety and Stress Scales (DASS) [34][35]; Satisfaction with Life Scale (SWLS) [36][37].

The CBI [30], adapted and validated for the Portuguese population [31], consists of 19 items distributed across three subscales: personal burnout, composed of six items, assesses the experienced degree of physical, psychological and mental exhaustion; work-related burnout, consisting of seven items, analyses the perceived degree of physical and psychological fatigue and exhaustion while at work; and student-related burnout, consisting of six items, assesses the perceived degree of physical and psychological fatigue and exhaustion resulting from working with students. The three subscales were not presented sequentially to avoid patterns of stereotyped responses. All the items were scored on a 5-point Likert scale. The score obtained for each subscale was the average of all item scores within the subscale ranging from 0 to 100, and it was considered high-level burnout when  $\geq 50$  points [30][31]. The Cronbach's Alpha,  $\alpha$ , for the Portuguese version was 0.86 [31]. In this study, 0.935 was obtained for personal burnout, 0.878 for work-related burnout, and 0.830 for student-related burnout.

The Resilience Scale [32], translated and adapted for the Portuguese population [33], is composed of 25 items scored on a 7-point Likert scale, from “disagree” (1 point) to “strongly agree” (7 points). The theoretical variation ranges from 25 (low resilience) to 175 (high resilience). For the Portuguese version,  $\alpha$  was 0.89 [33] and the value obtained in this study was 0.941.

DASS [34] validated for the Portuguese population [35] consists of 21 items and is organized into three self-reported subscales to evaluate the negative emotional states of depression, anxiety and stress. Each subscale has 7 items on a 4-point Likert scale, from “did not apply to me at all” (0 points) to “applied to me very much or most of the time” (3 points). The recommended cut-offs for the conventional severity labels were used in each subscale. For the depression subscale, normal is from 0 to 4, mild is from 5 to 6, moderate from 7 to 10, severe from 11 to 13 and extremely severe from 14 to 21. For the anxiety subscale, normal is 0 to 3, mild is 4, moderate is from 5 to 7, severe is 8 and 9 and extremely severe from 10 to 21. For the stress subscale, normal is from 0 to 7, mild is 8 and 9, moderate is from 10 to 12, severe is from 13 to 16 and extremely severe from 17 to 21 [38]. In this study,  $\alpha$  was 0.896 for the stress subscale, 0.899 for the anxiety subscale and 0.917 for the depression subscale.

The SWLS [36], validated for the Portuguese population [37], aims to assess the cognitive component of subjective well-being. It consists of 5 items on a 5-point Likert scale. In the Portuguese version, this instrument ranges between 5 to 25 points, where a higher result indicates greater satisfaction with life. The Cronbach's Alpha for the Portuguese version was 0.77 [37] and 0.911 was obtained in this study.”

## **Bias – 9: Describe any efforts to address potential sources of bias – PAGE 7**

“Disclosure e-mails were also sent to all FMUP lecturers.”

## **Study size – 10: Explain how the study size was arrived at – PAGES 7 and 12**

“The survey was applied to a convenience sample and made available between 19 June and 31 July 2020 (...)” – O questionário esteve disponível online durante o período de tempo apresentado e todos os que responderam ao inquérito foram incluídos no estudo. Não foi realizado um cálculo à priori para o tamanho mínimo da amostra, mas com os dados obtidos foi efetuado um cálculo da potência para o modelo de regressão múltiplo, que se encontra nos resultados: “Given the sample size, the achieved power in the multiple regression was computed using G\*Power online software [41]. In the final multiple regression using 2 predictors, a sample of 51 participants, a significance level of 0.05 and an effect size of 0.20 (considered between medium and large [42]), the power obtained was 0.80.”

## **Quantitative variables – 11: Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why – PAGE 9**

“Categorical variables were described using absolute and relative frequencies. Quantitative variables for which normality was not rejected were described by the mean and respective standard deviation. Ordinal or continuous variables not normally distributed were described by the median and the inter-quartile interval, [IQI]. The variables’ normality was assessed by analysing the histograms and confirmed using the Kolmogorov-Smirnov test.”

## **Statistical methods – 12: (a) Describe all statistical methods, including those used to control for confounding – PAGES 9 and 10**

“For each outcome – personal burnout, work-related burnout and student-related burnout – a separate multiple linear regression analysis was performed. Simple linear regressions were conducted for each independent variable to choose the relevant ones or potential predictors of burnout levels. Only the variables correlated with the outcome at  $p < 0.20$  in the simple linear regression were included in each multiple linear regression analysis. Only the significant variables ( $p < 0.05$ ) were maintained in the final multivariate models for personal, work-related, and student-related burnout. Unstandardized coefficients ( $\beta$ ), 95% confidence intervals (95% CIs), and  $p$ -values were used to present the results of linear regressions. Models were evaluated using the F-statistic of the overall model test,  $p$ -values and coefficients of determination ( $R^2$ ). The assumptions of the linear regression models were verified using the following three conditions: 1) histograms were used to assess the normality of residuals; 2)  $T$ -tests were performed to verify zero mean of the residuals; and 3) plots of residuals *versus* the fitted predictive values were used to check homoscedasticity.

The internal consistency of each scale of the questionnaire in the study sample was assessed using Cronbach's Alpha,  $\alpha$ , and a value above 0.7 was considered acceptable [39]. In all tests performed,  $p$  values were considered significant if they were less than 0.05.”

## **Statistical methods – 12: (b) Describe any methods used to examine subgroups and interactions – X**

Não foram verificados. Não era o objetivo.

**Statistical methods – 12: (c) Explain how missing data were addressed – PAGE 7**

“Fifty-one participants completed the questionnaire, and no missing data was found.”

**Statistical methods – 12: (d) If applicable, describe analytical methods taking account of sampling strategy – X**

Não aplicável neste estudo.

**Statistical methods – 12: (e) Describe any sensitivity analyses – X**

Não aplicável neste estudo.

**RESULTS**

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**Participants – 13\*: (a) Report numbers of individuals at each stage of study – e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed – PAGE 11**

“A sample of 51 participants completed the questionnaire.”

**Participants – 13\*: (b) Give reasons for non-participation at each stage – X**

Não aplicável, incluímos todos os que responderam ao inquérito.

**Participants – 13\*: (c) Consider use of a flow diagram – X**

Não aplicável, incluímos todos os que responderam ao inquérito.

**Descriptive data – 14: (a) Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders – PAGES 26 and 27**

Table I - Distribution of sociodemographic variables

**Descriptive data – 14: (b) Indicate number of participants with missing data for each variable of interest – X**

Não aplicável, porque não há *missing* data.

**Outcome data – 15\*: Report numbers of outcome events or summary measures – PAGE 28**

Table II – Burnout, resilience, stress, anxiety and depression levels

**Main results – 16: a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included – PAGES 29, 30 and 31**

Table III – Regression coefficients for CBI dimensions as outcomes and socio-demographic, professional and emotional variables as predictors in simple linear regression analysis models.

Table IV – Regression coefficients for CBI subscales as outcomes and socio-demographic, professional and emotional variables as predictors from multiple linear regression models.

Não fizemos ajustes, não incluímos nenhuma variável que não fosse significativa.

**Main results – 16: b) Report category boundaries when continuous variables were categorized – PAGES 7, 8 and 9**

Remete-se para o ponto 8\* dos métodos – PAGES 7, 8 and 9

**Main results – 16: c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period**

Não aplicável.

**Other analyses – 17: Report other analyses done – e.g., analyses of subgroups and interactions, and sensitivity analyses**

Não aplicável.

## **DISCUSS**

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**Key results – 18: Summarise key results with reference to study objectives – PAGES 16 and 17**

“Our findings show high personal burnout levels in 41.2% of participants, high work-related burnout in 37.3% and high student-related burnout in 15.7%. These results were average, putting them into alignment with previous studies, such as one with 300 university lecturers, readers and professors in India [43] and another with 648 university academicians in Turkey [44]. The questionnaire was applied during exams season

and after the initial societal adaptation to the COVID-19 pandemic. The fact that participants had already had to adjust their parental, family and professional responsibilities to the new reality months ago may explain the average burnout levels found.

The results of the psychological assessment instruments show moderate resilience in 49.0% of the sample, high resilience in 37.3% and normal levels for anxiety (84.3%), depression (82.4%) and stress (78.4%) in most of the participants. These levels are lower than those found in other studies, such as one with 200 Libyan schoolteachers that found 44.5% for depression, 56% for anxiety and 39.5% for stress [45]. Another study with 2530 students and staff at a Spanish university found 35.18%, 48.10% and 40.32% for anxiety, depression and stress scores, respectively [46]. These results also support the need for close collaboration and communication between all those involved in teaching and learning, as they are all affected by these variables and can make a relevant contribution towards a more effective system. In addition, around 65% of participants had over 15 years of teaching experience and, as already mentioned, the initial adaptation to COVID-19 had already taken place, which may explain the enhanced ability to cope with anxiety and stress.

The effect of sociodemographic and psychological variables on the three dimensions of burnout were explored, and in the final multiple linear regression models, only satisfaction with life and sleep routine changes were significant for all of them. Evidence shows that sleep routine changes lead to fatigue, tiredness and exhaustion and can increase the risk of burnout [14][18][19]. In our study, this variable was presented in the three models, where lecturers with sleep routine changes scored, on average, 17.76 points higher in personal burnout levels, 10.81 points higher in student-related burnout and 10.24 points higher in work-related burnout levels than those without changes. However, there is a lack of quantitative evidence describing the relationship between burnout and sleep routine changes and further research could be done to better characterize this association. Satisfaction with life and subjective well-being are also known to play a mediating role in job burnout by reducing its levels [26][27], which our results support.

This study also sought to understand lecturers' opinions and suggestions regarding ERT. Considering the advantages, the most mentioned theme was the class itself having more flexibility and opportunity for pedagogical innovation, followed by comfort and convenience for the lecturer, student autonomy and responsibility (which is aligned with the literature [7][8][11]) and the societal impact of reducing the risk of COVID-19 in the current pandemic context. Regarding the disadvantages, the inability to hold practical classes – considered to be of major importance in medical education – and socialisation came first, but the lecturer theme was also addressed in terms of the extra work required to adapt to the new teaching system. The most common worry theme that emerged during the data analysis was the teaching-learning process, followed by socialisation and students. The teaching-learning process worries concentrate around the poor practical classes and poor contact with patients and clinical cases. All of these barriers and worries have already been mentioned in previous research [9][10][11].”

