



## WORKING CONDITIONS OF UNIVERSITY TEACHERS DURING THE PANDEMIC - THE CASE OF GREEK UNIVERSITIES

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### **Abstract:**

The spread of the COVID-19 pandemic has drastically disrupted every aspect of human life including education. All around the world, campuses closed, and teaching-learning has moved online. Despite all these challenges, Higher Education Institutions (HEIs) have reacted positively and managed to ensure the continuity of teaching-learning, research, and service to society during the pandemic. This article highlights on major impacts of Covid-19 on HEIs in Greece and aims to capture in quantitative terms the working conditions of university professors during that period. This study thus employs a quantitative approach based on a survey design to purposively collect data from 219 tutors in order to discuss the implementation of online learning amid the COVID-19 pandemic in the Greek higher education context and investigate the challenges experienced by university teachers during this period.

**Keywords:** COVID-19, higher education, university staff, online learning

### **1. Introduction**

In the Spring of 2020, humanity experienced an unprecedented situation due to the spread of the COVID-19 virus. The COVID-19 pandemic has affected the higher education system in Greece, which has led to a massive shift to online education, influencing students, teachers, and educational establishments greatly. In Greece, to limit

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the spread of the COVID-19 virus, it was decided to suspend the operation of universities and subsequently replacement of all live educational procedures with distance learning. The effects on education of the Covid19 pandemic had such unprecedented severity concerning similar pandemics in the past due to the massification of education, as in Greece, twenty times more students participate in higher education than sixty years ago (Goulas & Karalis, 2020).

Higher educational institutions did their best to transform the curriculum into an online format, trying to minimize the negative impact of the rapid changes on the educational process and to ensure nonstop teaching and learning. The purpose of this research is to detect, describe, and "measure" the terms and working conditions of teaching staff in higher education during the pandemic period. In other words, the purpose of the research is to capture in quantitative terms the working conditions and conditions that the specific population experienced and continues to experience.

## 2. Literature review

The functioning of education during the pandemic did not leave the scientific community unconcerned. As expected, the first theoretical and empirical approaches to how educational systems could respond to the extraordinary conditions imposed by the pandemic began to be recorded. In this context, the term "Emergency Remote Teaching, ERT" appears. The main purpose of ERT, according to Hodges, Moore, Lockee, Trust, & Bond (2020), is not to form a new integrated educational ecosystem, but to provide a framework that in a short period will ensure direct and reliable access to all parts of the educational community. As Anastasiadis (2020) notes, the emphasis of ERT is not on distance education but on the distance support of learners. From the spring of 2020 until today, the international literature has demonstrated a series of studies that attempt to study the effects of the pandemic on education, but also on higher education in particular. At a global level, although the COVID-19 pandemic had an immediate impact on the academic activities of universities, a study with 406 universities from 109 countries reveals that 91% considered that they were prepared with the necessary infrastructure to maintain good communication with their students and professors (Marinoni et al., 2020). Moreover, researchers attempted to analyze students' opinions on online education during the COVID-19 pandemic using empirical studies in India (Mishra, Gupta, & Shree, 2020), Serbia (Bojovic, Bojovic, Vujosevic, & Suh, 2020), USA (Lazar, 2021), South Africa (Armoed, 2021), Poland (Cicha, Rizun, Rutecka & Strzelecki, 2021) and elsewhere. Bao (2020) notes in her study of Peking University with a sample of 44,700 subjects that the greatest difficulties for students did not come from a lack of technological skills, but from a lack of self-discipline, appropriate learning materials, or a suitable room to study. In their research on the impact of the pandemic and confinement on a sample of 7,143 students from Changzhi University, Cao, Fang, Hou, Han, Xu, Dong, & Zheng (2020), argue that determinants of student psychology amid the pandemic appear to be family income, the urbanity of the area they live in, and whether or not they live with their

family. Skulmowski and Rey (2020) in their survey of 10,389 students at the University of Chemnitz in Germany note that the pandemic condition will be a precursor to the future "*pedagogical experience*" that students will experience in universities and the post-pandemic period. In a corresponding study by Owusu-Fordjour, Koomson, & Hanson (2020) on a sample of 250 students from Ghana, the negative impact of distance learning on learning outcomes is evident, as the students stated, among other things, that they had limited access to the internet and did not have the required know-how to use the educational platforms with which not even the teaching staff of the universities were familiar.

