

FACTORS CONTRIBUTING TO VIETNAMESE UNIVERSITY LECTURERS' BURNOUT IN ONLINE EMERGENCY CLASSROOMS AMIDST THE COVID-19 PANDEMIC

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ABSTRACT

This large-scale study aimed to investigate the impacts of underlying factors on lecturers' burnout in emergency online classrooms during the outbreak of the Covid-19 pandemic. The study attracted the participation of 399 lecturers conducting online emergency classrooms from 30 universities and colleges across Vietnam. Data analyses with EFA, CFA, and SEM indicated that such factors as support resources, anxiety towards emergency online teaching and Coronavirus, lecturer's technological and pedagogical content, and knowledge significantly impacted their burnout levels. In contrast, no significant difference in burnout states was found between lecturers with different demographic features, genders, and residences. The results from this study also suggested critical pedagogical implications for higher education leaders and administrators to prepare emergency online classes for sustained education in times of crisis.

Keywords: Administrative support, Covid-19 anxiety, burnout, collegial support, emergency online classes, TPACK.

INTRODUCTION

The outbreak of the Covid-19 pandemic has dramatically affected all countries and territories globally. Governments have instigated different measures, including quarantine, social distancing, community lockdowns, travel restrictions, and closures of offices and educational institutions, in response to the profound impacts of the pandemic (Chinazzi et al., 2020; Viner et al., 2020). Such precautionary measures to prevent

the spread of the epidemic have strongly influenced all sectors of the nation, particularly education. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2020), more than 80 countries are continuously closing schools for social distancing procedures, thus affecting approximately 1.1 billion students worldwide in 2020.

Higher education institutions face significant challenges because of campus closing and social distancing procedures, which have significantly affected all learning and teaching activities (Alqahtani & Rajkhan, 2020; Turnbull et al., 2021). Consequently, universities and colleges must promptly transition from the traditional face-to-face classroom to various virtual teaching and learning forms to subdue the pandemic's unprecedented disruptions and far-reaching effects on students' learning attainment (Nguyen et al., 2022). Statistically, over 60% of students worldwide have studied and assessed online via different platforms adopted by their institutions (UNESCO, 2020).

While research strongly advocates online learning in developed nations (Santelli et al., 2020), there are still arguments about its challenges during implementation (Maatuk et al., 2021; Mishra, 2020; Tria, 2020; Toquero, 2020). Among other challenges posed by online teaching, teachers may find this mode of education negative and stressful because they usually have to experience a vast workload related to the changes in teaching modes (Baker et al., 2021; Klapproth et al., 2020). Consequently, severe stress from their excessive workload when changing from face-to-face classes to online classes, together with a lack of support and resources, can result in teachers' professional burnout whose dimensions include exhaustion of emotion, depersonalization, and inefficacy feeling (Maslach et al., 2001).

Although research has significantly contributed to the literature on teacher burnout insights and its effects on online learning (Herman et al., 2018), few have explored teacher burnout in emergencies, especially those resulting from online educational delivery during the pandemic crisis. When online learning and emergency learning are sometimes used as overlapping terms, the former is viewed as a well-established delivery model that helps bridge the physical space between the teachers and their students thanks to web-based systems (Singh & Thurman, 2019). In contrast, emergency learning is adopted as a temporary alternative for the delivery mode of teaching and learning in crises or emergencies such as health emergencies to sustain education (Ferri et al., 2020). Whittle et al. (2020) emphasized that emergency learning environments offer temporary instructional support to institutions without having pre-planned resources or infrastructures. In other words, emergency learning is provided circumstantially and provisionally to sustain the continuity of teaching and learning during the crisis. This teaching context means teachers are usually not as well-prepared in emergency learning and teaching as in regular online classes. Also, they are put under many emotional threats due to the instability of the technology and social crises during the Covid-19 pandemic.

Facing the crises many developing countries are experiencing, including Vietnam, the current study aimed to investigate extensively elements causing lecturers' burnout during this pandemic. The study proposed six hypotheses. First, we hypothesized that Vietnamese lecturers' demographic features, including gender, age, teaching experience, and location, correlate with their burnout in emergency online classes. Other hypotheses were that anxiety about the Coronavirus and emergency online classroom positively impacted the lecturers' burnout state. In contrast, this study also proposed that the lecturers' emergency teaching self-efficacy, technological and pedagogical competencies, and supportive resources would prevent their burnout in emergency online classes.

LITERATURE REVIEW

Teaching Faculty's Stress and Burnout In Online Teaching

The literature acknowledges various definitions of burnout, highlighting the significant role of research into burnout stages in education. Herbert Freudenberger first used the term burnout in 1974 to portray

a person's emotional exhaustion from work (McCann & Holt, 2009). Later, burnout was initially defined as 'a syndrome of emotional exhaustion and cynicism' that frequently occurs among individuals who do 'people-work of some kind' (Maslach & Jackson, 1981, p.99). Zhu et al. (2018, p.2) described burnout as 'a dysfunctional response to chronic emotional and interpersonal stressors at work' when one is enduring an overload of stress.

In an educational context, burnout is a 'lack of desire and motivation to balance professional responsibilities in teaching, scholarship, service, and student caregiving and peer relationships'(Minter, 2009). Also, Minter (2009) defined teacher or faculty burnout as a state in which an individual undergoes detachment (particularly from students, staff, peers, and clients) and a lack of job satisfaction or sense of achievement. Teacher burnout can also be viewed as 'a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job' (Maslach & Leiter, 2016, p.103). Burnout manifests itself in three aspects: exhaustion, cynicism, and professional inadequacy (Maslach & Jackson, 1981). Exhaustion is characterized by feelings of chronic fatigue, a lack of emotional energy, and emotional exhaustion at work (Maslach et al., 2001). Cynicism refers to the teachers' detached and distant attitudes toward their colleagues, parents, and students and their low commitment to the institution (Schaufeli & Buunk, 2003). As Brouwers and Tomic (2000) described, professional inadequacy correlates to teachers' incompetent or insufficient feeling in implementing tasks or performing work.

Compared with other academic-related professions, teaching has been even more challenging and stressful (Loonstra et al., 2009; Schaufeli & Enzmann, 1998; Travers & Cooper, 1993). Therefore, numerous studies have explored teacher burnout's consequences (Kokkinos, 2007; Peeters & Rutte, 2005; Retelsdorf et al., 2010; Skaalvik & Skaalvik, 2010; Stoeber & Rennert, 2008). The most recent studies conducted report correlations between job satisfaction, time and workload management, students' learning attainment, and adequate resources in online teaching facilitation with the rate of faculty burnout (Chen et al., 2020; Cordaro, 2020; Cross & Polk, 2018; Garcia-Gonzalez et al., 2020). However, these factors are highly related to physical and emotional aspects of burnout in online classrooms rather than psychological ones. Another study by Garcia-Gonzalez et al. (2020) investigated the relationships between mental overload, and time pressure, emotional exhaustion of female faculty members. However, this study is limited only to female teaching faculty and does not explore in depth what specific factors related to mental overload can lead to emotional exhaustion among female teaching faculty when they conduct online classrooms.