**Limitations – 19: Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias – PAGE 18**

“Although the obtained results were able to provide useful information, some limitations can be pointed out. This study was shared online and applied to a convenience sample, which could have limited its

accessibility and not have reached most of the study population. Lecturers might not regularly visit the official websites used to share the study and might not read the kinds of e-mails that were sent out. Furthermore, the questionnaire was shared during exams season, a period associated with tiredness and that could have led to a smaller than expected number of answers. Another limitation is the observational nature of the study, which does not establish causal relationships between variables, but rather provides suggestions of causality through the associations found that can be further explored in future studies and experiments.

Further research could benefit from the topics addressed in the open-ended questions, improving their results with important items that were forgotten or not referred to despite their importance. These could provide a good starting point for additional quantitative studies to better characterize and understand how the teaching-learning process could be improved.”

**Interpretation – 20: Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence – PAGES 16, 17, 18 and 19**

“The results of the psychological assessment instruments show moderate resilience in 49.0% of the sample, high resilience in 37.3% and normal levels for anxiety (84.3%), depression (82.4%) and stress (78.4%) in most of the participants. These levels are lower than those found in other studies, such as one with 200 Libyan schoolteachers that found 44.5% for depression, 56% for anxiety and 39.5% for stress [45]. Another study with 2530 students and staff at a Spanish university found 35.18%, 48.10% and 40.32% for anxiety, depression and stress scores, respectively [46].”

“Evidence shows that sleep routine changes lead to fatigue, tiredness and exhaustion and can increase the risk of burnout [14][18][19]. In our study, this variable was presented in the three models, where lecturers with sleep routine changes scored, on average, 17.76 points higher in personal burnout levels, 10.81 points higher in student-related burnout and 10.24 points higher in work-related burnout levels than those without changes.”

“This study also sought to understand lecturers’ opinions and suggestions regarding ERT. Considering the advantages, the most mentioned theme was the class itself having more flexibility and opportunity for pedagogical innovation, followed by comfort and convenience for the lecturer, student autonomy and responsibility (which is aligned with the literature [7][8][11]) and the societal impact of reducing the risk of COVID-19 in the current pandemic context. Regarding the disadvantages, the inability to hold practical classes – considered to be of major importance in medical education – and socialisation came first, but the lecturer theme was also addressed in terms of the extra work required to adapt to the new teaching system. The most common worry theme that emerged during the data analysis was the teaching-learning process, followed by socialisation and students. The teaching-learning process worries concentrate around the poor practical classes and poor contact with patients and clinical cases. All of these barriers and worries have already been mentioned in previous research [9][10][11].”

“Online learning is not an effective teaching method for every student in every learning context, and a combined method – practical lessons would be taught in-situ while theoretical content would be delivered through online classes – appears a hopeful solution, which is in alignment with previous research [9]. It is also



relevant to emphasize lecturers' additional availability to monitor their students more closely. Therefore, the results were aligned with the three-factor model for a successful higher education e-learning experience: interaction in a socially collaborative environment, cognitive reflection and communication and the lecturer's role in defining meaningful learning outcomes [4].”

“There is no perfect solution or decision, but close collaboration and communication between all those involved in teaching seems to be the best option. This extraordinary situation is an opportunity to increase teaching flexibility, and the opportunity to identify the best strategies and plan the most effective online-based learning environments should be seized. When the COVID-19 pandemic is over, the practical knowledge acquired from this situation might be used to improve teaching methodologies instead of simply returning to the traditional teaching-learning process. Remote education, although far from perfect when used on its own, could be used as a complementary resource to expand the potential of both online and in-situ learning.”

### **Generalisability – 21: Discuss the generalisability (external validity) of the study results – PAGE 18**

“Although the obtained results were able to provide useful information, some limitations can be pointed out. This study was shared online and applied to a convenience sample, which could have limited its accessibility and not have reached most of the study population. Lecturers might not regularly visit the official websites used to share the study and might not read the kinds of e-mails that were sent out. Furthermore, the questionnaire was shared during exams season, a period associated with tiredness and that could have led to a smaller than expected number of answers. Another limitation is the observational nature of the study, which does not establish causal relationships between variables, but rather provides suggestions of causality through the associations found that can be further explored in future studies and experiments.”

### **OTHER INFORMATION**

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#### **Funding – 22: Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based**

Não aplicável, trabalho sem financiamento.

## STROBE Statement

Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation	Page No
<b>Title and abstract</b>	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	2
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
<b>Introduction</b>			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3,4,5,6
Objectives	3	State specific objectives, including any prespecified hypotheses	6
<b>Methods</b>			
Study design	4	Present key elements of study design early in the paper	7
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	7
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	7
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7,8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	7,8,9
Bias	9	Describe any efforts to address potential sources of bias	7
Study size	10	Explain how the study size was arrived at	7,12
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	9,10
		(b) Describe any methods used to examine subgroups and interactions	X
		(c) Explain how missing data were addressed	7
		(d) If applicable, describe analytical methods taking account of sampling strategy	X
		(e) Describe any sensitivity analyses	X
<b>Results</b>			
Participants	13*	(a) Report numbers of individuals at each stage of study – eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	11

		(b) Give reasons for non-participation at each stage	X
		(c) Consider use of a flow diagram	X
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	26,27
		(b) Indicate number of participants with missing data for each variable of interest	X
Outcome data	15*	Report numbers of outcome events or summary measures	28
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included	29,30,31
		(b) Report category boundaries when continuous variables were categorized	7,8,9
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	X
Other analyses	17	Report other analyses done – eg analyses of subgroups and interactions, and sensitivity analyses	X
<b>Discussion</b>			
Key results	18	Summarise key results with reference to study objectives	16,17
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	18
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16,17,18,19
Generalisability	21	Discuss the generalisability (external validity) of the study results	18
<b>Other information</b>			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	X

\*Give information separately for exposed and unexposed groups.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).

# ANEXO II

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Parecer da Comissão de Ética para a Saúde (CES)  
do Centro Hospitalar de São João (CHSJ)/  
Faculdade de Medicina da Universidade do Porto (FMUP)

Abril 2021

Carla Maria Rodrigues Miguel

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Parecer da Comissão de Ética do

Centro Hospitalar Universitário de São João / Faculdade de Medicina da Universidade do Porto

**Título do Projeto:** Impacto da COVID-19: O papel da resiliência na saúde mental de docentes do ensino superior

**Nome das Investigadoras Principais:** Doutora Ivone Duarte e Doutora Carla Serrão

**Onde decorre o Estudo:** No Departamento de Medicina da Comunidade, Informação e Decisão em Saúde da FMUP.

**Objectivos do Estudo:**

Definidos de forma clara e a saber: Explorar o papel da resiliência, da atenção plena e da satisfação com a vida na relação entre as variáveis sociodemográficas e os sintomas de depressão, ansiedade e da síndrome de *burnout* de docentes do ensino superior; analisar a relação entre as variáveis, no sentido de verificar se a resiliência se constitui como fator protetor da depressão, ansiedade e da síndrome de *burnout* e, desta forma, traçar possíveis estratégias de intervenção com este grupo específico em termos de saúde mental.

**Conceção e Pertinência do estudo:**

De acordo com a literatura atual, a pandemia por COVID-19 teve um impacto dramático no mundo e na forma como as comunidades e as sociedades funcionavam. Na maioria dos países do mundo, registou-se o encerramento temporário das escolas e das Instituições do Ensino Superior e a cessação do ensino presencial. Assim, no caso do Ensino superior, houve necessidade de se transitar de um ensino presencial para o ensino à distância. O corpo docente, sem qualquer preparação cuidada teve de se adaptar ao teletrabalho e enfrentar desafios de falta de experiência de ensino através de plataformas online.

A resiliência tem sido considerada como fator de proteção ao nível da saúde mental e emocional, podendo reduzir a intensidade do stress e diminuir sinais emocionais negativos, como ansiedade, depressão ou raiva, para além de ajudar a enfrentar as adversidades.

O bem-estar e a saúde mental dos docentes são variáveis importantes para o desenvolvimento do papel profissional e para o sucesso do processo ensino aprendizagem, com repercussões diretas para os estudantes. Neste sentido, justifica-se a necessidade de compreender de que forma é que alguns fatores de proteção podem funcionar como amortecedores em momentos de elevada incerteza.

A metodologia do estudo e está explicitada: propõe-se a realização de um estudo quantitativo de natureza analítica, com recurso a um questionário *online* e integrará uma amostra recolhida por conveniência de docentes do ES, estando claros os procedimentos relativos à sua constituição.

De realçar a descrição particularizada do questionário que integra 8 secções compostas por diversos instrumentos, anexo, traduzidos e adaptados para a população portuguesa. Estão muito bem descritos os procedimentos para a divulgação do estudo.

**Benefício/risco:**

Não existem benefícios ou riscos imediatos para os participantes.

**Confidencialidade dos dados:**

A anonimização das respostas e a confidencialidade dos dados estão corretamente acautelados pela investigadora. Os dados recolhidos, armazenados em suporte digital protegido por palavra-pass acedido apenas pelos investigadores, serão utilizados para fins de investigação científica e mantidos por período previsível de 5 anos.

**Respeito pela liberdade e autonomia do sujeito de ensaio:**

Bem acautelados na página inicial do questionário, anexando o modelo de CI versão eletrónica

**Curriculum da investigadora:** Adequado à investigação.

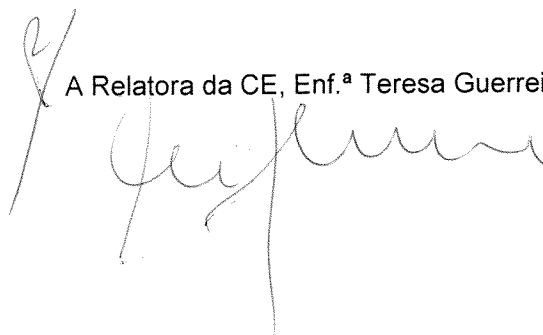
**Data previsível da conclusão do estudo:** junho de 2020

**Conclusão:**

Neste estudo estão observados os procedimentos éticos e princípios éticos da investigação, em todas as fases do estudo, pelo que proponho um parecer favorável à realização deste projeto de investigação.

Porto, 29 de maio de 2020

A Relatora da CE, Enf.<sup>a</sup> Teresa Guerreiro





## Questionário para submissão de Investigação

Exmo. Sr. Presidente da Comissão de Ética do Centro Hospitalar de São João/  
Faculdade de Medicina da Universidade do Porto,

Pretendo realizar a investigação infracitada, solicito a V. Exa., na qualidade de Investigador, a sua apreciação e a elaboração do respetivo parecer. Para o efeito, anexo toda a documentação requerida.