The findings of Tsitsia, Kabbah, Doyi, Kabe & Safo (2020) were similar, with the students of the said research adding to the limited accessibility of the internet and the parameter of high cost, regarding distance education. Along the same lines, the findings of Malik, Ajmal & Jumani (2020) showed that students in Pakistani universities also faced great difficulty in understanding online courses, while almost all students stated that they had limited access to the internet and had not received prior guidance on using the educational platform. Also, in said research, the increased workload of higher education professors was highlighted due to the need to modify their teaching methodology in general. Accordingly, there were the results of a survey of 874 Indian students, with insufficient infrastructure, limited access to the internet, and non-existent training being their main concerns (Naik, Deshpande, Shivananda, Ajey, & Manjunath Patel, 2021). Marinoni, van't Land, and Jensen (2020) in research with 424 participants note that the pandemic has resulted in several negative consequences for the quality of educational services provided and the equality of learning opportunities, but at the same time, it has also been the starting point of new challenges for higher education at an international level. A similar study in Britain (Neves & Hewitt, 2020) recorded, among other things, the effects of the pandemic on the mental health of students, while a study of 730 students in health sciences schools is also interesting, which recorded that only 1/3 of the subjects preferred distance assessment while highlighting as a dominant issue the immutability of examination procedures that take place with distance methodologies (Elsalem, Al-Azzam, Jum'ah & Obeidat, 2021). Corresponding research on 283 students in Hong Kong shows that the online learning process increases learners' anxiety and is influenced by the subjects' personality factors (Tavitiyaman, Ren & Fung, 2021). Subsequently, an international survey with the participation of 730 teachers in higher education regarding their readiness to include distance teaching methods in their teaching methodology formed three different profiles of teachers, with gender, previous experience in the use of new technologies, and origin influencing the degree of readiness of the subjects regarding the use of distance learning methodologies (Scherer, Howard, Tondeur, & Siddiq, 2020).

Of particular interest is research in the United Arab Emirates on the extent to which the pandemic affected students' choice of studies, with the variables of cost, student life, and the existence of e-learning appearing differentiated compared to the pre-pandemic era (Nanath, Sajjad & Kaitheri, 2021). Bakhmat, Babakina, and Belmaz (2021)

studied the attitudes of Ukrainian university professors toward the pandemic and discovered that the main problems of distance education were insufficient internet access, technical problems, and a lack of interaction in the course, while the benefits of overall time management, flexibility regarding working hours, self-improvement of university teachers, and the use of new teaching tools were noted. Also of great interest are the research findings which show that male and female students' views on distance education changed for the worse after the experience of the COVID-19 pandemic. More specifically, before the pandemic, most students stated that they preferred online courses, that they learn easier in online classes, and that the content of online courses is more interesting than courses that take place through conventional teaching. These attitudes have changed more negatively after the experience of the pandemic, proving that both students and higher education institutions were not completely ready for a transition to online teaching (Chua & Ruzgar, 2021).

Regarding research efforts on Greek education, especially on public higher education and the degree to which it was affected by the COVID-19 pandemic, the research efforts to date are particularly limited. Goulas & Karalis (2020), although they focus on the impact of the pandemic on lifelong learning in Greece, will rightly argue that after the public health system, higher education was the public system that demonstrated high reflexes and immediate response to the crisis, as, by the end of March 2020, all Greek universities had announced a transition to modern and asynchronous education systems at a rate of 96.5% (Lakasas, 2020). Also of interest is the research effort of Stamboltzis, Giannoula & Kalamatianou (2020), where the degree of acceptance of distance teaching methods amid COVID-19 by Greek university undergraduates with distinct special educational needs is studied. This research will demonstrate the positive attitude of the subjects toward distance education in universities. Still, it will also highlight a series of weaknesses such as insufficient information from the institutions, the inability to access it, and the lack of communication and feedback from the professors. In research with a population of male and female students at the University of Patras, Karalis & Raikou (2020) showed that the initial concerns of the subjects about completing their studies and their anxiety about future developments were replaced by a feeling of relief about continuing the courses online and from the fact that the study semester (spring semester 2019-2020) was completed normally. Regarding the advantages and disadvantages of distance learning, students said that attending classes is now easier, but personal contact and social interaction in the auditorium are absent, while the technical difficulties make the whole venture seem problematic (Zagkos et al., 2022). Finally, the students of the University of Patras seem to have responded positively to the transition from live to distance teaching following the results of the research by Kamarianos, Adamopoulou, Lambropoulos & Stamelos (2020), where the subjects seem to have faced the condition of the pandemic as a challenge and an opportunity to develop new digital skills.