Previous studies have simultaneously contributed to investigating the effects of stress on employees, especially on teaching faculty in higher education. However, little has been done to explore the effects of stress and burnout on higher education teaching faculty regarding online teaching during the emergency crisis (Smith et al., 2015). Few studies failed to explore in-depth antecedents of university lecturers' burnout in online emergency classes, especially aspects that can lead to university lecturers' burnout in times of local, national, and global crises. This study, therefore, aimed to explore and identify multifaceted factors that may lead to lecturer burnout in online higher education during the pandemic. Findings from the study, hopefully, can contribute to the existing literature on lecturers' stress and burnout in the online classroom in emergency crisis while suggesting practical strategies and solutions for decision-makers, policymakers, educators, educational leaders, and academics in enhancing education quality and delimiting the impacts of stress and burnout on teaching and learning in general, and online classroom in particular.

Conceptual Framework: Burnout and its Antecedents

Demographic Features

Although studies have proven opposing results, many have investigated the correlations between lecturer burnout and demographic features, including experience, age, gender, and geographic location. Regarding the

participant's gender, Martin (2000) believed that gender differences have varying effects on burnout, taking the feminist perspective that even men and women in similar contexts may experience stress and burnout in inherently different manners. The initial assumption is that men traditionally dominate the university environment and that women must make tremendous efforts to succeed (Lackritz, 2004). Nevertheless, at the end of his study with 900 university teaching staff members in a West Coast state of the USA, Lackritz (2004) found that, although female lecturers had more profound and complex emotions than their male counterparts, the opposite was true for depersonalization, and no significant difference was found between the females' and males' sense of personal accomplishment. Likewise, female primary and secondary education teachers also showed a higher burnout level than their university counterparts (Antoniou et al., 2013).

On the contrary, in the online environment, there were only insignificant differences in some dimensions between men and women (Hogan & McKnight, 2007). It has been discovered that in addition to gender, biological age and years of experience are two other factors correlated with teacher burnout (Toker, 2012). Likewise, Lackritz (2004) and Whitehead et al. (2000) suggested that younger teaching faculty members are more vulnerable to emotional exhaustion. A survey carried out among 283 lecturers in Türkiye showed that, in particular, age has a significant relationship with all latent dimensions of burnout, except for depersonalization (Tümekaya, 2007). Lackritz (2004) also noted that burnout is a serious and cynical concern for teachers or lecturers who have worked for over ten years. Contradictorily, Antoniou et al. (2013) found that more experienced lecturers (16 years) are less likely to fall into a burnout state.

Due to the unprecedented occurrence of Covid-19 and its unpredictable influence on education, few research projects have been conducted yet to explore teacher burnout. Among all the studies that the authors could find when writing this article, a survey of 359 K-12 teachers who had just entered the 2020–2021 school year during the Covid-19 pandemic across the United States showed no correlation between teachers' demographic features (gender, years of experience, and location) and their burnout levels (Pressley, 2021). The same results were found in the intervention study of 67 teachers in Jerusalem, Israel, during the Covid-19 pandemic, as the researchers found no difference between the burnout level of teachers of different ages and genders (Zadok-Gurman et al., 2021). Despite the contradictory findings, during shutdowns and lockdowns, it is important to acknowledge in this article that most teachers are obliged to work from home. Thus, their location of residence may affect their teaching experience due to the diverse cultures and varied quality of teaching facilities. From the analysis of contemporary literature, the authors propose the first question about whether demographic features may correlate with lecturer burnout state.

Technical Aspects

As technology is increasingly incorporated into education, teachers are expected to adapt their teaching practice to utilize applications, software, and platforms to enhance the quality of their teaching. Simultaneously, the constant emergence and update of new technology may create a misfit between teachers' ability and the technological educational environment (Altinay-Gazi & Altinay-Aksal, 2017), which may create technostress (Al-Fudail & Mellar, 2008). Information technology needs to be customized before being applied to teaching, especially in emergencies that may create anxiety among teachers due to their concerns about the ability to exploit technical resources. When other severe problems related to the online platform also arise in system failures, such as system crashes or data loss (Yau et al., 2019), teachers may not possess adequate skills and knowledge to find sufficient and timely resolutions (Nguyen, 2022). Pressley (2021) stated that the anxiety from using technology and providing online instructions may exacerbate instructors' burnout. Although Pressley (2021) accommodated 359 US teachers, there is still limited research to consolidate his findings, especially in other contexts outside the USA.

Teacher confidence in their ability to teach with technology is also pivotal, reflecting their attitude toward integrating new software applications into their syllabus (Yeşilyurt et al., 2016). In their study, Yeşilyurt et al. (2016) surveyed 323 preservice teachers and concluded that computer self-efficacy is one of the fundamental factors that enhance the application of computer-enhanced education. In psychology, high computer self-efficacy and a sense of control can help reduce teachers' stress, fatigue, and anxiety (Estrada-Muñoz et al., 2020; Fagan et al., 2003; Shu et al., 2011), whereas the lack thereof may induce technology resistance.

Undeniably, although online instructors usually have adequate time to familiarize themselves with the virtual environment, instructors who hesitantly run emergency courses may be deprived of these rightful opportunities because of the intensity and urgency of crises. By and large, it often happens at short notice. This issue raises another question about a noticeable level of emergency teaching anxiety and a much lower level of emergency teaching self-efficacy. Ultimately, it is paramount to investigate the relationship between emergency teaching anxiety, emergency teaching self-efficacy, and lecturer burnout.

Technological Pedagogical Content Knowledge

The rise of technology in education has necessitated more knowledge aside from traditional pedagogical and subject-matter knowledge. Koehler and Mishra (2005) introduced the combination of pedagogical, content knowledge, and technological knowledge as technological content knowledge, technological pedagogical knowledge, and technological pedagogical content knowledge, or TCK, TPK, and TPCK/TPACK, respectively. TPACK is a comprehensive system of skills, knowledge, and ability teachers need to develop, which is identified in the teaching and learning curricula, in an organized and effective manner (Schmidt et al., 2009). Thus, technological integration in education would not be successful without teachers' knowledge of implementing online classes (Cooper et al., 2019), particularly with adequate TPACK. Since computer illiteracy may hinder teachers' application of technological tools, emergency teaching platforms can potentially increase teachers' stress, anxiety, and pressure. Dong et al. (2020) conducted a factor analysis with the data collected from 366 instructors in China and found that the level of TPACK can predict the instructors' technostress. This result aligns with the study by Joo et al. (2016) that examined the relationship between TPACK and technostress. It is believed that instructors with high TPACK have more intention and willingness to use technology. This article investigates whether lacking TPACK can create mental and physical exhaustion and a shared sense of achievement among lecturers. In other words, low TPACK may likely, in general, induce lecturer burnout. In contrast, if lecturers are knowledgeable about applying technological, content-related, and pedagogical skills to teaching, they may likely feel more successful and less anxious about the online emergency class, which reduces their burnout.