### IDENTIFICAÇÃO DO ESTUDO

Título da investigação: Impacto da COVID-19: o papel da resiliência na saúde mental de docentes do ensino superior

Nome do investigador: Ivone Duarte

Endereço eletrónico: iduarte@med.up.pt

Contacto telefónico: 966341087

Caracterização da investigação:

Estudo retrospectivo

Estudo observacional

Estudo prospetivo

Inquérito

Outro. Qual? \_\_\_\_\_

Tipo de investigação:

Com intervenção

Sem intervenção

Formação do investigador em boas práticas clínicas (GCP):  Sim  Não

Promotor (se aplicável): \_\_\_\_\_

Nome do orientador de dissertação/tese (se aplicável): \_\_\_\_\_

Endereço eletrónico: \_\_\_\_\_

Local/locais onde se realiza a investigação: questionario eletrónico

Data prevista para início: 29 / 05 / 20

Data prevista para o término: 26 / 06 / 20

### PROTOCOLO DO ESTUDO

Síntese dos objetivos:

Este estudo tem como objetivo explorar o papel da resiliência, da atenção plena e da satisfação com a vida na relação entre as variáveis sociodemográficas e os sintomas de depressão, ansiedade e da síndrome de burnout de docentes do ensino superior. Pretende-se analisar a relação entre as variáveis, no sentido de verificar se a resiliência se constitui como fator protetor da depressão, ansiedade e da síndrome de burnout e, desta forma, traçar possíveis estratégias de intervenção com este grupo específico em termos de saúde mental.

Fundamentação ética (ganhos em conhecimento/ inovação; ponderação benefícios/ riscos):

O bem\_estar e a saúde mental dos(as)docentes são variáveis importantes para o desenvolvimento do papel profissional e para o sucesso do processo ensino aprendizagem, com repercursões diretas para os(as)estudantes. Neste sentido, justifica-se a necessidade de compreender de que forma é que alguns fatores de protecção podem funcionar como amortecedores em momentos de elevada incerteza.

## CONFIDENCIALIDADE

De que forma é garantida a anonimização dos dados recolhidos de toda a informação?

O investigador necessita ter acesso a dados do processo clínico?  Sim  Não

Está previsto o registo de imagem ou som dos participantes?  Sim  Não

Se sim, está prevista a destruição deste registo após o sua utilização?  Sim  Não

## CONSENTIMENTO

O estudo implica recrutamento de:

Doentes:  Sim  Não      Voluntários saudáveis:  Sim  Não

Menores de 18 anos:  Sim  Não

Outras pessoas sem capacidade do exercício de autonomia:  Sim  Não

A investigação prevê a obtenção de Consentimento Informado:  Sim  Não

Se não, referir qual o fundamento para a isenção:

Existe informação escrita aos participantes:  Sim  Não

## PROPRIEDADE DOS DADOS

A investigação e os seus resultados são propriedade intelectual de:

Investigador     Promotor     Ambos     Serviço onde é realizado

Não aplicável    Outro: \_\_\_\_\_

## BENEFÍCIOS, RISCOS E CONTRAPARTIDAS PARA OS PARTICIPANTES

Benefícios previsíveis:

Os participantes não têm riscos ou benefícios imediatos, porém a análise dos dados pode resultar em sugestões para um melhor entendimento destas dimensões.

Riscos/incómodos previsíveis:

Não aplicável

São dadas contrapartidas aos participantes:

· pela participação  Sim  Não  Não aplicável

· pelas deslocações  Sim  Não  Não aplicável

· pelas faltas ao emprego  Sim  Não  Não aplicável

· por outras perdas e danos  Sim  Não  Não aplicável

## CUSTOS / PLANO FINANCEIRO

Os custos da investigação são suportados por:

Investigador     Promotor     Serviço onde é realizado

Não aplicável    Outro: \_\_\_\_\_

Existe protocolo financeiro?  Sim  Não



## LISTA DE DOCUMENTOS ANEXOS

- Pedido de autorização ao Presidente do Conselho de Administração do Centro Hospitalar de São João (se aplicável)
- Pedido de autorização à Diretora da Faculdade de Medicina da Universidade do Porto (se aplicável)
- Protocolo do estudo
- Declaração do Diretor de Serviço onde decorre o estudo  
(sendo um estudo na área de enfermagem deve anexar também a concordância da chefia de enfermagem)
- Profissional de ligação
- Informação dos orientadores
- Informação ao participante
- Modelo de consentimento
- Instrumentos a utilizar (inquéritos, questionários, escalas, p.ex.): \_\_\_\_\_
- Curriculum Vitae abreviado (máx. 3 páginas)
- Protocolo financeiro
- Outros:

## COMPROMISSO DE HONRA E DECLARAÇÃO DE INTERESSES

Declaro por minha honra que as informações prestadas neste questionário são verdadeiras. Mais declaro que, durante o estudo, serão respeitadas as recomendações constantes da Declaração de Helsínquia (1960 e respetivas emendas), e da Organização Mundial da Saúde, Convenção de Oviedo e das "Boas Práticas Clínicas" (GCP/ICH) no que se refere à experimentação que envolve seres humanos. Aceito, também, a recomendação da CES de que o recrutamento para este estudo se fará junto de doentes que não tenham participado em outro estudo, nos últimos três meses. Comprometo-me a entregar à CES o relatório final da investigação.

Porto, 20 de maio de 2020

Nome legível: Ivone Duarte

Assinado por: **IVONE MARIA RESENDE FIGUEIREDO DUARTE**

Num. de Identificação Civil: B1109698290

Data: 2020.05.20 16:52:08 +0100



CARTÃO DE CIDADÃO

Parecer da Comissão de Ética do Centro Hospitalar de São João/FMUP

Emitido na reunião plenária da CE de 27/05/2020

A Comissão de Ética para a Saúde  
APROVA por unanimidade o parecer do  
Relator, pelo que nada tem a opor à  
realização deste projecto de investigação.

Prof. Doutor Filipe Almeida  
Presidente da Comissão de Ética

# ANEXO III

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Normas de Publicação  
Instruções para o Autor

**Revista HER – Health Education Research**

Abril 2021  
Carla Maria Rodrigues Miguel

# Instructions to Authors

**NOTE: In response to the COVID-19 pandemic...**

*Health Education Research (HER)* is currently inviting authors to submit original research manuscripts for potential expedited publication (*no Point of View or Research Notes are being accepted at this time*). The global public health challenge before us will shape the future of public health. At *HER*, we believe we have a role to serve by making quality public health research available to fellow researchers and the general public. Oxford University Press is committed to this goal of fast-tracking manuscripts for publication and will make all research containing the world "coronavirus" free until at least late 2020.

Researchers with COVID-19 related manuscripts are invited to submit their work. Specifically, *HER* is looking for unique, timely manuscripts related to health education interventions, health communications, work with vulnerable communities, etc. If you have any questions please email the Editorial Office at [HER@gsu.edu](mailto:HER@gsu.edu).

## Publication Ethics and Editorial Policies

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The Journal is a member of the [Committee on Publication Ethics \(COPE\)](#) and follows COPE guidelines with respect to handling ethical issues, including misconduct and retractions.

Your submission should include a statement indicating that the research or intervention project was approved (or judged exempt) by an institutional review board. (In the manuscript, authors should cite methods employed for protection of participants, including informed consent and assurances of confidentiality or anonymity.) Please refer to the section titled Preparation of manuscripts for submission for additional information about the preferred format and style of manuscripts.

All manuscripts presenting data or evaluation results from human subjects should include a statement describing the review process

followed by the research or intervention project to safeguard the rights of human subjects.

Submission of a paper implies that it reports unpublished work and that it is not under consideration for publication elsewhere. If previously published tables, illustrations or more than 200 words of text are to be included, the copyright holder's permission must be obtained. Copies of any such permission letters should be submitted with the paper. A permission letter template may be [downloaded](#).

The highest editorial scientific standards are maintained throughout the journal. To this end, all papers are refereed by at least three authorities of acknowledged expertise in the paper's subject area.

## **Conflicts of Interest**

Health Education Research would not wish you or your co-authors to be embarrassed if any undeclared conflicts of interest were to emerge after publication. Potential conflicts of interest must therefore be disclosed to the Editor in the form of a statement in the covering letter/online submission form ([Download the conflict of interest form](#)). This statement will be published and/or shared with the reviewers at the Editor's discretion. Contributors should declare any commercial interests, such as directorships, share holdings, grants, fees, gifts or travel expenses received, by the individual author or their associated department/organization, from organizations whose service/product, or whose competitors' service/product, is a subject of discussion or evaluation in a scientific study, Editorial, Review or Letter. Any other connections, direct or indirect, that might raise the question of bias in the work reported or the conclusions, implications or opinions stated, including personal relationships or academic competition, must be declared. All sources of funding must be disclosed as an acknowledgement in the text.

## **Availability of Data and Materials**

Where ethically feasible, *Health Education Research* strongly encourages authors to make all data and software code on which the conclusions of the paper rely available to readers. We suggest that data be presented in the main manuscript or additional supporting

files, or deposited in a public repository whenever possible. For information on general repositories for all data types, and a list of recommended repositories by subject area, please see [Choosing where to archive your data](#).

## Data Citation

*Health Education Research* supports the [Force 11 Data Citation Principles](#) and requires that all publicly available datasets be fully referenced in the reference list with an accession number or unique identifier such as a digital object identifier (DOI). Data citations should include the minimum information recommended by [DataCite](#):

- [dataset]\* Authors, Year, Title, Publisher (repository or archive name), Identifier

\*The inclusion of the [dataset] tag at the beginning of the citation helps us to correctly identify and tag the citation. This tag will be removed from the citation published in the reference list.

## Preprint Policy

Authors retain the right to make an Author's Original Version (preprint) available through various channels, and this does not prevent submission to the journal. For further information see our [Online Licensing, Copyright and Permissions policies](#). If accepted, the authors are required to update the status of any preprint, including your published paper's DOI, as described on our [Author Self-Archiving policy page](#).

## Author Self-Archiving/Public Access Policy

For information about this journal's policy, please visit our [Author Self-Archiving policy page](#).

## CrossRef Funding Data Registry

In order to meet your funding requirements authors are required to name their funding sources, or state if there are none, during the

submission process. For further information on this process or to find out more about CHORUS, visit the [CHORUS initiative](#).

## Preparing Your Manuscript

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Please read these instructions carefully and follow them strictly. In this way you will help ensure that the review and publication of your paper is as efficient and quick as possible. The editors reserve the right to return manuscripts that are not in accordance with these instructions.