### 3. Method & Sample

The research population consisted of university professors and contract lecturers at Greek universities. We sent invitations to participate in the research to approximately 1,000 people but managed to collect 219 responses. The sample is convenient and random and is considered to be large, which ensures the representativeness and regularity of its distribution.

The current study adopted a quantitative cross-section research design. The questionnaire was selected as the most appropriate tool for reviewing and mapping the attitudes of a large number of university teachers to record and analyze as many parameters as possible of the terms and conditions of their work during the pandemic.

For the present research, we chose the questionnaire as a research tool for the following reasons:

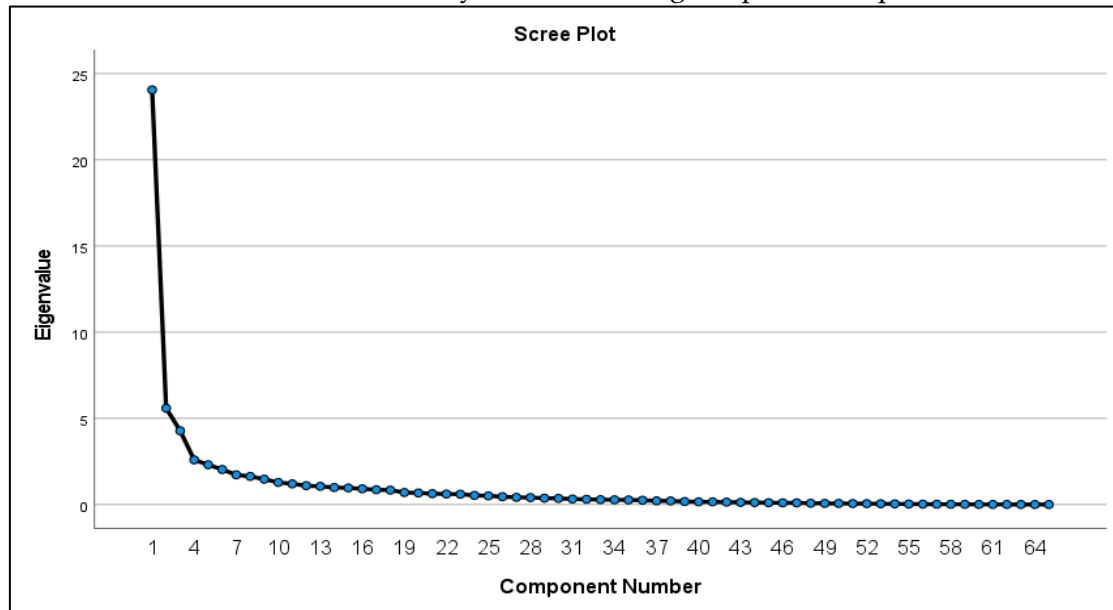
- 1) It easily arouses the interest of the respondents and increases their participation in the research process.
- 2) The initial decision on the need to use a large sample of subjects and the technical capabilities of the research team favors the use of a questionnaire.
- 3) The questionnaire is used to collect information about the perceptions and opinions of subjects, which is not easy to observe.
- 4) The questionnaire as a research tool allows continuous testing and interventions to be formulated most appropriately.

For the study, a questionnaire was structured as a tool for quantitative research of professors' attitudes. The questionnaire incorporated Likert scales that cover the research questions. Four subscales (5-point Likert Scales) were created. (a) Technical issues and financial costs of distance learning; (b) Digital skills and training needs; (c) Reconstruction of teachers' social lives; and (d) Teaching and learning issues. The factor analysis showed the distribution of all the statements in the subscales and the total scale, but all 4 subscales were checked for their reliability, and Cronbach's alpha index gave acceptable values. A validity check of the scales was performed by five independent critical reviewers two times before the first (pilot) use of the questionnaire on 25 people.