Support Resources

Institutional support is seminal in employee success (Hammond et al., 2018). This support can come from the management or colleagues in many different forms, such as technical, TPACK, or emotional support during the pandemic. Dong et al. (2020) concluded that support from school administrators and peers can help build up the instructor's TPACK, thus reducing their technostress. According to research conducted with 1278 Canadian teachers by Sokal et al. (2020), teachers are more likely to develop burnout when they do not receive adequate support resources from the administrators. Additionally, the anxiety about communicating with the administrators and the lack of school support may negatively affect the teaching process during the pandemic (Pressley, 2021). Intimate support from other colleagues, who are also friends, on social networking sites during lockdowns, can also provide sources of professional advice and help isolate teachers (Kelly & Antonio, 2016; Sokal et al., 2020). Besides institutional support, communication

with the learners' parents are also believed to be essential to help prevent teacher burnout (Pressley, 2021); however, as the scope of this research focuses on university and college students who are young adult and primarily independent learners, the authors would exclude parental responsibility from the support resources investigated in this study.

Coronavirus Anxiety

During the Covid-19 pandemic, lecturers are isolated due to lockdowns and shutdowns of their institutions, which constantly create many stressors at interpersonal and intrapersonal levels (Hidalgo-Andrade et al., 2021). The Covid-19 pandemic affects the education system, including lecturers and students, as it creates mood swings, changes in daily patterns, and negative behaviors (Fernandez-Castillo, 2021). The anxiety towards Covid-19 includes many symptoms ranging from fast heart rate, anxiety, panic, or depression (Silva et al., 2020). During these stressful moments, lecturers' distress and burnout can negatively affect all the stakeholders, including students, lecturers, and the academic institution. In times of isolation, lecturers may have negative coping strategies to manage their stress, which may not help release their heated emotions but instead heightens the level of burnout, such as avoidance or expressing anger violently. The problem worsens because social distancing policies prevent them from receiving help from occupational therapists, who play a fundamental role in providing support (Austin et al., 2005). According to Pressley (2021), Coronavirus anxiety is one of the significant factors contributing to lecturers' burnout in general. However, when writing this article, the authors found no research directly linking Coronavirus anxiety with lecturer burnout states other than Pressley (2021). Besides, there is still a shortage of literature and empirical research investigating how lecturer burnout is related to Coronavirus anxiety in an emergency learning classroom in developing countries that are not well-prepared to conduct online learning exclusively yet.

From reviews of factors related to burnout above, this article proposes the following theoretical framework to explain the possible underlying causes of burnout:

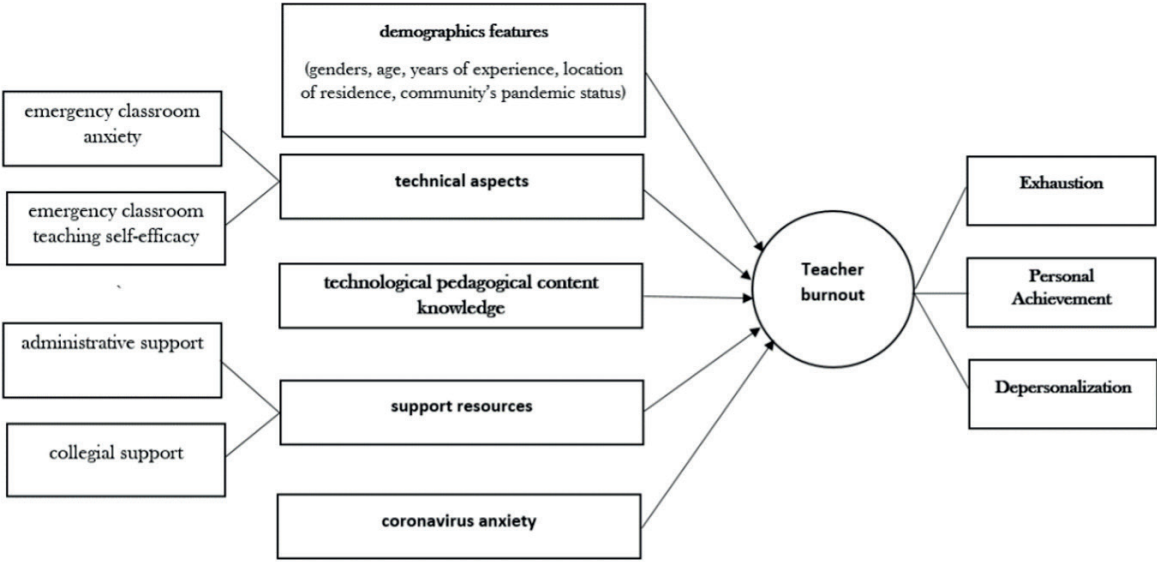


Figure 1. Factors contributing to teacher burnout in online emergency classrooms during the Covid-19 pandemic

Within this research, the authors aim to investigate the factors contributing to lecturer burnout during the Covid-19 pandemic to generalize the findings related to lecturer burnout and expand the knowledge about the causes of burnout. To fulfill this mission, the authors propose six hypotheses as follows:

- H1: demographics features (gender, age, years of experience, location of residence) correlate with lecturer burnout in emergency online classes.
- H2: emergency teaching anxiety positively impacts lecturer burnout in emergency online classes.
- H3: emergency teaching self-efficacy negatively impacts lecturer burnout in emergency online classes.
- H4: technological pedagogical content knowledge (TPACK) negatively impacts lecturer burnout in emergency online classes.
- H5: support resources (administrative and collegial support) negatively impact lecturer burnout in emergency online classes.
- H6: Coronavirus anxiety positively impacts lecturer burnout in emergency online classes.

METHODOLOGY

Participants and Sampling Techniques

The research included 399 lecturers from 29 departments of 30 universities and colleges around Vietnam, with 167 male lecturers (42%) and 232 female lecturers (58%). The most significant proportion of lecturers was aged 31-40 (n=157, 30,25%), while the 22-24 age group accounted for the smallest share of the total survey participant (n=14, 3,5%). Other age groups, including 25-30, 41-50, and over 50, constituted 17,75% (n=71), 32% (n=128), and 7,5% (n=30), respectively.

It is noted that a significant percentage of lecturers were teaching in the cities (n=362; 90,5%), although only 9,5% of the participant taking part in this survey were currently staying in the countryside. This discrepancy might stem from the unequal distribution of tertiary education institutes in Vietnam because most universities and colleges are in major cities. Besides, as the Covid-19 pandemic was heavily influencing Vietnam, a significant majority of the participants were staying in locations influenced by the social distancing policy (n=339, 85%) or quarantine zones (n=26,6.5%); on the other hand, only 8.5% of the participant were living in the “new normal” areas.