1. Papers must be clearly and concisely written in English. In the interest of speed, manuscripts are not extensively copy-edited, and authors are requested to check their texts carefully before submitting them. Papers should be intelligible to as wide an audience as possible; particular attention should be paid to the Introduction and Discussion sections, which should clearly draw attention to the novelty and significance of the data reported, and to the implications for future developments. Failure to do this may result in publication delays or rejection of the paper.
2. Prepare your manuscript, including tables, using a word processing program and save it as a .doc, .rtf or .ps file. All files in these formats will be converted to .pdf format upon submission.
3. Prepare your figures at publication quality resolution, using applications capable of generating high-resolution files (800 d.p.i. for line drawings and 300 d.p.i. for color and half-tone artwork). For useful information on preparing your figures for publication, go to the [Digital Art Support](#) webpage. Prepare any other files that are to be submitted for review, including any supplementary material. The permitted formats for these files are the same as for manuscripts and figures. Other file types, such as Microsoft Excel spreadsheets and PowerPoint presentations may be uploaded and will form part of the single PDF proof that is created for use in the peer review process. It is also possible to upload LaTeX files but these will not be automatically converted to .pdf format (and are therefore discouraged). The journal staff, editors and reviewers will only be able to view these unconverted files if they have the appropriate software, which cannot be guaranteed.

4. When naming your files, please use simple filenames and avoid special characters and spaces. If you are a Macintosh user, you must also type the three-letter extension at the end of the file name you choose (e.g. .doc, .rtf, .jpg, .gif, .tif, .ppt, .xls, .pdf, .eps, .mov).

5. The online submission software will automatically create a single PDF document containing your main text and reduced-resolution versions of any figures and tables you have submitted. This document will be used when your manuscript undergoes peer review. Your submitted files will appear in this PDF sequentially, as specified by you on the submission page, and you will have an opportunity to enter figure captions/legends and to check the PDF proof prior to final submission.

Manuscripts should be in their final form when they are submitted so that proofs require only correction of typographical errors.

If English is not your first language, you may consider using a language editing service. If you would like information about language editing services please visit our [Author Resources webpage](#). There are other specialist language editing companies that offer similar services and you can also use any of these. Authors are liable for all costs associated with such services. Language editing does not guarantee that your manuscript will be accepted for publication.

Research Papers may follow the standard research format, or they may present theoretical discussions and implications for health education research and practice. Review articles are also included in this category.

Data-based research articles, including review articles, should be divided into the following sections: Title page, Abstract, Introduction, Method, Results, Discussion, Acknowledgements, References, Tables, Legends to figures. Theoretical articles should follow the above basic structure but should replace the Method, Results and Discussion sections with appropriate headings. In both cases, authors who wish to write extensive Introduction and Discussion sections may use additional subheadings in these sections if this seems helpful. It is expected that qualitative research studies will provide concise details of the data generation and analytic processes used and will show how the validity and trustworthiness of findings were established.

Contributions that exceed 4000 words (for the main text, excluding the abstract, tables, figures and references) normally are not considered unless agreed in advance with the Managing Editor, but even then publication may be subject to delay. The length of papers which include a qualitative research study may be extended by a maximum of 1500 words to allow for the use of quotations. This does not require the prior agreement of the Editor.

Authors are asked to refer to participants in research as 'participants', 'respondents', 'individuals', or by a more specific word ('children', 'students', etc.), rather than as 'subjects'.

## General Format

All sections of the manuscript must be double-spaced (space between the lines of type not less than 6 mm). Margins of 25 mm (1 inch) should be left at the sides, top and bottom of each page. Number each page top right (Title page is 1). Please avoid footnotes; use instead, and as sparingly as possible, parentheses within brackets. Please check the final copy of your paper carefully as any errors will be faithfully translated into the typeset version.

*Title page* The title should be short, specific and informative, and should appear on a separate page. Serial titles are not accepted. The surname and initials of each author should be followed by his or her department, institution, city with postal code, and country. Any changes of address may be given in numbered footnotes. Please provide a running title of not more than 50 characters and include four to five key words or short phrases to assist us in the review process. Indicate the word count for the main text (excluding the abstract, tables, figures and references) at the bottom of the title page.

*Abstract* The second page of every manuscript must contain only the Abstract, which should be a single paragraph not exceeding 200 words. Please abide strictly by this limitation of length. The Abstract should be comprehensible to readers before they have read the paper, and abbreviations and reference citations should be avoided.



*Funding* Details of all funding sources for the work in question should be given in a separate section entitled 'Funding'. This should appear before the 'Acknowledgements' section. Please do not include funding details in the anonymized version as we are unable to send it to peer review if this information is visible.

The following rules should be followed:

- The sentence should begin: 'This work was supported by ...'
- The full official funding agency name should be given, i.e. 'the National Cancer Institute at the National Institutes of Health' or simply 'National Institutes of Health' not 'NCI' (one of the 27 subinstitutions) or 'NCI at NIH' ([full RIN-approved list of UK funding agencies](#))
- Grant numbers should be complete and accurate and provided in brackets as follows: '[grant number ABX CDXXXXXX]'
- Multiple grant numbers should be separated by a comma as follows: '[grant numbers ABX CDXXXXXX, EFX GHXXXXXX]'
- Agencies should be separated by a semi-colon (plus 'and' before the last funding agency)
- Where individuals need to be specified for certain sources of funding the following text should be added after the relevant agency or grant number 'to [author initials]'

An example is given here: 'This work was supported by the National Institutes of Health [AA123456 to C.S., BB765432 to M.H.]; and the Alcohol & Education Research Council [P50 CA098252 and CA118790 to R.B.S.R.]'

Oxford Journals will deposit all NIH-funded articles in PubMed Central. See our [Author Services](#) page for details. Authors must ensure that manuscripts are clearly indicated as NIH-funded using the guidelines above.

*Acknowledgements* These should be included on a separate page at the end of the text and not in footnotes. Please do not include references to specific institutions or funding agencies in the text of the manuscript. Personal acknowledgements should precede those of institutions or agencies. Please do not include acknowledgment

details in the anonymized version as we are unable to send it to peer review if this information is visible.

*References* Authors are responsible for the accuracy of the References. Published articles and those in press (state the journal which has accepted them) may be included. In the text references should be cited sequentially by number as 'Reports by Author [1] have confirmed...' or '...as reported earlier [1, 2-4]'. At the end of the manuscript the citations should be typed in numerical order, listing three authors et al. , with the authors' surnames and initials inverted. References should include, in the following order: authors' names, paper title, abbreviated journal title, year, volume number, inclusive page numbers, and name and address of publisher (for books only). References should therefore be listed as follows:

1. Roberts MM, French K, Duffy J. Breast cancer and breast self-examination: what do Scottish women know? *Soc Sci Med* 1984; 18 :791-797.
2. Fynn A. Cigarette advertising and health education: use and abuse of media. In: Leather DS, Hastings GB, Davies JK (eds). *Health Education and the Media*. Oxford: Pergamon Press, 1981, 129.
3. Bergler R. *Advertising and Cigarette Smoking: a Psychological Study*. Bern: Hans Huber, 1981.
4. Paul CL, Redman S, Sanson-Fisher RW. A cost-effective approach to the development of printed materials: a randomized controlled trial of three strategies. *Health Educ Res* May 20, 2004: 10.1093/her/cyg090.
5. Paul CL, Redman S, Sanson-Fisher RW. A cost-effective approach to the development of printed materials: a randomized controlled trial of three strategies. *Health Educ Res* 2004; 19 ;698-706. First published on May 20, 2004, 10.1093/her/cyg090.

Personal communications (J. Smith, personal communication) should be authorized by those involved in writing, and unpublished data should be cited as (unpublished data). Both should be used as sparingly as possible and only when the unpublished data referred to is peripheral rather than central to the discussion. References to manuscripts in preparation, or submitted, but not yet accepted,

should be cited in the text as (A.Smith and B.Jones, in preparation) and should NOT be included in the list of references.

*Tables* Tables should appear on separate pages and be numbered consecutively with Roman numerals. Tables should be self-explanatory and include a brief descriptive title. Footnotes to tables indicated by lower case letters are acceptable, but they should not include extensive experimental detail.

*Illustrations* All illustrations (line drawings and photographs) should be referred to in the text as Figure 1 etc., which should be abbreviated to 'Fig. 1' only in the figure legend. Please create your figures in software capable of generating high-resolution images (image resolution should be a minimum of 300 d.p.i.).

*Color figures* Beginning for all articles accepted after 15 May 2010, all figures submitted to the journal in color will be published in color online at no cost. Color figures must have a resolution of at least 300 dots per inch at their final sizes.

*Line drawings* No additional artwork, redrawing or typesetting will be done. Ideally, line drawings should be submitted in the desired final size to avoid reduction (maximum dimensions 192 x 149 mm including legends) and should fit either a single (72 mm) or a double column width (149 mm).

*Figure legends* These should be on a separate, numbered manuscript sheet. Define all symbols and abbreviations used in the figure. Common abbreviations and others in the preceding text should not be redefined in the legend.

## Submitting Your Manuscript

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Now that your files are ready, visit the [online submission web site](#).

1. First, you will need to log into the system. Note: Before you begin, you should be sure you are using an up-to-date version of Netscape or Internet Explorer. If you have an earlier version, you can download a free upgrade using the icons found at the bottom of the 'Instructions and Forms' section of the online submission web site.

- If you know your login details (i.e. you have submitted or reviewed a manuscript on this system before), use your User ID and Password to log on.
- If you do not know your login details, check to see if you are already registered by clicking on the 'Forgot your Password' button and following the on-screen instructions. If you are not already registered, you can register by clicking on the 'Create Account' button on the login screen and following the on-screen instructions.
- If you have trouble finding manuscripts or have other problems with your account do not create another account. Instead, please contact the [Journal's Editorial Office](#).

2. To submit a new manuscript, go to the 'Author Center', click on the button to 'Submit a Manuscript' and then follow the on-screen instructions. There are up to 7 steps for you to follow to submit your manuscript. You move from one step to the next by clicking on the 'Save and Continue' button on each screen or back to the previous screen by clicking on the 'Previous' button. Please note that if you click on the 'Back' or 'Forward' button on your browser, the information you have entered will not be saved. At any stage you can stop the submission process by clicking on the 'Main Menu' button. Everything you have typed into the system will be saved, and the partially completed submission will appear under 'unsubmitted manuscripts' in your 'Author Center'. To return to the submission process you will need to click on the button 'Continue Submission' against the relevant manuscript title.

3. When submitting your manuscript, please enter your manuscript data into the relevant fields, following the detailed instructions given at the top of each page. You may like to have the original word processing file available so that you can copy and paste the title and abstract into the required fields. You will also be required to provide email addresses for your co-authors, so please have these on hand when you log onto the site.

4. When you come to upload your manuscript files via the 'File Upload' screen:

- Enter individual files using the 'Browse' buttons below and select the appropriate 'File content' type.