**Table 3:** Cronbach's alpha test

	Scale	Cronbach's alpha
A	Technical problems and financial costs of distance learning	0,912
B	Issues of digital skills and training needs	0,880
C	Issues of reconstruction of the social life of teachers	0,937
D	Issues of teaching and learning.	0,943
Total	Total scale	0,972

**Diagram 1:** Factors of the questionnaire on working conditions of university teachers during the pandemic period



**Table 4:** Demographics of the sample

<b>Gender</b>	<b>n</b>	<b>%</b>
Male	138	63,0
Female	81	37,0
<b>Total</b>	<b>219</b>	<b>100,0</b>
<b>Age</b>		
<b>Age</b>	<b>n</b>	<b>%</b>
31-40	21	9,6
41-50	69	31,5
>51	129	58,9
<b>Total</b>	<b>219</b>	<b>100,0</b>
<b>Position</b>		
<b>Position</b>	<b>n</b>	<b>%</b>
Laboratory staff	24	11,0
Contract Lecturer	48	21,9
Assistant Professor	39	17,8
Associate Professor	45	20,5
Full Professor	63	28,8
<b>Total</b>	<b>219</b>	<b>100,0</b>
<b>Experience in tertiary education</b>		
<b>Experience in tertiary education</b>	<b>n</b>	<b>%</b>
0-10 years	66	30,1
11-20 yeas	84	38,4
21-30 years	51	23,3
> 31 years	18	8,2
<b>Total</b>	<b>219</b>	<b>100,0</b>
<b>Field of expertise</b>		
<b>Field of expertise</b>	<b>n</b>	<b>%</b>
Humanities	54	24,7

Social Sciences	126	57,5
Science	30	13,7
Technological Science	3	1,4
Health Sciences	6	2,7
<b>Total</b>	<b>219</b>	<b>100,0</b>

## 4. Results

**Table 5:** Distribution of the answers

	<b>Technical problems and financial costs of distance learning</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>
A1	Distance learning requires logistical specifications that I do not have at home.	35.6	28.8	12.3	19.2	4.1	2,27
A2	The distance learning process presents many technical problems.	13.7	34.2	26.0	21.9	4.1	2,68
A3	I find it difficult to respond to the technical problems presented.	32.9	38.4	23.3	1.4	4.1	2,05
A4	Technical problems make me anxious.	19.2	26.0	19.2	20.5	15.1	2,86
A5	I have no support in solving the technical problems presented.	21.9	37.0	20.5	11.0	9.6	2,49
A6	The cost of distance education puts a strain on my family's budget.	27.4	17.8	15.1	16.4	23.3	2,90
A7	There is no specialized technical staff in the educational organization where I work for solving distance education issues.	43.8	21.9	19.2	8.2	6.8	2,12
A8	The student's lack of appropriate equipment makes distance education dysfunctional.	6.8	19.2	31.5	23.3	19.2	3,29
A9	Distance learning requires logistical specifications that I don't even have at my workplace	47.9	20.5	17.8	6.8	6.8	2,04
A10	My workplace's technology infrastructure is outdated.	38.4	20.5	17.8	16.4	6.8	2,33
A11	I waste time reading to sort out the technical problems that arise from distance learning.	24.7	28.8	20.5	19.2	6.8	2,55
A12	I feel that I support the distance learning process myself.	17.8	27.4	16.4	23.3	15.1	2,90
A13	Increased the cost of technology infrastructure in household expenses.	31.5	11.0	17.8	20.5	19.2	2,85
A14	The cost of distance learning was essentially borne by us.	23.3	16.4	12.3	21.9	26.0	3,11
	<b>Issues of digital skills and training needs</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>
B1	Distance learning requires digital skills that I don't have.	42.5	31.5	16.4	8.2	1.4	1,95
B2	I am not familiar with using e-learning platforms.	50.7	24.7	15.1	8.2	1.4	1,85
B3	I am not familiar with all the applications that educational platforms provide.	32.9	26.0	23.3	12.3	5.5	2,32
B4	I feel that I cannot meet the technical demands of distance education.	56.2	28.8	11.0	2.7	1.4	1,64