Regarding teaching experience, over one-half of the participants are experienced lecturers who had been teaching for more than ten years (n=219, 54,75%), and the other 103 lecturers had been teaching between 6-9 years (25,75%). Only 78 lecturers (19,5%) had less than five years of teaching experience. Concerning their familiarity with the teaching institutes, it is evident that most lecturers were quite familiar with their current institutes because 35% of lecturers (n=152) had been working at their institutions for more than ten years at the time this study took place, and 25,75% of them (n=111) had been working at their institutions for at least six years. The other participants who had less than five years at their institutions comprised 34% of the total lecturers (n=136).

Instruments

Questionnaire

The questionnaire included 68 scale questions adapted from both long-researched and up-to-date scales. Except for the first question exploring demographic features such as age, location, familiarity with teaching institutes, gender, and teaching experience, the others were all 5-item Likert scale questions. The burnout scale for emergency lecturers was adopted from Maslach and Leiter (2016, p.103) to measure the lecturers' stress, anxiety, and burnout level. The TPACK scale was adapted from Chai et al. (2011) to measure the lecturers' content, pedagogical, and technological knowledge. The authors adopted the emergency teaching technology anxiety from the computer anxiety scale when the emergency teaching efficacy scale was adopted and adjusted based on Woodrow (1991). On the other hand, administrative support and collegial support were measured with the scales introduced by Lam et al. (2010). Finally, the Coronavirus Anxiety Scale (Lee, 2020) was also used to measure the lecturers' anxiety due to the Covid-19 pandemic. The question taxonomy is provided in Table 1.

Table 1. Questionnaire taxonomy

Dimensions	Items
Demographical factors	1-6
Coronavirus anxiety	7-14
Emergency teaching self-efficacy	15-20
TPACK	21-36
Collegial support	37-41
Administrative support	42-48
Emergency teacher burnout	49-68

Because most participants in our study were Vietnamese who processed a large spectrum of English proficiency levels, the authors employed back-translation to enhance the return rate of the questionnaires. However, on acknowledging the potential inconsistency and translation flaws (Behr, 2017), the authors applied a procedure of quality assurance to minimize possible problems. First, all the questions were translated by all authors before both Vietnamese and English versions of the questionnaire were sent for peer review by two other experts in the field. The authors revised the questionnaires according to suggestions by the experts and conducted an online pilot test with a sample of 40 English university lecturers who are Vietnamese native speakers with English levels at C1-C2 CEFR. Finally, all the participants reported the problems with the questionnaires they encountered in the pilot test.

Pilot Test

The participants in the pilot test reported 20 problems with the 68 questions, which were punctuation (5), spelling (7), syntactic ambiguity (5), and translation accuracy (3). The authors tested the reliability of the Likert-scale questions in the questionnaire using Cronbach's alpha coefficient in SPSS, with the following results:

Table 2. Pilot test's post-modification Cronbach's alpha

Dimensions	Cronbach's alpha scores
Coronavirus anxiety	.836
Emergency teaching self-efficacy	.913 (after deleting item 16 with total correlation = -.019, item 20 with total correlation = -.116, and item 21 with total correlation = .016)
TPACK	.902 (after deleting item 22 with total correlation = -.345)
Collegial support	.889
Administrative support	.820 (after deleting item 49 with total correlation = .289)
Emergency teacher burnout	
Exhaustion	.891
Sense of achievement	.790
Depersonalization	.854

After deleting items 16, 20, 21, and 22, all the Cronbach's alpha values (.836, .913, .902, .889, .820, .891, .790, .854) were fairly high to excellent ($.7 \leq \alpha \leq .94$) (Taber, 2018), which guaranteed the reliability of this questionnaire for the official stage of large-scale data collection.

Procedure

After the research ethics board accepted the research at the authors' institutes, the researchers sent participants' recruitments to 30 universities and colleges in Vietnam. Due to the shutdowns and lockdowns in Vietnam, many institutions were difficult to contact. Therefore, the authors also invited lecturers via social networking sites to enhance the participation rate. The participants were also informed of the aims, goals, and contributions to the field, and the authors asked the participants to supply written consent for their voluntary participation in the research. After giving back their informed consent, the participants received an online questionnaire via a Google form link. All the data collected in the research are then encrypted and analyzed by SPSS 20 using structural equation modeling, independent t-test, and one-way ANOVA. After the data analysis was processed, all personal information was discarded with designated software to prevent uninformed information retrieval and personal data leakage.

Data Collection and Analysis

Before the analyses, regression was used to diagnose outliers, multicollinearity, and other assumption violations. The demographic features collected were then analyzed with SPSS 20's mean comparison tools. For dependent dimensions that include two factors, such as gender (male or female), or location (city or countryside), an independent t-test was applied. As for other dimensions that include more variables, ANOVA was used to analyze the statistic.

Regarding other dimensions, to reduce the number of redundant variables and discover the relationship between latent variables and their dimensions, the researchers analyze the Exploratory Factor Analysis (EFA) (Williams et al., 2010) first before moving to Confirmative Factor Analysis (CFA) and finally to the Structural Equation Modelling (SEM). The number of participants was 399, twice the required number to conduct factor analysis (Comrey & Lee, 1992). The Varimax rotation method was used for factor extraction (Eigenvalue >1). If the loadings of an item were below 0.04, that item would be suppressed. The Kaiser-Meyer-Olkin (KMO) value was 0.818 (higher than 0.6), thus reaffirming the sampling adequacy. To ensure the convergent and discriminant validity of the instrument, Average Variance Extracted (AVE) and Composite Reliability (CR) were analyzed (Appendix 1). The constructs are acceptable if AVE >.5 and CR>.7 (Fornell & Larcker, 1981). After the exploratory and confirmatory factor analyses, the model construct was visualized as a structural equation model in AMOS 20 (figure 2). The model fit was tested against the standard goodness of fit measures (Chi-square/df, GFI, CFI, RMSEA, p, TLI) (Appendix 2).

RESULTS

Demographic Factors (H1)

Independent T-Test

The independent t-tests were conducted to measure the differences between demographic data, including gender and place of residence in the study.