- Select the document's designation from the pull-down menu. The designation choices may vary from journal to journal, but will always include 'Main Document' (your manuscript text). If you do not wish a document to be included as part of the consolidated PDF used for peer review, please designate it as a 'supplementary file'.
- Upload your files by clicking on the 'Upload files' button. This converts your files to a PDF and may take several minutes. Repeat these steps until you have uploaded all your files.
- When the upload of each file is completed, you will see a confirmation window and will be prompted to provide figure legends and 'file tags' that will link figures to texts in the HTML proof of your main document.
- Once you have uploaded all files, indicate the order in which they should appear in your paper. This will determine the order in which they appear in the consolidated PDF used for peer review.
- After the successful upload of your text and images, you will need to view and proof your manuscript. Please do this by clicking on the blue HTML button or a PDF button.
- If the files have not been uploaded to your satisfaction, go back to the file upload screen where you can remove the files you do not want, and repeat the upload process.

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Abril 2021

Carla Maria Rodrigues Miguel

# APÊNDICE I

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## **Protocolo de Estudo**

Impacto da COVID-19: o papel da resiliência  
na saúde mental de docentes do ensino superior

Abril 2021

Carla Maria Rodrigues Miguel

**Título do estudo:** Impacto da COVID-19: o papel da resiliência na saúde mental de docentes do ensino superior

**Investigadoras Principais:** Ivone Duarte; Carla Serrão

**Grupo de trabalho:** Ana Rita Rodrigues, Andreia Teixeira, Luísa Castro e Carla Miguel

### **Contextualização do pedido**

A pandemia por COVID-19, a 20 de maio de 2020 tinha atingido 215 países, áreas ou territórios e registava mais de 312 mil óbitos (WHO, 2020).

Esta crise teve um impacto dramático no mundo e na forma como as comunidades e as sociedades funcionavam (Marshall & Wolanskyj-Spinner, 2020), em sequência das estratégias de confinamento obrigatório e isolamento social decretadas pelos países como medidas para a contenção da propagação da COVID-19 (DGS, 2020).

Na maioria dos países do mundo, registou-se o encerramento temporário das escolas e das Instituições de Ensino Superior (IES) e a cessação do ensino presencial. Este encerramento teve um impacto profundo em toda a comunidade

Particularizando os efeitos ao nível do ensino superior, salienta-se a necessidade de em poucos dias se terem de introduzir alterações substanciais, transitando-se os currículos, parcial ou totalmente, de um ensino de cariz presencial para o ensino à distância.

O corpo docente teve, sem que tivesse havido tempo para uma preparação cuidada, que se adaptar ao teletrabalho e enfrentar desafios como a falta de experiência de ensino através de plataformas online, a ausência de preparação antecipada de materiais áudio ou vídeo adequados à modalidade virtual, a ausência de apoio de equipas de tecnologia educacional, dificuldades de acesso à internet e restrições nos meios materiais disponíveis, como computadores, são apenas alguns exemplos (Daniel, 2020).

Além dos aspetos instrumentais associados ao processo ensino aprendizagem, é de salientar que enfrentar uma situação extraordinária de emergência de saúde pública, leva as pessoas a estarem mais vulneráveis a vários problemas psicológicos e mentais, nomeadamente depressão e ansiedade (Bhat et al., 2020; Xiao, 2020).

A falta de referências a crises semelhantes no passado faz com que o seja difícil de

antecipar o impacto a curto e a médio prazo destas mudanças, no corpo docente e na comunidade estudantil. Mesmo assim, sabe-se mais sobre os fatores (de risco) que predizem problemas ao nível da saúde mental do que sobre os fatores protetores e processos que promovem o desenvolvimento positivo de indivíduos expostos a níveis atípicos de stresse ou de adversidade, como a atual situação. Neste sentido, é de capital importância identificar formas individualizadas e recursos pessoais para lidar com esta situação pandémica, nomeadamente as competências de resiliência, pois estes recursos podem funcionar como um fator para a diminuição das dificuldades de saúde mental em circunstâncias particularmente stressantes (Sehmi et al., 2019).

A capacidade de adaptação positiva manifestada em face de experiências negativas (Masten & Gewirtz, 2008) denomina-se de resiliência. Esta resulta das crenças do indivíduo, podendo conduzi-lo à adaptação saudável diante dos mais diversos desafios (Rodrigues et al., 2013). A resiliência, conceito dinâmico e multifacetado, que se desenvolve através da interação de recursos pessoais e contextuais (Beltman & Mansfield, 2018; Gu, 2018; Wosnitza & Peixoto, 2018), enquanto capacidade de resistir ao stresse e de crescer psicologicamente na adversidade (Connor & Davidson, 2003) pode ser útil em contextos académicos. Na docência especificamente, a resiliência envolve a capacidade de navegar nos desafios do quotidiano (Gu & Day, 2013) recorrendo aos recursos disponíveis para enfrentar situações de adversidade (Beltman, 2015), provendo assim a adaptação positiva e o comprometimento, o entusiasmo e o bem-estar (Mansfield, Beltman, Broadley, & Weatherby-Fell, 2016). Estes recursos poderão ser de cariz individual, por exemplo, a auto-eficácia do/a docente ou, por sua vez, ambientais, através do apoio de colegas, por exemplo (Beltman, 2015). A adaptação positiva, que surge desta interação entre fatores individuais e contextuais, pode apresentar-se sob a forma de níveis mais elevados de bem-estar e satisfação no trabalho, bem como níveis mais baixos de burnout (Beltman, 2015).

Os recursos e riscos individuais são frequentemente examinados num esforço para compreender os fatores maximizam a resiliência e protegem os/as docentes do burnout, incluindo anos de experiência, características individuais e traços de personalidade.

Num estudo recente do Reino Unido, verificou-se que a autoestima, a inteligência emocional e a orientação para a vida estavam significativamente correlacionadas com a satisfação no trabalho, o esgotamento e o bem-estar (Ainsworth & Oldfield, 2019).

Indivíduos com elevado traço de resiliência apresentam uma recuperação emocional e

psicológica mais rápida ao stresse, diminuindo o risco de desenvolvimento de perturbações mentais após acontecimentos de vida adversos e a uma manifestação menor de sintomas de depressão, ansiedade, raiva, impulsividade e abuso de substâncias (Carvalho et al., 2016; Schäfer et al., 2015).

A resiliência tem sido considerada como um fator de proteção ao nível da saúde mental e emocional, podendo reduzir a intensidade do stresse e diminuir sinais emocionais negativos, como ansiedade, depressão ou raiva, para além de ajudar a enfrentar as adversidades (Melillo & Ojeda, 2005).

O bem-estar e a saúde mental dos/as docentes são variáveis importantes para o desenvolvimento do papel profissional e para o sucesso do processo ensino aprendizagem, com repercussões diretas para os/as estudantes. Neste sentido, justifica-se a necessidade de compreender de que forma é que alguns fatores de proteção podem funcionar como amortecedores em momentos de elevada incerteza.

Neste sentido, este estudo tem como objetivo explorar o papel da resiliência, da atenção plena e da satisfação com a vida na relação entre as variáveis sociodemográficas e os sintomas de depressão, ansiedade e da síndrome de *burnout* de docentes do ensino superior.

Além disso, pretende-se analisar a relação entre estas variáveis, no sentido de verificar se a resiliência se constitui como fator protetor da depressão, ansiedade e da síndrome de *burnout* e, desta forma, traçar possíveis estratégias de intervenção com este grupo específico em termos de saúde mental.

## **Método**

Trata-se de um estudo transversal, quantitativo, de natureza analítica. O presente estudo consiste na aplicação de um questionário *online* e integrará uma amostra recolhida por conveniência de docentes do ensino superior. O Protocolo está de acordo com *Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)*. Os participantes terão de fornecer o seu consentimento livre e informado, no próprio questionário *online*. O estudo iniciar-se-á após parecer positivo da Comissão de Ética da Faculdade de Medicina da Universidade do Porto. O estudo será conduzido de acordo com os princípios éticos consignados na Declaração de Helsínquia (2013) e a Convenção para a Proteção dos Direitos Humanos e da Dignidade do Ser Humano Face às aplicações da Biologia e da Medicina (2001).

### *Tamanho da amostra e participantes*

Nunnally afirma que em estudos com escalas, o tamanho amostral deve ser, no mínimo, 300 (Nunnally, 1978). Hill afirma que o tamanho amostral mínimo deve ser  $N = 5k$  quando o investigador pretende analisar  $k$  variáveis ( $k > 15$ ) e  $N = 10k$  quando  $k < 15$  (Hill & Hill, 2008). De acordo com Hill, o tamanho amostral mínimo para cada uma das escalas utilizadas neste estudo seria: CBI – 95; Resiliência – 125; DASS – 105; MAAS – 75; SWLS – 50. De forma a cumprir com as convenções destes dois autores, e considerando a possível ocorrência de questionários inválidos, neste estudo, será recolhida uma amostra mínima de 450 indivíduos. Este tamanho amostral será também suficiente para uma análise de regressão linear múltipla considerando um tamanho do efeito de 0.05 (efeito pequeno segundo (Cohen, 1988)), um poder de 80%, um nível de significância de 0.05 e vários preditores (Soper, 2019).

Será recolhida uma amostra de conveniência de pelo menos 450 docentes pertencentes a diferentes IES portuguesas. Todos/as os/as participantes darão o seu consentimento informado, via online, no início do preenchimento do questionário (Anexo1).