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B5	I feel that I do not know the teaching methodology required to use distance learning.	42.5	19.2	19.2	12.3	6.8	2,22
B6	Distance learning requires digital skills that are not my age.	68.5	20.5	8.2		2.7	1,48
B7	The state had not taken care to adequately educate us about distance learning issues.	12.3	8.2	30.1	17.8	31.5	3,48
B8	The university did not provide us with the technical support we needed for distance learning.	32.9	17.8	26.0	12.3	11.0	2,51
B9	I feel that the ministry has left the university students to fend for themselves with the new educational conditions.	12.3	19.2	17.8	17.8	32.9	3,40
B10	We need immediate and updated training for the psychological management of our students.	5.5	12.3	26.0	26.0	30.1	3,63
B11	The means provided to us by the State are not sufficient to cover the existing gaps in technical equipment.	20.5	8.2	21.9	12.3	37.0	3,37
	<b>Issues of reconstruction of the social life of university teachers (educational everyday life)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>
C1	Distance learning has significantly changed my daily life.	2.7	11.0	6.8	31.5	47.9	4,11
C2	During distance learning, I work harder.	4.1	9.6	23.3	63.0	4.1	4,45
C3	With distance learning, I feel constantly exposed.	15.1	23.3	21.9	15.1	24.7	3,11
C4	Distance education has negatively affected my family life.	23.3	19.2	26.0	15.1	16.4	2,82
C5	Distance education put a strain on my financial budget.	27.4	19.2	11.0	26.0	16.4	2,85
C6	Distance learning has changed the nature of my work.	5.5	5.5	19.2	23.3	46.6	4,00
C7	With distance learning, my work lost its interest.	34.2	27.4	16.4	15.1	6.8	2,33
C8	My creativity has been diminished by distance learning.	35.6	27.4	16.4	12.3	8.2	2,30
C9	Every day I live with anxiety related to the health of my family.	24.7	23.3	21.9	23.3	6.8	2,64
C10	Because of distance learning, I don't have free time.	15.1	17.8	21.9	27.4	17.8	3,15
C11	Due to distance learning, I can't schedule my work	24.7	26.0	20.5	13.7	15.1	2,68
C12	All day I have to solve technical problems and I don't do class.	54.8	28.8	11.0	4.1	1.4	1,68
C13	I feel tired from the constant exposure to screen radiation.	24.7	16.4	9.6	27.4	21.9	3,05
C14	I don't have time to read.	28.8	12.3	16.4	26.0	16.4	2,89
C15	Due to distance learning, the time to communicate with students has increased and the time to prepare lessons has decreased.	11.0	16.4	13.7	38.4	20.5	3,41
C16	With the kids at home, it's hard to teach without breaks.	41.1	11.0	19.2	11.0	17.8	2,53
C17	The needs of the family receded due to the educational routine.	27.4	26.0	17.8	16.4	12.3	2,60