Table 3. Comparison of Male and Female lecturers on teacher burnout and factors contributing to teacher burnout during the Covid-19 pandemic (n = 232 females and 167 males)

Variable		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
Coronavirus anxiety				1.66	333.56	0.10	0.18
	Females	2.37	0.70				
	Males	2.24	0.78				
Emergency teaching anxiety				2.21	397.00	0.03	0.22
	Females	2.45	0.67				
	Males	2.30	0.68				
Emergency teaching Efficacy				-1.24	397.00	0.22	0.13
	Females	3.28	0.84				
	Males	3.39	0.90				
TPACK				-2.91	397.00	0.00	0.29
	Females	3.86	0.39				
	Males	3.99	0.50				

Collegial support				-0.02	397.00	0.99	0.02
	Females	3.78	0.59				
	Males	3.79	0.66				
Administrative support				-0.82	397.00	0.41	0.08
	Females	3.39	0.59				
	Males	3.44	0.63				
Burnout				-0.56	397.00	0.57	0.50
	Females	2.91	0.39				
	Males	2.93	0.46				

Table 4. Comparison of the lecturers' places of residence on lecturer burnout and factors contributing to lecturer burnout during the Covid-19 pandemic
(n = 362 lecturers in the city and 37 lecturers in the countryside)

Variable		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
Coronavirus anxiety				0.51	397.00	0.61	0.09
	City	2.32	0.75				
	Countryside	2.26	0.61				
Emergency teaching anxiety				-0.45	397.00	0.65	0.07
	City	2.39	0.67				
	Countryside	2.44	0.71				
Emergency teaching Efficacy				1.47	397.00	0.14	0.25
	City	3.34	0.86				
	Countryside	3.13	0.83				
TPACK				0.88	397.00	0.38	0.15
	City	3.92	0.44				
	Countryside	3.85	0.51				
Collegial support				0.96	397.00	0.34	0.17
	City	3.79	0.62				
	Countryside	3.69	0.59				
Administrative support				-1.36	397.00	0.18	0.28
	City	3.39	0.62				
	Countryside	3.54	0.44				
Burnout				1.13	49.67	0.26	0.16
	City	2.92	0.43				
	Countryside	2.86	0.33				

Table 3 and Table 4 describe differences between genders (male and female) and place of residence (city and countryside) of the lecturers teaching emergency online classes. As regards table 3, the Sig. (2-tailed) values indicate that, in general, there were no significant differences between the two genders in all aspects, except for emergency teaching anxiety ($p = .03$) and TPACK ($p = .00$). Female lecturers tended to show more anxiety towards teaching than their male counterparts, with the mean of 2.45 and 2.30, respectively. In sharp contrast, male lecturers registered slightly higher scores ($M = 3.99$) in their TPACK than the opposite sex ($M = 3.86$). However, this study recorded no difference between burnout levels of male and female lecturers. Regarding Table 4, the statistics also showed no significant differences in all survey aspects ($p > .05$); thus, there was no difference between the burnout level between the two residence locations.

Oneway Analysis of Variance (One-way ANOVA)

Table 5. One-way analysis of variance summary table of the significance levels comparing differences of the demographic factors, namely age, years of experience, institutional familiarity time, and community's pandemic status, on the lecturers' burnout states (N = 399)

	<i>p</i>			
	Age	Years of Experience	Institutional familiarity time	Community's pandemic status
Coronavirus anxiety	0.33	0.68	0.20	0.17
Emergency teaching anxiety	0.54	1.00	0.10	0.79
Emergency teaching efficacy	0.72	0.38	0.37	0.41
TPACK	0.51	0.99	0.93	0.19
Collegial support	0.99	0.87	0.63	0.51
Administrative support	0.71	0.42	0.69	0.07
Burnout	0.41	1.00	0.22	0.15

The researchers proceeded to the one-way ANOVA analysis because all the Levene statistics were higher than 0.05. As can be seen from Table 5, as all the significance values are higher than 0.05, the statistics indicate that there was no difference between lecturers of different age groups, time of experience, institutional familiarity time, and status of the pandemic at their place of residence in all researched respects.

Tables 3, 4, and 5 allow the researchers to conclude that different demographic features did not yield any discrepancies in the lecturers' burnout states. It is, however, noticeable that different genders may vary in their level of anxiety related to online teaching and their TPACK.

Hypothesis testing of other factors (H2-H6)

Measurement Model Validity, Reliability, and Correlation

Regression calculation reported no outlier, multicollinearity, and other violations of assumption. Besides, the AVE and CR values ensured the instrument's convergent and discriminant validity (Appendix 3). All fundamental goodness of fit indices were adequate for further structural equation model analysis (Appendix 2).

Table 6. Intercorrelations, means, and standard deviations for the seven lecturer burnout variables
(N = 399)

Variable	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>
1. Emergency teaching anxiety	1	--	--	--	--	--	--	2.39	0.68
2. Emergency teaching efficacy	-.76**	1	--	--	--	--	--	3.32	0.86
3. TPACK	-.45**	.35**	1	--	--	--	--	3.91	0.44
4. Collegial support	-.29**	.28**	.36**	1	--	--	--	3.78	0.62
5. Administrative support	-.39**	.22**	.33**	.39**	1	--	--	3.41	0.61
6. Burnout	.50**	-.30**	-.16**	-.24**	-.48**	1	--	2.92	0.42
7. Coronavirus anxiety	.43**	-.25**	-.21**	-.08	-.22**	.41**	1	2.32	0.73

** $p < .01$

Table 6 represents the correlations between the seven constructs used in the study. In general, constructs are correlated except for collegial support and Coronavirus anxiety with $r(397) = -.08, p = .13 > .001$. This result implies that collegial support and Coronavirus anxiety are unrelated and may change independently. The highest absolute value of correlations recorded is between emergency teaching efficacy and anxiety, $r(397) = -.76, p = .00$, implying an inverse correlation that the more confident the lecturers were, the less anxious they felt with online teaching. Other correlations are between -0.448 to 0.501. Notably, positive correlations are discovered between burnout and Coronavirus anxiety with $r(397) = .41, p = .00$, and second, between burnout and emergency teaching anxiety with $r(397) = .50, p = .00$, in turn. On the other hand, burnout is negatively correlated with the remaining variables, including TPACK, collegial support, administrative support, and emergency teaching efficacy. It is also worth noting that there are inverse correlations between emergency teaching anxiety and TPACK, emergency teaching anxiety and collegial support, emergency teaching anxiety and administrative support, Coronavirus anxiety and emergency teaching efficacy, Coronavirus anxiety and TPACK, Coronavirus anxiety and collegial support, Coronavirus anxiety, and administrative support. However, it is worth noting that while these constructs may be correlated, the linear regression analysis shows no multicollinearity happened among the constructs.

Hypothesis Testing Paths and Results

Besides the demographic factors analyzed in the previous part, the hypotheses initially aimed to investigate how Coronavirus anxiety, emergency teaching self-efficacy, TPACK, collegial support, and administrative support affect lecturers' burnout in online emergency classrooms. However, as presented in figure 2, the CFA and SEM analysis demonstrated that the suggested antecedents affected only two out of three latent dimensions of burnout (sense of achievement and exhaustion). Also, CFA analysis from SPSS excluded emergency teaching efficacy from the model constructs as it could not meet the convergent validity value (factor loadings $<.40$) (see Appendix 3). Following the factor analysis, the construct of the model is:

1. Coronavirus anxiety (5 items)
2. Collegial support (5 items)
3. TPACK (3 items)
4. Emergency teaching anxiety (2 items)
5. Administrative support (5 items)
6. Exhaustion (2 items)
7. Sense of achievement (2 items)