### *Instrumentos*

O questionário (Anexo 2) é constituído por oito secções. Na secção I serão recolhidos dados para a caracterização sociodemográfica (sexo, idade, estado civil, profissão, entre outros). As restantes secções são compostas pelos seguintes instrumentos:

*Copenhagen Burnout Inventory* – CBI (Kristensen, et al., 2005; traduzido e adaptado para a população portuguesa por Fonte, 2011). O CBI é constituído por 19 itens, distribuídos por três escalas: o *burnout* pessoal, composto por seis itens, avalia o grau de exaustão física, psicológica e de exaustão experienciada pela pessoa (Secção II); o *burnout* relacionado com o trabalho, constituído por sete itens analisa o grau de fadiga física e psicológica e a exaustão que é percebida pela pessoa em relação ao seu trabalho (Secção IV); e o *burnout* relacionado com o estudante, composto por seis itens, avalia o grau de fadiga física e psicológica e de exaustão que é percebido pela pessoa em relação ao trabalho efetuado com este grupo (Secção VI). Seguindo a indicação de Fonte (2011), as três subescalas não são apresentadas sequencialmente, de forma a evitar padrões de respostas estereotipadas. Na escala *burnout* pessoal, a pontuação atribuída é a seguinte: Sempre – 100; Frequentemente – 75; Às vezes – 50; Raramente – 25; Nunca/quase nunca – 0. A pontuação total da escala é a média dos scores dos itens. Se forem respondidas



menos de três questões, o questionário é classificado como não respondido. Considera-se como um elevado nível de *burnout* aos valores iguais ou superiores a cinquenta pontos. Na escala *burnout* relacionado com o trabalho, os primeiros três itens a pontuação é a seguinte: Muito – 100; Bastante – 75; Assim, assim – 50; Pouco – 25; Muito pouco – 0. Nas últimas quatro questões a pontuação é: Sempre – 100; Frequentemente – 75; Às vezes – 50; Raramente – 25; Nunca/quase nunca – 0. Na última questão os scores são invertidos e a pontuação é de: Nunca/quase nunca – 100; Raramente – 75; Às vezes – 50; Frequentemente – 25; Sempre – 0. A pontuação total da escala é a média dos scores dos itens. Se forem respondidas menos de três questões, o questionário é classificado como não respondido. Considera-se como um elevado nível de *burnout* aos valores iguais ou superiores a cinquenta pontos. Na escala *burnout* relacionado com utente/cliente, nos primeiros quatro itens a pontuação varia entre: Muito – 100; Bastante – 75; Assim, assim – 50; Pouco – 25; Muito pouco – 0. Já nas últimas duas questões, a pontuação é a seguinte: Sempre – 100; Frequentemente – 75; Às vezes – 50; Raramente – 25; Nunca/quase nunca – 0. A pontuação total da escala é a média dos scores dos itens. Se forem respondidas menos de três questões, o questionário é classificado como não respondido. Considera-se como um elevado nível de *burnout* aos valores iguais ou superiores a cinquenta pontos. Uma vez que o CBI pode ser utilizado em diferentes contextos profissionais, Fonte (2011) indica que o termo “cliente” pode ser adaptado ao contexto do estudo. Por exemplo, num questionário destinado a enfermeiros o termo “cliente”, o termo mais apropriado será utente ou doente; num questionário destinado a professores o termo a empregar será estudante.

Os valores de Alfa de Cronbach obtidos na versão portuguesa foram de .84 (*burnout* pessoal), .86 (*burnout* relacionado com o trabalho) e .84 (*burnout* relacionado com o utente).

*Escala de Resiliência* (Wagnild & Young, 1993; tradução e adaptação de Oliveira & Machado, 2011). É um instrumento composto por 25 itens. Cada item é afirmação à qual o inquirido tem de atribuir um nível de concordância, através de uma escala tipo Likert de 7 pontos (sendo 1 - “discordo totalmente”, 4 - “não concordo nem discordo” e 7 - “concordo totalmente”). A pontuação total da escala pode variar entre 25 e 175, sendo que: um resultado abaixo dos 121 é considerado como indicativo de “reduzida resiliência”; um resultado entre 121 e 145 é considerado como “resiliência moderada”, e acima dos 145 é considerado “resiliência elevada”. No estudo original de Wagnild e Young

(1993) foram encontrados dois fatores principais: Fator 1 - Competência pessoal e Fator 2 - Aceitação de si próprio e da vida.

No estudo de tradução e validação da Escala de Resiliência realizada por Oliveira e Machado (2011), com uma amostra de estudantes do Ensino Superior, o instrumento apresentou boa consistência interna (Alpha de Cronbach: .89). A análise fatorial exploratória sugeriu uma estrutura de 5 fatores (diferente da estrutura encontrada pelos autores originais da escala) que explica 52,5% da variância total. As autoras propuseram a seguinte designação para cada um dos fatores: Fator 1- Competência pessoal, ou seja, a crença que o sujeito terá em si próprio enquanto percepção positiva (itens: 8, 9, 10, 16, 17, 21, 23, 24 e 25); Alpha de Cronbach: .86; Fator 2 - Autodisciplina, isto é, a percepção de autodisciplina, referindo-se à análise que o sujeito fará da sua capacidade de se auto-organizar na resolução de tarefas (itens: 1, 4, 6, 7, 14 e 15); Alpha de Cronbach: .78; Fator 3- Autonomia, avalia uma dimensão mais autónoma do indivíduo, traduzida na capacidade para resolver as coisas, sozinho (itens: 2, 3, 5 e 13); Alpha de Cronbach: .64; Fator 4 - Resolução de problemas, avalia a capacidade de resolução de problemas, focando a forma como o sujeito enfrentará as situações (itens: 18, 19 e 20); Alpha de Cronbach: .59; e Fator 5 - Otimismo, que se relaciona com a avaliação de uma percepção mais positiva da vida, sem excesso de preocupações (itens: 11, 12 e 22); Alpha de Cronbach: .48. A escala de Resiliência constitui a Secção III do questionário.

*Depression Anxiety Stress Scale - DASS* (Lovibond & Lovibond, 1995; adaptação de Pais-Ribeiro, Honrado, & Leal, 2004). A DASS é constituída por 21 itens e organiza-se em três subescalas: depressão, ansiedade e stresse, sendo que cada subescala é constituída por 7 itens. Lovibond e Lovibond (1995), assumem que as perturbações psicológicas são dimensionais e não categoriais, isto é, que as diferenças entre depressão, ansiedade e stresse experimentados pelos sujeitos são essencialmente diferenças de grau: a depressão é caracterizada principalmente pela perda de autoestima e de motivação e está associada à percepção de baixa probabilidade de alcançar objetivos de vida que sejam significativos para o indivíduo enquanto pessoa; a ansiedade salienta as ligações entre os estados persistentes de ansiedade e respostas intensas de medo; o stresse sugere estados de excitação e tensão persistentes, com baixo nível de resistência à frustração e desilusão. Cada um dos 21 itens consiste numa frase que remete para sintomas emocionais negativos. Os sujeitos avaliam a extensão em que experimentaram cada sintoma durante a última semana, numa escala de 4 pontos de gravidade ou frequência: 0 - "não se aplicou

nada a mim”, 1- “aplicou-se a mim algumas vezes”, 2- “aplicou-se a mim muitas vezes” e 3- “aplicou-se a mim a maior a parte das vezes”. Os resultados de cada subescala são determinados pela soma das pontuações dos sete itens. A escala fornece três notas referentes à pontuação final de cada subescala, que variam entre 0 e 21 pontos. As pontuações mais elevadas de cada subescala correspondem a estados afetivos mais negativos.

A consistência interna, avaliada através do Alfa de Cronbach, da escala DAAS na versão portuguesa, foi de .85 para a subescala de depressão, de .74 para a subescala de ansiedade e de .81 para a subescala de stresse. Esta escala constitui a Secção V do questionário.

*Mindful Attention Awareness Scale* - MAAS (Brown & Ryan, 2003; adaptada por Gregório & Pinto-Gouveia, 2013). A MAAS é uma medida de autorelato, destinada a avaliar o traço de mindfulness, especificamente a abertura e a atenção recetiva ao momento presente. É constituída por um total de 15 itens (tendo uma estrutura unidimensional), avaliados numa escala de Likert de 6 pontos, que varia entre 1 (“quase sempre”) e 6 (“quase nunca”). Pontuações mais altas refletem um menor traço de mindfulness, uma vez que os itens são cotados de forma inversa. A versão original da presente escala (alfa = .87), assim como a versão portuguesa (alfa = .90) revelaram valores indicativos de uma boa consistência interna. Simultaneamente, as correlações item-total revelaram valores adequados (acima de .42), confirmando a adequação dos itens à medida e sua consistência interna (Gregório & Pinto-Gouveia, 2013) (Secção VII).

*Satisfaction with life scale* - SWLS (Diener, Emmons, Larsen & Griffin, 1984; Traduzida e adaptada por Neto et al, 1990; revalidada por Simões, 1992). Esta escala visa avaliar a componente cognitiva do bem-estar subjetivo. É um instrumento constituído por 5 itens. Cada item é afirmação à qual o inquirido tem de atribuir um nível de concordância, através de uma escala tipo Likert de 7 pontos (sendo 1 - “discordo muito” e 7 - “concordo muito”). A escala foi adaptada para a população portuguesa, pela primeira vez por Neto et al. (1990), apresentando um valor de Alpha de Cronbach de .78. Simões (1992) repetiu a validação da escala, reduzindo a amplitude de resposta de sete para cinco pontos, obtendo um valor de Alpha de Cronbach de .77. Assinale-se que este investigador modificou a escala de resposta tipo Likert de 7 pontos para 5 pontos (sendo: 1 - “discordo muito” e 5 - “concordo muito”). O resultado da escala é determinado pela soma das pontuações dos cinco itens, variando assim de 5 a 25 pontos. Pontuações elevadas sugerem uma maior satisfação com a vida (Simões, 1992). Foi esta a versão utilizada no

presente estudo, constituindo a última secção (Secção VIII) do questionário.

### *Procedimentos*

Foi solicitada autorização aos autores originais para a utilização dos questionários. O questionário (Anexo 2) foi desenvolvido e disponibilizado através da plataforma Google, depois do parecer favorável da Comissão de Ética da Faculdade de Medicina da Universidade do Porto. Os indivíduos serão devidamente informados na página inicial do questionário sobre os objetivos do estudo, a anonimização das respostas, a confidencialidade dos dados, a duração média para o preenchimento do questionário. Assim como da possibilidade de desistir a qualquer momento (Anexo1).

Para a divulgação do estudo, serão partilhados links do questionário em diversos ambientes virtuais, nomeadamente: os *websites* da Faculdade de Medicina da Universidade do Porto e da Escola Superior de Educação do Instituto Politécnico do Porto, do Centro de Investigação em Tecnologias e Serviços de Saúde (CINTESIS), da Ordem dos Psicólogos Portugueses, entre outras.

### *Análise de dados*

Os dados serão exportados do Google Forms numa tabela do Microsoft Excel 2016® e a análise será efetuada no Microsoft Excel 2016® e no SPSS v.26 ®.

Variáveis categóricas serão descritas pelas frequências absolutas e relativas. Variáveis contínuas normalmente distribuídas serão descritas pela média e respetivo desvio-padrão. Variáveis ordinais ou contínuas não normalmente distribuídas serão descritas pela mediana e respetivo intervalo inter-quartil. A normalidade das variáveis será averiguada por observação dos respetivos histogramas.

Para averiguar diferenças de variáveis contínuas entre duas amostras independentes serão utilizados: testes t, no caso de as variáveis serem normalmente distribuídas ou testes de Mann-Whitney caso não o sejam. Estes testes serão completados com os cálculos das respetivas medidas de efeito: testes t - coeficiente d de Cohen; teste de Mann-Whitney - razão entre a estatística de teste padronizada e a raiz quadrada do número total de indivíduos. Medidas de efeito de .20 são consideradas pequenas ou modestas, de .50 são consideradas moderadas e de .80 importantes (Cohen, 1992).