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C18	The fact that non-students might be watching the class and judging me makes me very anxious.	52.1	24.7	12.3	9.6	1.4	1,84
C19	During distance education, I feel that my privacy is not respected.	30.1	26.0	15.1	16.4	12.3	2,55
C20	I feel anxious at the prospect of my course being published by the students.	37.0	24.7	17.8	11.0	9.6	2,32
C21	With distance learning, I don't have enough time to devote to research.	13.7	17.8	17.8	31.5	19.2	3,25
<b>Teaching and learning issues (educational effectiveness)</b>							
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>
D1	Distance learning has significantly changed the learning process.	5.5	19.2	16.4	26.0	32.9	3,62
D2	Distance education does not facilitate the achievement of learning objectives.	11.0	23.3	17.8	28.8	19.2	3,22
D3	Students do not actively participate in distance learning courses.	8.2	17.8	17.8	28.8	27.4	3,49
D4	Live teaching cannot be replaced by distance learning.	2.7	2.7	9.6	19.2	65.8	4,42
D5	Distance learning does not help create the right climate.	6.8	9.6	21.9	17.8	43.8	3,82
D6	I don't feel familiar with distance learning.	32.9	32.9	17.8	9.6	6.8	2,25
D7	Not all fields of knowledge can be taught remotely.	4.1	6.8	13.7	32.9	42.5	4,03
D8	Distance courses do not facilitate the achievement of educational goals.	6.8	20.5	20.5	28.8	23.3	3,41
D9	my students on their toes.	12.3	17.8	20.5	30.1	19.2	3,26
D10	Personal data is adequately protected in online courses	12.3	17.8	17.8	21.9	30.1	3,40
D11	Distance education increases the responsibility I feel toward my students.	13.7	13.7	23.3	28.8	20.5	3,29
D12	The remote evaluation process of students is not appropriate.	12.3	8.2	20.5	28.8	30.1	3,56
D13	I do not know enough about how to evaluate learners through distance learning.	34.2	21.9	15.1	16.4	12.3	2,51
D14	It is not easy to maintain the interest of learners during the distance learning process.	9.6	15.1	16.4	28.8	30.1	3,55
D15	The development of students' critical thinking is hindered by distance learning.	19.2	16.4	23.3	24.7	16.4	3,03
D16	Distance learning is more tiring for the teacher	8.2	12.3	5.5	34.2	39.7	3,85
D17	With distance learning, I feel like things happen that I can't control.	8.2	13.7	21.9	31.5	24.7	3,51
D18	With distance teaching, I feel that I can no longer control the pedagogical relationship with my students.	11.0	12.3	19.2	32.9	24.7	3,48
D19	With distance learning, I cannot effectively control the learning climate.	11.0	8.2	27.4	30.1	23.3	3,47

**Table 5:** Mean & Standard Deviation of the scales

	Scale	Mean	S.D.
A	Technical problems and financial costs of distance learning	2,605	,887
B	Issues of digital skills and training needs	2,530	,818
C	Issues of reconstruction of the social life of teachers	2,884	,868
D	Teaching and learning issues	3,619	,945

Attempting to analyze the working conditions of university professors during the period of the pandemic, we grouped the statements into four subscales. The first subscale (Cronbach's alpha: 0.912) concerns *technical problems and the cost of distance education*. Regarding the answers of the university professors to the statements of the specific subscale, we first distinguish that the average of the answers of the first subscale is 2.605/5. Regarding the individual statements, we notice that in statement A1: *Distance learning requires logistical specifications that I do not have at home*; the mean value was 2.05/5; in statement A2: *The distance learning process presents many technical problems*; the mean value of the responses was 2.68/5; in statement A3: *I find it difficult to respond to the technical problems presented*; the mean value of the responses was 2.05/5; in statement A4: *Technical problems make me anxious*; the mean value of the responses was 2.86/5; in the statement A5: *I have no support in solving the technical problems presented*; the mean was 2.49/5. Subsequently, in statement A6, *the cost of distance education puts a strain on my family budget*. Regarding statement A7, *"There is no specialized technical staff in the educational organization where I work to solve distance education issues."* The mean value was 2.12/5. In statement A8, *the students' lack of appropriate equipment makes distance education dysfunctional* the average of the responses was 3.29/5. Regarding the statement, A9 *Distance education requires logistical specifications that I do not have. Even at my workplace*, the mean value was 2.04/5. In statement A10, *"The technological infrastructure of my workplace is outdated."* The average of the responses was 2.33/5. Accordingly, in statement A11, *I wasted time reading to solve the technical problems arising from distance education*. The mean value was 2.55/5. Regarding statement A12, *I feel that I support the distance learning process myself*. The average of the responses was 2.90/5. Concerning statement A13: *The cost of technological infrastructure has increased in household expenses*. The mean value was 2.85/5. Finally, regarding statement A14, *"The cost of distance education was essentially borne by us."* The average score of the responses was 3.11/5.