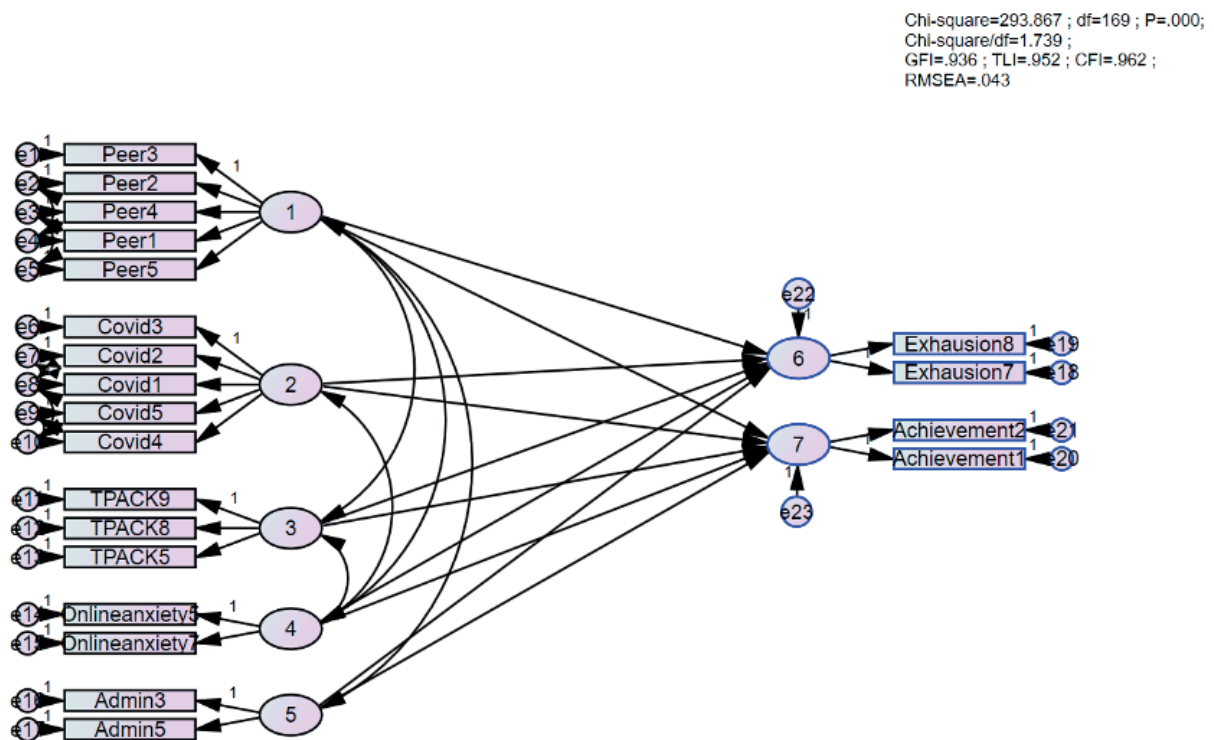


Figure 2. Constructs of lecturers' exhaustion in online emergency classrooms

Therefore, the hypotheses' paths are described as follows:

Table 7. Hypothesis paths and results

Path	β	Standardized Regression Weight	p (acceptable $p < .05$)	Results
H2 Emergency teaching anxiety → Exhaustion	-.290	-.266	***	SUPPORTED
Emergency teaching anxiety → Sense of achievement	-.018	-.026	.730	NOT SUPPORTED
H4 TPACK → Exhaustion	-.256	-.181	.009	SUPPORTED
TPACK → Sense of achievement	.388	.429	***	SUPPORTED
H5 Administrative support → Sense of achievement	.191	.270	.003	SUPPORTED
Administrative support → Exhaustion	.266	.240	.001	SUPPORTED
Collegial support → Exhaustion	-.165	-.138	.032	SUPPORTED
Collegial support → Sense of achievement	.038	.050	0.504	NOT SUPPORTED
H6 Coronavirus anxiety → Sense of achievement	-.010	-.015	.820	NOT SUPPORTED

The findings cannot point out the direct effects of seven antecedents on every latent dimension of burnout as the authors suggested in the hypotheses H1 – H6. However, the CFA and SEM analyses demonstrated how each antecedent affected two out of the dimensions of burnout state among emergency classes' lecturers. While no factor made lecturers depersonalize students, five out of the six non-demographical factors affected personal sense of achievement and exhaustion. Collegial support, Coronavirus anxiety, TPACK, administrative support, and emergency teaching anxiety significantly impacted the lecturer's exhaustion. Corona-related anxiety and emergency teaching anxiety positively impacted exhaustion, whereas TPACK, collegial support, and administrative support negatively affected exhaustion. On the other hand, only TPACK and administrative support positively affected how lecturers felt about their achievement ($p < 0.05$). Thus, the standardized regression equations are:

$$Exhaustion = -.138*(collegial support) + .279*(Coronavirus anxiety) - .181*(TPACK) + .240*(administrative support) - .266*(emergency teaching anxiety) + \epsilon_1$$

$$Sense\ of\ achievement = .429*(TPACK) + .270*(administrative support) + \epsilon_2$$

DISCUSSION

Regarding the continuance and expansion of Covid-19 globally, this study aimed to investigate essential elements causing lecturer burnout in online higher education during the pandemic in Vietnam. The study was conducted with six hypotheses. The first was that the lecturers' demographic features correlated with their burnout in an emergency online classroom. Second, it is hypothesized that the lecturers' anxiety about online classrooms and anxiety about the Coronavirus positively impact their burnout state. Furthermore, such factors as the lecturers' emergency teaching self-efficacy, technological and pedagogical competencies (TPACK),

collegial support, and administrative support are hypothesized to reduce the lecturers' burnout. Findings from the study reported that demographic features have no significant role in yielding lecturer burnout in emergency online education, except for the lecturers' gender differences in emergency teaching anxiety and TPACK. The study results also revealed that such suggested antecedents as Coronavirus anxiety, TPACK, emergency teaching self-efficacy, collegial support, and administrative support play no significant role in lecturer depersonalization of students, one reflective dimension of burnout in an emergency online classroom. However, except for emergency teaching efficacy, other non-demographic features have affected the two dimensions of burnout: the lecturers' personal sense of achievement and exhaustion (H2, H4, H5, H6).

The Effects of Demographic Features on Lecturer Burnout in The Emergency Online Classes (H1)

This study's findings are consistent with previous research (Hogan & McKnight, 2007; Lackritz, 2004; Zadok-Gurman et al., 2021), indicating that demographic features do not correlate with lecturer burnout levels. As reported from the study, demographic features, including lecturers' gender, age, years of working experience, and location of residence, do not significantly affect or cause lecturer burnout in emergency online classroom delivery.