De modo a estudar a associação entre as diversas variáveis do estudo (resiliência, ansiedade, depressão, stresse, atenção plena, satisfação com a vida e síndrome de

*burnout*) e entre estas dimensões e algumas variáveis sociodemográficas e contextuais, serão calculados os coeficientes de correlação de: coeficiente de Pearson ou de Spearman, de acordo com a natureza das variáveis. Estes coeficientes de correlação serão interpretados em termos do tamanho do efeito, de acordo com as convenções de Cohen (1992): coeficiente de .10 são considerados pequenos (associação fraca), coeficiente de .30 são considerados médios (associação moderada) e coeficiente de .50 são considerados grandes (associação forte).

A consistência interna de cada uma das subescalas do questionário será avaliada através do Alpha de Cronbach.

Em todos os testes realizados, valores de  $p$  inferiores a .05 serão considerados significativos.

### ***Resultados esperados***

Com este estudo espera-se que maiores níveis de resiliência se venham a refletir em menores níveis de ansiedade e depressão, assim como a uma menor probabilidade de desenvolvimento de síndrome burnout neste grupo de profissionais. Paralelamente, esperamos que a resiliência constitua um fator de proteção ao burnout de docentes e a partir deste resultado seja possível traçar linhas de intervenção neste domínio.

### ***Limites de investigação***

As limitações do estudo relacionam-se com as dificuldades próprias de um questionário eletrónico na garantia das respostas pelo público-alvo; e da não garantia de distribuição homogénea de respondentes dentro dos diferentes contextos (ensino superior politécnico e universitário; IES públicas e privadas, por exemplo).

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# APÊNDICE II

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## **Questionário Online do Estudo**

Impacto da COVID-19: o papel da resiliência  
na saúde mental de docentes do ensino superior

**Parte I** – Consentimento informado, livre e esclarecido  
**Parte II** – Protocolo de avaliação (questionário)

Abril 2021

Carla Maria Rodrigues Miguel

**PARTE I - CONSENTIMENTO INFORMADO, LIVRE E ESCLARECIDO**

**Impacto da COVID-19: o papel da resiliência na saúde mental de docentes do ensino superior**

Muito obrigada por dedicar um pouco do seu tempo para participar neste estudo. Este estudo tem como objetivo avaliar o papel da resiliência, na saúde mental dos docentes do ensino superior.

Neste âmbito, convidamo-lo/la a responder a algumas perguntas sobre o assunto que envolverá a recolha de informação relativa às características sociodemográficas e às estratégias adaptativas através de uma bateria de questionários em formato online. O seu preenchimento deverá demorar aproximadamente 15 minutos.

Trata-se de um estudo inserido num projeto de investigação que está a ser desenvolvido pelo Departamento de Medicina da Comunidade, Informação e Decisão em Saúde da Faculdade de Medicina da Universidade do Porto, pelo CINTESIS - Centro de Investigação e Tecnologias em Serviços de Saúde e pela Escola Superior de Educação do Politécnico do Porto.

Os/as participantes não têm riscos ou benefícios imediatos, porém a análise dos dados pode resultar em sugestões para um melhor entendimento destas dimensões.

Esta investigação não tem financiamento ou retorno financeiro.

A privacidade e a proteção dos dados estão de acordo com o Regulamento Geral de Proteção de Dados da UE.

Os dados recolhidos serão utilizados para fins de investigação científica e serão mantidos pelo período de tempo necessário para o tratamento dos mesmos e para a sua divulgação, que se prevê ser de, aproximadamente, 5 anos. A segurança e a proteção dos dados é assegurada através do armazenamento dos mesmos num equipamento protegido

por palavra-passe acedido apenas pelos investigadores. A confidencialidade e a privacidade dos dados é garantida pelo anonimato das respostas.

Não é requerida qualquer autenticação eletrónica.

Este estudo obteve parecer favorável da comissão de ética do Centro Hospitalar São João/Faculdade de Medicina da Universidade do Porto.

Caso deseje receber os resultados deste estudo, por favor envie-nos um e-mail.

E-mail de contacto: [grupotrabalhoburnout@gmail.com](mailto:grupotrabalhoburnout@gmail.com)

## **CONSENTIMENTO**

Depois de ler o texto introdutório, considero-me informado/a e aceito participar neste estudo respondendo a este questionário. **SIM**

Concordo que estes dados sejam utilizados para fins de investigação. **SIM**

## PARTE II - Protocolo de Avaliação

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### SECÇÃO I: Dados sociodemográficos e contextuais

*Se estiver a responder a partir de um telemóvel, coloque o seu ecrã na horizontal, para poder observar todas as opções de resposta.*

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#### 1. Género:

- Feminino
- Masculino
- Prefiro não responder

2. Idade (anos) (A resposta deve ser um número inteiro): \_\_\_\_\_

#### 3. Estado civil:

- Solteiro/a
- Casado/a ou em União de facto
- Viúvo/a
- Divorciado/a ou Separado/a

#### 4. Tem filhos/as:

- Sim
- Não

##### Se sim:

4.1. Indique o número de filhos/as (A resposta deve ser um número inteiro): \_\_\_\_\_

4.2. Indique qual(ais) a(s) idade(s), em anos, de cada um dos seus filhos/as (Caso tenha mais do que um filho, separe as idades por vírgulas): \_\_\_\_\_

#### 5. Habilitações Literárias:

- Bacharelato
- Licenciatura
- Mestrado
- Doutoramento
- Outra opção

**6. Com quem vive habitualmente?**

- Sozinho/a
- Com o cônjuge
- Com o cônjuge e com filhos
- Com os filhos
- Com amigos/as
- Outra opção

**7. Distrito de Residência Habitual:**

- Aveiro
- Beja
- Braga
- Bragança
- Castelo Branco
- Coimbra
- Évora
- Faro
- Guarda
- Leiria
- Lisboa
- Portalegre
- Porto
- Santarém
- Setúbal
- Viana do Castelo
- Vila Real
- Viseu
- R. A. Açores
- R. A. Madeira

**8. Durante a pandemia perdeu algum amigo ou familiar?**

- Sim
- Não

**9. É cuidador/a de pessoas idosas?**

- Sim
- Não

**10. É cuidador/a de pessoas com incapacidade?**

- Sim
- Não

**11. Habita com alguma pessoa considerada de risco para COVID-19?**

- Sim
- Não

**12. Tem diagnosticado algum problema de saúde?**

- Não
- Sim

**Se sim:**

**12.1. Qual(is) problema(s) lhe foi/foram diagnosticados:**

- Diabetes
- Hipertensão
- Sistema imunitário comprometido
- Doença oncológica
- Doença cardiovascular
- Doença respiratória crónica
- Outra opção

**13. Utilizou no último mês algum destes serviços?**

- Nenhum
- Linha de Apoio Psicológica
- Consulta Psicológica
- Consulta Psiquiátrica
- Consulta de Medicina Geral e Familiar
- Outra opção

**14. No atual contexto vivido pela pandemia COVID-19, iniciou alguma medicação no âmbito da saúde mental?**

- Não
- Sim

**Se sim:**

**14.1. Especifique essa medicação (se tomar mais do que uma, separe-as por vírgulas): \_\_\_\_\_**

**15. Já fez o teste para verificar se está infetado/a com a COVID-19?**

- Sim, e já tive o resultado
- Sim, encontro-me à espera do resultado do teste
- Não, não tenho interesse em realizar o teste
- Não, mas gostaria de o realizar para ter certeza

**16. Relativamente à COVID-19, indique por favor:**

- Estou aparentemente saudável
- Estou infetado/a com COVID-19
- Recuperei de COVID-19

**17. No último mês, tem tido dificuldade em adormecer?**

- Nunca
- Às vezes
- A maioria das vezes

**18. No último mês, tem tido dificuldade em dormir sem interrupções?**

- Nunca
- Às vezes
- A maioria das vezes

**19. No último mês, considera que tem dormido de mais?**

- Nunca
- Às vezes
- A maioria das vezes

**20. Quantas horas de sono habitualmente tem?**

- Menos de 6 horas
- Entre 6 e 8 horas
- Mais de 8 horas

**21. No último mês, sentiu que as suas rotinas de sono se alteraram?**

- Não senti quaisquer alterações
- Dormi menos do que o habitual
- Dormi mais do que o habitual
- Deitei-me mais tarde do que o habitual e acordei mais tarde que o habitual
- Deitei-me mais cedo do que o habitual e acordei mais cedo que o habitual

**22. Indique a Instituição do Ensino Superior onde atualmente leciona (se lecionar em mais do que uma indique a principal):** \_\_\_\_\_

**23. Indique o tipo de Instituição em que atualmente leciona (se lecionar em mais do que uma instituição, refira-se à principal):**

- Pública
- Privada
- Ambas

**24. Número de anos de experiência profissional:**

- Menos de 1 ano
- Entre 1 ano e 5 anos
- Entre 6 anos e 10 anos
- Entre 11 e 15 anos
- Mais de 15 anos

**25. Atividade profissional durante o Estado de Emergência devido à COVID-19:**

- Ativo/a, a trabalhar presencialmente no local de trabalho
- Ativo/a, a trabalhar em regime de teletrabalho
- Atividade suspensa pela empresa/instituição empregadora (lay-off)
- Licença para assistência a familiares/dependentes
- Baixa médica
- Férias
- Licença de maternidade/paternidade
- Outra opção

**26. A lecionação das suas unidades curriculares decorreu à distância?**

- Sim
- Não
- Outra opção

**27. Que plataformas digitais utiliza com maior frequência nas suas atividades de teletrabalho:**

- Zoom
- Skype
- Moodle
- Teams
- Nenhuma
- Outra opção

**28. Tem experiência anterior de docência em situação de ensino a distância?**

- Sim
- Não

**29. Atividade profissional atualmente:**

- Ativo/a, a trabalhar presencialmente no local de trabalho
- Ativo/a, a trabalhar em regime de teletrabalho
- Atividade suspensa pela empresa/instituição empregadora (lay-off)
- Licença para assistência a familiares/dependentes
- Baixa médica
- Teletrabalho parcial
- Outra opção

**29.1. Se se encontra atualmente em trabalho presencial considera ter os equipamentos de proteção individuais necessários?**

- Sim
- Não
- Não me encontro a realizar trabalho presencialmente



**29.2. Considera que a sua Instituição de Ensino Superior adotou as medidas de proteção e segurança necessários (e.g., distância mínima de segurança, álcool gel, ventilação)?**

- Sim
- Não

**30. Sobre o processo de ensino-aprendizagem à distância, indique, por favor, vantagens:**

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**31. Sobre o processo de ensino-aprendizagem à distância, indique, por favor, dificuldades/desvantagens:**

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**32. Sobre o processo de ensino-aprendizagem à distância, indique, por favor, soluções para minimizar os possíveis prejuízos:**

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**33. Quais são as suas preocupações sobre o impacto das aprendizagens dos estudantes no ensino à distância?**

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**34. Concorda com a manutenção do encerramento das Instituições de Ensino Superior para o próximo semestre?**

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**34.1. Por favor, justifique a sua opinião.**

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**35. Que desafios antecipa para o próximo ano letivo no processo de ensino aprendizagem caso as Instituições do Ensino Superior se mantenham encerradas?**

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**SECÇÃO II** - A cada uma das frases deve responder consoante a frequência com que tem esse sentimento, assinalando o círculo respetivo. Não há respostas certas ou erradas. A resposta correta é aquela que exprime com veracidade a sua própria experiência.