The second subscale (Cronbach's alpha: 0.880) concerns *issues of digital skills and training needs*. Regarding the answers of the university professors to the statements of the specific subscale, we can see that the mean value of the answers is 2.530/5. Regarding the individual statements, we notice that in statement B1: *Distance education requires digital skills that I do not have*. In statement B2: *I am not familiar with the use of e-learning educational platforms*, the mean value was 1.85/5, while regarding statement B3: *I am not familiar with all the applications provided by educational platforms*, the average score of the responses was 2.33/5. As for statement B4, *I feel that I cannot meet the technical requirements of distance education*. The mean value of the responses was 1.64/5. In statement B5, *I feel that I do not know the teaching methodology required for the use of distance learning*. The mean was 2.22/5,

while in statement B6, *distance learning requires digital skills that are not my age*, the average score of the answers was 1.48/5. Accordingly, regarding statement B7, *"The state had not taken care to train us sufficiently on distance education issues,"* the mean value of the responses to this statement was 3.48/5. In statement B8, *the university did not provide us with the technological support we needed for distance education. The mean value was 2.51/5.* Regarding statement B9, *I feel that the ministry has left university students to deal with the new educational conditions on their own*, which was about 3.40/5. In statement B10, *"We need immediate and up-to-date training for the psychological management of our students."* The mean value was 3.63/5, and in statement B11, *"The means provided by the State are not sufficient to cover the existing gaps in technical equipment."* The mean was 3.37/5.

The third subscale (Cronbach's alpha: 0.937) concerns *issues of reconstruction of the social life of university teachers*. Regarding the answers of the university teachers to the statements of the specific subscale, we observe that the mean value of the responses is 2.884/5. Regarding the individual statements, we notice that in statement C1: *Distance education significantly changed my daily life*, the mean value of the answers was 4.11/5. Regarding statement C2: *During distance learning, I work harder. The average score of the responses was 4.45/5*, and for statement C3: *With distance education, I feel constantly exposed. The mean value of the responses was 3.11/5.* The mean value of the responses in statement C4: *Distance learning has negatively affected my family life* was 2.82/5, while for statement C5: *Distance education burdened my financial budget*, the mean was 2.85/5. Regarding statement C6: *Distance education has changed the nature of my work*, the average score of the answers was 4/5, while the average for statement C7: *With distance learning, my work has lost its interest* was just 2.33/5. Concerning statement C8: *My creativity has been diminished by distance learning*, the mean value of the responses was 2.30/5, and for statement C9: *Every day I live with anxiety related to the health of my family*, the mean was 2.64/5. In statement C10, *because of distance learning, I don't have free time*, the average score of the responses was 3.15/5. For statement C11, *because of distance learning, I cannot plan my work*, 2.68/5. Next, in statement C12, *"All day I have to solve technical problems and I don't study."* The mean value of the answers was 1.68/5. and for statement C13, *I feel tired from the constant exposure to the radiation of the screen. It was 3.05/5.* Regarding statement C14, *"I don't have time to read."* The average score of the answers was 2.89/5, and for statement C15, *"Due to distance education, the time to communicate with the students increased, and the time to prepare the lessons decreased."* The mean value was 3.41/5. Regarding statement C16, *with the children at home, it is difficult to do a lesson without interruptions. The mean was 2.53/5* and for statement C17, *the needs of the family decreased due to the educational routine. The mean was 2.60/5.* Regarding statement C18, *the fact that non-students may attend the lesson and be judged worries me a lot* The mean value of the responses was 1.84/5, and for statement C19, *"During distance education, I feel that there is no respect for my privacy,"* the mean was 2.55/5. Finally, for statement C20, *"I feel anxious at the prospect of publishing my course by the students."* The average score of the answers was 2.32/5, and for statement C21, *"With distance learning, I don't have enough time to devote to research."* 3.25/5.