These findings strongly support the results from Zadok-Gurman et al. (2021) that there is no significant difference between the two genders in all aspects and remarkably advocate the results from Lackritz (2004) that gender difference is not correlated with lecturers' sense of achievement during the delivery of online classroom in the pandemic. However, the study's findings contradict those of previous studies by Toker (2012) and Whitehead et al. (2000), indicating that lecturers' biological age and working experiences recorded no difference in burnout levels between lecturers. Although the lecturers may differ in age and experience, their familiarity with online education was virtually the same. This similarity was due to only a minority of institutes in Vietnam implemented the online learning system before Covid-19 broke out, and most lecturers in the survey were teaching face-to-face classes before the pandemic (Maheshwari, 2021), which means that, regardless of age, teaching experience, time at the institutions, the lecturers are similar in their experience with online teaching. The marginal discrepancies in familiarity and experience with online teaching, particularly emergency teaching, justify the burnout state's independence of age, working experience, and familiarity with the institution. Thus, all institutions need a relevant agency that supports all novice and expert lecturers to familiarize themselves with the new teaching context.

Significantly, while confirming that demographic features play an insignificant role in causing lecturer burnout, results obtained from the investigation reported that different genders yield different levels of anxiety related to online emergency teaching and TPACK. During the Covid-19 pandemic outbreak, female lecturers tended to be more anxious about online emergency teaching than their counterparts, whereas male lecturers have slightly more TPACK knowledge than female lecturers. However, these findings show no evidence that lower female TPACK resulted in less sufficient skills, knowledge, and ability for online teaching practice than males (Dong et al., 2020; Joo et al., 2016). This result, to some extent, has reflected more equality in education on the grounds of gender in Vietnam. Although female lecturers may tend to be more anxious about their teaching, with adequate support, they are indeed as competent in dealing with stressful teaching experiences as their male counterparts. On the other hand, male lecturers should not be excluded from psychological support when teaching online as they are as vulnerable to stress factors as female lecturers. If equitability in education is concerned, male and female lecturers should receive equal care for their interpersonal and intrapersonal tensions.

These results contradict the study's first hypothesis about the correlation between demographic features and lecturer burnout in emergency online classes. They also contradictorily clarify the previous assumption

from Le et al. (2021) that higher education institutions in provincial areas in Vietnam tend to have more limitations in online teaching delivery than those in the cities. However, the findings align with Le et al. (2021) that male lecturers tend to be more competent in TPACK than their female counterparts (Scherer et al., 2017). From our findings, the researchers would like to doubt the prejudice that technology is inherently unfair as lecturers in cities are more familiar with teaching online than those in the countryside or provinces. We believe that, with adequate training and well-preparation, lecturers from the countryside will not be more intimidated by teaching or stressed out than those from big cities.

The Effects of Other Related Factors on Lecturer Burnout in the Emergency Online Classes (H2-H6)

Besides demographic features, this study corroborated the effect of other factors on lecturer burnout in emergency online classroom practice. These factors include Coronavirus anxiety, emergency teaching self-efficacy, TPACK, collegial support, and administrative support. Analysis of the study findings reported that although emergency teaching efficacy does not impact lecturer burnout, the five suggested antecedents affected two latent dimensions of burnout: the sense of achievement and exhaustion.

The findings' analysis results are consistent with previous research results (Dong et al., 2020; Joo et al., 2016; Pressley, 2021; Sokal et al., 2020), which disclosed that factors of collegial and administrative support and anxiety towards Coronavirus pandemic and TPACK affect lecturer burnout. Specifically, the study's findings first demonstrated that Coronavirus anxiety and emergency teaching anxiety positively correlate with lecturers' exhaustion from emergency online teaching classrooms. This view aligns with previous researchers' views (Hidalgo-Andrade et al., 2021; Pressley, 2021), which confirmed that anxiety during the Coronavirus-induced pandemic could create lecturer's different stressors, and that Coronavirus anxiety is one of the significant factors causing lecturer burnout in general. Because most of the population may be anxious about the Coronavirus, the potential methods here may go beyond the reach of lecturers or institutions. On a grander scale, the government must consider a holistic system of measures to alleviate the severity of this pandemic through medical care, vaccination, and preventive implementations. If the lecturers and educational professionals feel protected from the pandemic, their burnout may be reduced.

Second, findings from the study indicated that TPACK, collegial support, and administrative support are negatively correlated with lecturers' exhaustion from online teaching practice during the pandemic. This is consistent with previous research identifying sources of lecturer exhaustion and anxiety in online teaching in crisis circumstances (Dong et al., 2020; Joo et al., 2016; Kelly & Antonio, 2016; Pressley, 2021; Sokal et al., 2020). Regarding support resources (administrative and collegial supports), the findings suggested that only administrative support and TPACK positively affected how lecturers felt about their sense of achievement in the delivery of emergency online teaching classes. In other words, findings from the study revealed that lecturer burnout in emergency online teaching is negatively affected by such factors as collegial support, administrative support, and TPACK. In contrast, Coronavirus and emergency online teaching anxiety positively affect the lecturer's burnout in emergency online classes. Regarding lecturers' sense of achievement in Emergency online teaching, findings also indicated that TPACK and administrative support could positively affect their achievement. Institutions shoulder a tremendous responsibility in establishing a caring and supportive environment in which lecturers can release their stress and curb their burnout.

The study's findings help substantiate our initial hypotheses (H2, H4, H5, H6) in confirming the roles of emergency teaching anxiety, Coronavirus anxiety, TPACK, and support resources in yielding lecturers' exhaustion and burnout in emergency online teaching. Specifically, the findings affirmed that Coronavirus anxiety exacerbates lecturer exhaustion and burnout in emergency online classrooms. However, the study

also concluded that TPACK and support resources could reduce the lecturers' exhaustion. In addition, it is also demonstrated that anxiety toward emergency online teaching can positively affect the lecturers' exhaustion during the pandemic.

Moving Forward

This study highlights theoretical and practical implications and issues in Vietnam's emergency online higher education practice. Theoretically, the study findings contribute to the existing literature about lecturer burnout in emergency circumstances and crises. Specifically, findings from this study provided new insights into the general belief about antecedents of emergency online lecturer burnout in higher education in Vietnam. That is, it is not only massive over workload and TPACK that affect lecturers' emergency online teaching exhaustion and burnout, but also other antecedents related to support resources, mainly administrative and collegial support, and anxiety toward Coronavirus pandemic that can significantly impact the lecturer burnout in online teaching practice in the crisis.

The study reveals several concerns about higher education practice when transitioning from the traditional face-to-face classroom to online mode due to the pandemic. At the institutional level, the findings first revealed a lack of psychological programs and services provided for lecturers within higher education institutions. These are crucial to lecturers and staff during this challenging pandemic when they must work at home due to campus closures and lockdowns. From the participants' answers, we admit that psychological and professional consultants are not readily available in many Vietnamese institutions. Therefore, the critical suggestion we would like to make through this article is that administrators should consider establishing consulting services or employing psychologists so that lecturers can turn to them when they need emotional and psychological support. These results call for higher education leaders and administrators to provide appropriate and effective physical and psychological support to the academic and teaching staff. Such support can help lecturers alleviate unexpected stressors at both interpersonal and intrapersonal levels due to the pandemic's policies of campus closures and lockdowns (Hidalgo-Andrade et al., 2021).