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**Copenhagen Burnout Inventory - CBI**

(Kristensen et al., 2005; traduzido e adaptado para a população portuguesa por Fonte, 2011)

CBI pessoal	Sempre	Frequentemente	Às vezes	Raramente	Nunca/quase nunca
1. Com que frequência se sente cansado/a?					
2. Com que frequência se sente fisicamente exausto/a?					
3. Com que frequência se sente emocionalmente exausto/a?					
4. Com que frequência pensa: "Eu não aguento mais isto"?					
5. Com que frequência se sente fatigado/a?					
6. Com que frequência se sente frágil e suscetível a ficar doente?					

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**SECÇÃO III** - Leia, por favor, cada afirmação e assinale o número que melhor indica aquilo que sente relativamente a essa mesma afirmação. Responda a todas as afirmações.

A classificação é a seguinte:

- 1 - Discordo totalmente;
  - 2 - Discordo fortemente;
  - 3 - Discordo parcialmente;
  - 4 - Nem concordo nem discordo;
  - 5 - Concordo parcialmente;
  - 6 - Concordo fortemente;
  - 7 - Concordo totalmente.
- 

**Escala de Resiliência**

(Wagnild & Young, 1993; tradução e adaptação Oliveira & Machado, 2011)

	<b>Discordo totalmente</b>			<b>Nem concordo/Nem discordo</b>			<b>Concordo totalmente</b>
1. Quando faço planos, levo-os até ao fim.	1	2	3	4	5	6	7
2. Costumo resolver o que preciso, de uma forma ou de outra.	1	2	3	4	5	6	7
3. Sou capaz de contar comigo próprio/a, mais do que a maioria das pessoas.	1	2	3	4	5	6	7
4. Para mim é importante manter o interesse nas coisas.	1	2	3	4	5	6	7
5. Quando necessário, sou capaz de ficar por minha conta.	1	2	3	4	5	6	7
6. Sinto-me orgulhoso/a por ter conseguido coisas na vida.	1	2	3	4	5	6	7
7. Normalmente levo as coisas "a eito".	1	2	3	4	5	6	7
8. Estou bem comigo mesmo/a.	1	2	3	4	5	6	7
9. Sinto que sou capaz de lidar com várias coisas ao mesmo tempo.	1	2	3	4	5	6	7

10. Sou uma pessoa determinada.	1	2	3	4	5	6	7
11. Raramente me questiono sobre o sentido das coisas.	1	2	3	4	5	6	7
12. Vivo a vida um dia de cada vez.	1	2	3	4	5	6	7
13. Sei que consigo superar tempos difíceis porque já passei por dificuldades antes.	1	2	3	4	5	6	7
14. Sou uma pessoa autodisciplinada.	1	2	3	4	5	6	7
15. Mantenho-me interessado/a nas coisas.	1	2	3	4	5	6	7
16. Sou capaz de me rir das coisas.	1	2	3	4	5	6	7
17. O facto de acreditar em mim ajuda-me a superar momentos difíceis.	1	2	3	4	5	6	7
18. Em situações de emergência, sou alguém em quem se pode confiar.	1	2	3	4	5	6	7
19. Normalmente consigo olhar para uma situação sob várias perspetivas.	1	2	3	4	5	6	7
20. Por vezes obrigo-me a fazer coisas, quer queira ou não queira.	1	2	3	4	5	6	7
21. A minha vida tem sentido.	1	2	3	4	5	6	7
22. Não costumo cismar sobre coisas em relação às quais nada posso fazer.	1	2	3	4	5	6	7
23. Quando me encontro numa situação difícil, costumo conseguir sair dela.	1	2	3	4	5	6	7
24. Tenho energia suficiente para fazer tudo o que tenho para fazer.	1	2	3	4	5	6	7
25. Sou capaz de me adaptar facilmente a situações imprevistas.	1	2	3	4	5	6	7

**SECÇÃO IV** – A cada uma das frases deve responder consoante a frequência com que tem esse sentimento, assinalando o círculo respetivo. Não há respostas certas ou erradas. A resposta correta é aquela que exprime com veracidade a sua própria experiência.

**Copenhagen Burnout Inventory - CBI**

(Kristensen et al., 2005; traduzido e adaptado para a população portuguesa por Fonte, 2011)

<b>CBI relacionado com o trabalho</b>	<b>Muito</b>	<b>Bastante</b>	<b>Assim - assim</b>	<b>Pouco</b>	<b>Muito pouco</b>
1. O seu trabalho é emocionalmente desgastante?					
2. Sente-se esgotado por causa do seu trabalho?					
3. O seu trabalho deixa-o/a frustrado/a?					
	<b>Sempre</b>	<b>Frequente mente</b>	<b>Às vezes</b>	<b>Raramente</b>	<b>Nunca/Quase nunca</b>
4. Sente-se esgotado/a no final de um dia de trabalho?					
5. Sente-se exausto/a de manhã ao pensar em mais um dia de trabalho?					
6. Sente que cada hora de trabalho é cansativa para si?					
	<b>Nunca/quase nunca</b>	<b>Raramente</b>	<b>Às vezes</b>	<b>Frequentemente</b>	<b>Sempre</b>
7. Tem energia suficiente para a família e os amigos/as durante o tempo de lazer?					

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**SECÇÃO V** - Por favor leia cada uma das afirmações abaixo e assinale quanto cada afirmação se aplicou a si durante a semana passada. Não há respostas certas ou erradas. Não leve muito tempo a indicar a sua resposta em cada afirmação.

A classificação é a seguinte:

0 – não se aplicou nada a mim

1 – aplicou-se a mim algumas vezes

2 – aplicou-se a mim muitas vezes

3 – aplicou-se a mim a maior parte das vezes

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**Depression Anxiety Stress Scale - DASS**

(Lovibond & Lovibond, 1995; adaptação de Pais-Ribeiro, Honrado, & Leal, 2004)

1. Tive dificuldades em me acalmar.	0	1	2	3
2. Senti a minha boca seca.	0	1	2	3
3. Não consegui sentir nenhum sentimento positivo.	0	1	2	3
4. Senti dificuldades em respirar.	0	1	2	3
5. Tive dificuldade em tomar iniciativa para fazer coisas.	0	1	2	3
6. Tive tendência a reagir em demasia em determinadas situações.	0	1	2	3
7. Senti tremores (por exemplo nas mãos).	0	1	2	3
8. Senti que estava a utilizar muita energia nervosa.	0	1	2	3
9. Preocupe-me com situações em que podia entrar em pânico e fazer figura ridícula.	0	1	2	3
10. Senti que não tinha nada a esperar do futuro.	0	1	2	3
11. Dei por mim a ficar agitado/a.	0	1	2	3
12. Senti dificuldade em me relaxar.	0	1	2	3
13. Senti-me desanimado/a e melancólico/a.	0	1	2	3
14. Estive intolerante em relação a qualquer coisa que me impedisse de terminar aquilo que estava a fazer.	0	1	2	3
15. Senti-me quase a entrar em pânico.	0	1	2	3
16. Não fui capaz de ter entusiasmo por nada.	0	1	2	3
17. Senti que não tinha muito valor como pessoa.	0	1	2	3
18. Senti que por vezes estava sensível.	0	1	2	3
19. Senti alterações no meu coração sem fazer exercício físico.	0	1	2	3
20. Senti-me assustado/a sem ter tido uma boa razão para isso.	0	1	2	3
21. Senti que a vida não tinha sentido.	0	1	2	3

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**SECÇÃO VI** - A cada uma das frases deve responder consoante a frequência com que tem esse sentimento, assinalando o círculo respetivo. Não há respostas certas ou erradas. A resposta correta é aquela que exprime com veracidade a sua própria experiência.

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**Copenhagen Burnout Inventory - CBI**

(Kristensen et al., 2005; traduzido e adaptado para a população portuguesa por Fonte, 2011).

CBI relacionado com o/a utente/cliente	Muito	Bastante	Assim- assim	Pouco	Muito pouco
1. Acha difícil trabalhar com estudantes?					
2. Acha frustrante trabalhar com estudantes?					
3. Trabalhar com estudantes deixa-o/a sem energia?					
4. Sente que dá mais do que recebe quando trabalha com estudantes?					
	<b>Sempre</b>	<b>Frequente mente</b>	<b>Às vezes</b>	<b>Raramente</b>	<b>Nunca/Quase nunca</b>
5. Está cansado de trabalhar com estudantes?					
6. Alguma vez se questiona quanto tempo conseguirá continuar a trabalhar com estudantes?					

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**SECÇÃO VII** - Em seguida, encontrará cinco afirmações com as quais pode ou não concordar. Usando a escala de resposta indique o quanto concorda ou discorda com cada uma. Selecione o número no espaço ao lado da afirmação, segundo a sua opinião. Por favor, seja o mais sincero/a possível nas suas respostas.

A classificação é a seguinte:

- 1 – Discordo muito
  - 2 – Discordo
  - 3 – Não concordo nem discordo
  - 4 – Concordo
  - 5 – Concordo muito
- 

**Satisfaction with life scale – SWLS**

(Diener et al., 1985; tradução e validação de Neto et al., 1990; revalidação de Simões, 1992).

1. A minha vida parece-me, em quase tudo, com o que eu desejaria que ela fosse.	1	2	3	4	5
2. As minhas condições de vida são muito boas.	1	2	3	4	5
3. Estou satisfeito/a com minha vida.	1	2	3	4	5
4. Até agora, tenho conseguido as coisas mais importantes da vida que eu desejava.	1	2	3	4	5
5. Se pudesse recomeçar a minha vida, não mudaria quase nada.	1	2	3	4	5

**Agradecemos a sua participação!**