The fourth subscale (Cronbach's alpha: 0.943) concerns *teaching and learning issues*. Regarding the answers of the university teachers to the statements of the fourth subscale, we can mention that the average score of the answers was 3.619/5. Regarding the statements, we notice that for statement D1: *Distance education has significantly changed the learning process*, the mean value of the responses was 3.62/5, while for statement D2: *Distance education does not facilitate the achievement of the learning objectives*, the mean value was 3.22/5. Regarding statement D3: *Students do not actively participate in distance learning courses*, the average score was 3.49/5, and for statement D4, *In-person teaching cannot be replaced by distance learning*, the mean value was 4.42/5. For statement D5: *Distance teaching does not help to create the appropriate climate*, the average score was 3.82/5; for statement D6: *I do not feel familiar with distance learning*, it was 2.25/5; and for statement D7: *All fields of knowledge cannot be taught remotely*, the mean of the value of the responses was 4.03/5. Regarding statement D8: *Distance courses do not facilitate the achievement of educational goals*; the mean was 3.41/5. For statement D9, *I stress a lot trying to keep my students alert for learning* 3.26/5, and for statement D10, *personal data is adequately protected in online courses*, 3.4/5. Next, for statement D11, *"Distance education increases the responsibility I feel towards my students,"* the mean value was 3.29/5; for statement D12, *"The remote evaluation process of students is not appropriate,"* it was 3.56/5; and for statement D13, *"I do not know enough about how to evaluate the trainees through distance learning,"* the mean value of the responses was just 2.51/5. As for statement D14, *It is not easy to maintain the interest of the learners during the distance learning process. The average score of the answers was 3.55/5*, and for statement D15, *The development of students' critical thinking is hindered by distance teaching*, 3.03/5. Next, for statement D16: *Distance teaching is more tiring for the teacher*, the mean value of the responses was 3.85/5; for statement D17: *With distance teaching, I feel that things happen that I cannot control*, the mean was 3.51/5; for statement D18: *With distance teaching, I feel that I can no longer control the pedagogical relationship with my students*, the mean was 3.48/5; and finally, for statement D19: *With distance education, I cannot effectively control the educational climate*, the mean value of the responses was 3.47/5.

## 6. Discussion & Conclusions

Although painful, COVID-19 has presented itself as a rude awakening to everyone who is involved in the higher education sector including learners, professors, and policymakers alike. University professors' challenges due to the COVID-19 worldwide pandemic have been enormous. Due to the pandemic, in higher education, professors suddenly went from classrooms to remote sessions supported by technology and computer tools to teach classes. Suddenly, we faced a complicated situation that required professors to have training in digital and communication tools (Conteras et al., 2021). In the present study, regarding issues of digital skills university professors stated that they have all the appropriate digital skills to overcome any obstacle during the period of remote teaching and there seems to be not a significant difference regarding their age, as the research of Vergara-Rodríguez et al. (2022) on digital natives indicated. About their

training needs, the subjects stated to a large extent that they need immediate and updated training for the psychological management of their students, while at the same time they stated that they feel abandoned by the State in terms of dealing with the effects of the pandemic on higher education.

In relation to how much the condition of the pandemic affected the working conditions of university teachers, we notice that regarding the technical problems and the cost of distance learning, the most important problems they faced had to do with the students' lack of suitable equipment, and also with the financial cost of distance learning that they actually shouldered it themselves. On their behalf, Jawida et al. (2019) added several obstacles that hinder distance learning e.g., staffing shortages and the need for training in the use of the internet by teachers and students, and the lack of technological infrastructure at universities. Moreover, regarding issues of educational effectiveness, university teachers believe that distance teaching cannot replace the real-life process, as not all scientific subjects can be taught with distance education methodologies, while at the same time they stated that distance learning teaching is much more tiring than face to face teaching in auditoriums and classrooms. In general, the subjects of our research are not as optimistic as professors of other researchers who stated quite satisfied with the remote teaching process (Prokopenko & Berezhna 2020). However, there is an agreement with the findings of Conteras et al. (2020) where only 15.4% of the professors prefer virtual classes over classroom classes, and with researches that indicated the difficulty of learning some applied courses and directed work remotely (Falta & Sadrata, 2019; Lassoued, 2020). Furthermore, it is difficult to achieve some pedagogical activities, such as conducting tests, within the e-learning environment, while professors cannot guarantee that the student is not trying to cheat and that the one who takes the exam is the student himself and not someone else (Lassoued, 2020). Finally, regarding the educational daily life of university teachers, almost all the subjects of the research stated that their professional routine changed significantly due to the pandemic, since, among other things, they work more hours during these unprecedented conditions, while the pandemic seems to have changed the nature of the profession of the university teacher. Thus, this study seems to agree with the findings of several researchers that evaluate the association between work hours, work-family balance, and quality of life (Lizana et al. 2021; Rajendran, 2020). To sum up, the findings of the present study demonstrate that in an exceptional situation, migration to emergency remote education must also encompass institutional and governmental responsibilities and reorganizations through actions involving planning and training.

### **Conflict of Interest Statement**

The authors declare no conflicts of interest.

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