Second, results from the study also proved that online teaching and learning would be enhanced effectively when the lecturers are released from the anxiety of online teaching or when they are familiar and motivated with this new-normal teaching practice. Given the current circumstance of the Covid 19-pandemic outbreak across countries, it is essential that online teaching and learning be considered one of the crucial solutions for the sustainable development of education. Adequate investment in infrastructures and facilities for online teaching, professional development programs to help lecturers become familiar with the software, tools, and applications used in online education, and workshops for expertise and experience exchange among faculty in enhancing the effectiveness of online education are some examples that higher education leaders and administrators can take into consideration.

At the lecturers' level, results related to the effect of demographic features on lecturer exhaustion and burnout, which reveal an insignificant difference between the two gender groups in all aspects under investigation, indicated a significant change in the mindset of teaching faculty in online teaching among institutions as well as institution leaders in online educational investment in the crisis. One potential explanation is that higher education institutions in Vietnam have experienced several times of the Covid-19 pandemic outbreak, which helps them realize that online teaching and learning is the crucial option for sustaining educational activities and communication with students. Therefore, adequate preparations have been made for this period of the pandemic. However, knowledge about lecturer anxiety towards emergency online classes and TPACK suggests that more training on coping strategies in emergency online teaching must be provided to lecturers and supporting staff. These training sessions will help develop and strengthen

the lecturers' adaptive alternatives in teaching and alleviate their reliance on support resources from the institutions since they may work at home without having on-hand support resources that the institutions can provide. Helping lecturers develop coping strategies may be an effective strategy for them to self-address stressors during the online class delivery, thereby alleviating burnout during the pandemic.

By looking back on what factors have contributed to lecturer burnout, the researchers not only aim to retrospect what has been happening in Vietnam, but also call for a holistic consideration of the pros and cons of the education transition to move forward. In other words, this research should not be perceived from the perspective of storytellers but rather from radical educators. In the foreseeable future, reliving our days before this Covid-19 terror is virtually impossible. However, this research was not merely conducted to memorize what happened. Indeed, this study demonstrated the limitations and strengths of the whole education system in reaction to emergencies. All the stakeholders in developing nations should join hands and move forward by providing long-term measures to transform emergency distance learning into a rigorous online learning system. Also, training for lecturers should not stop by providing them with traditional teaching techniques. Instead, lecturer training should be able to prepare them for unpreparedness psychologically, pedagogically, and physically. Artificial intelligence and other asynchronous platforms should be well-prepared to assist lecturers in synchronous teaching sessions during pandemics. We believe good preparation for the unpredictable is the ultimate method for education to move forward from reactive emergency teaching and learning to proactive online teaching and learning.

Limitations and Suggestions for Future Studies

Despite significant findings obtained, this study has still had several limitations. First, since the study was quantitatively conducted using a questionnaire to explore answers to the hypotheses, it does not explore in-depth information from the target participants about their insights of stress, exhaustion, and burnout from online teaching in emergencies. Therefore, future studies about teacher burnout may consider combining quantitative and qualitative methods to explore the issues. Second, this study is limited in that, although participating in the study included both lecturers in the cities and provinces, no representative from disadvantaged areas of the country may have more challenges in online education. Second, female participants outnumbered males, which may bias the study results related to anxiety toward emergency online teaching and TPACK. Thus, future research on the effect of emergency online teaching on faculty burnout must consider involving representatives from various regions of the country and adequate numbers of the two gender groups.

Finally, when higher education is shifted from the traditional face-to-face classroom to online education practice during the pandemic, stress and burnout may not only happen among lecturers, but also among other target participants, including students, institutional leaders and administrators, and parents may face. However, this study was only focused on lecturers at the tertiary level and lacked different voices from other participant groups. To complete the overall picture of online teaching and learning burnout in crises and emergencies, perspectives and insights from other participants involved in online education in emergencies may be explored in future research.

CONCLUSION

Given the current outbreak of the Covid-19 pandemic across countries with its unexpected influence on institutions and faculty, stress and burnout in emergency online classes among faculty and academics will bring more challenges to higher education institutions in Vietnam. This study consolidated previous research on burnout in online teaching, particularly in emergency circumstances, which confirms burnout antecedents of online classes in higher education. Besides conventional factors introduced in the existing literature, this research has provided an indiscriminate perspective that genders, locations, or even teaching

age do not create more burnout among lecturers. The research also incorporated the novel Corona Virus Anxiety scale, which justified that, rather than a myth, the pandemic apprehension indeed induced lecturer burnout. Results from this study revealed that although there are significant correlations between lecturer exhaustion in emergency online teaching and such factors as emerging teaching anxiety, TPACK, administrative support, collegial support, and Coronavirus anxiety at both positive and negative levels, no significant difference is found between lecturers' demographic features, including different genders and their residence, and their burnout state. This finding may be thanks to measures to guarantee equality for lecturers based on gender, residence, and experience. Lecturers from our research still needed TPACK training and support from different stakeholders, including their colleagues, administrators, and the government. Institution leaders and administrators can use this study's knowledge to develop appropriate strategies for alleviating burnout among faculty in emergency online education and strengthening online education for sustainable development through an adequate investment of time, money, and facilities for preparatory training activities. Long-term acting agendas, including professional training and emotional support to facilitate teacher psychology, are the ultimate method to help education progress in times of difficulties and crises.

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APPENDIX 1

Constructs	AVE	CR
Coronavirus anxiety scale	0.561	0.864
Emergency teaching anxiety	0.581	0.735
TPACK	0.524	0.766
Collegial support	0.6	0.882
Administrative support	0.551	0.710
Burnout dimensions		
Exhaustion	0.573	0.77
Sense of achievement	0.552	0.712

Note. Acceptable AVE = 0.5; CR= 0.7

APPENDIX 2

Model of Fit Indices

Fit indices	Post-modification values	Acceptable values
GFI	.936	GFI>.90
CFI	.962	.95<CFI<1
TLI	.952	.95<TLI<1
RMSEA	.043	RMSEA <.06
Chi-square/df	1.739	Chi-square/df <3
p.	<.001	p. <.005

The index criteria are adapted from Ainur et al. (2017) whereas they are quite robust when data are not normal. Absolute measures (GFI, AGFI, RMSEA and Mesci (2020)).

APPENDIX 3

Loading Factors

	Factor						
	1	2	3	4	5	6	7
Peer3	.876						
Peer2	.837						
Peer4	.764						
Peer1	.737						
Peer5	.702						
Covid3		.820					
Covid2		.781					
Covid5		.731					
Covid4		.717					
Covid1		.701					
TPACK9			.855				
TPACK8			.689				
TPACK5			.582				
Onlineanxiety5				.783			
Onlineanxiety7				.727			
Admin3					.764		
Admin5					.728		
Exhaustion7						.802	
Exhaustion8						.745	
Achievement1							.688
Achievement2							.703