



## Article

# Is Online Teaching Challenging Faculty Well-Being?

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**Abstract:** Organizations that practice Sustainable Human Resource Management are socially responsible and concerned with the safety, health and satisfaction of their employees. Under this sustainability orientation, it is very relevant to analyze whether the sudden transition to e-learning as a strategy of adaptation to the COVID-19 pandemic affected the well-being of faculty. One hundred and two college teachers at a business school in Lisbon completed a web-based questionnaire administrated during the second lockdown due to the pandemic. The questionnaire included the Online Faculty Satisfaction Survey (OFSS) and the Work-Related Quality of Life (WRQoL) questionnaire. We use Partial Least Squares Path Modeling to derive to what extent the satisfaction with online teaching has impacted faculty well-being measured by the quality of working life. Results show that interaction with students, student engagement, flexibility and technology are the most relevant factors to faculty satisfaction with online teaching. Having control at work, good working conditions and general well-being are the most relevant factors for faculty overall well-being. As proposed, faculty satisfaction with online teaching positively and significantly influences faculty general well-being, home–work interface and job and career satisfaction.

**Keywords:** online teaching; faculty; well-being; sustainable HRM



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## 1. Introduction

Higher Education Institutions (HEIs) are an important player toward the accomplishment of the 17 Sustainable Development Goals established by the United Nations. In fact, HEIs are increasingly aware of the need to extend the objectives of environmental and economic sustainability to human and social sustainability by incorporating concerns with their human resources dimension, namely, with the well-being of the academic community (Wolff and Ehrström 2020). Whatever the type of sustainability considered, the focus is always on the preservation of resources. Human sustainability is concerned with the conservation and development of human capital (Osranek and Zink 2014; Pfeffer 2010). This is, in turn, directly linked to the meso–micro interpretations of Sustainable Human Resource Management (Ehnert et al. 2014) and the one adopted in this paper: the human resource practices that are responsible for sustainable organizations, with lasting successful performances and enduring competitive advantages (Ehnert et al. 2014; Zaugg et al. 2001). The employee-centered management focused on the health and well-being of the workforce creates a positive environment to enable the achievement of the organization's goals and its long-term viability (Ehnert et al. 2014; Osranek and Zink 2014). In this context, it is interesting to analyze how the HEIs managed the transition to online teaching in a sustainable way.

Before the COVID-19 pandemic, teaching was mostly conducted in a face-to-face format, and digital technologies served mainly to enrich in-person teaching. The pandemic resulted in the physical closure of HEIs, the acceleration of digitalization and the conversion of traditional education to online learning (Abdulmir and Hafidh 2020);

(Daumiller et al. 2021). The sudden move to the new teaching environment raised unique challenges that may have affected faculty well-being. During the pandemic, the faculty had to implement online teaching in a short time, without being able to identify the best methods and tools that would facilitate distance learning (Arcila Hernández et al. 2021). In fact, online teaching experiences during the pandemic were quite challenging, with teachers reporting considerable feelings of stress and tension during the period of adaptation to the online format damaging faculty well-being (Besser et al. 2022). Numerous studies indicate that college teachers consider that, to implement online teaching, more time and intensive work are required, which turns out to be an additional barrier to faculty adherence and satisfaction with online teaching (Owens et al. 2018). Furthermore, the increasingly demanding work has been recognized as a cause of stress in the academic context, operating frequently through work–family conflict (Mudrak et al. 2018).

Most of the existing studies about online learning focus on its impact on students (e.g., students' learning processes or students' satisfaction with this type of education) or on the goals and needs of HEIs, with scarce studies that attempt to measure faculty satisfaction with online learning (Bolliger and Wasilik 2009). Given the relevance of teachers to the success of learning, it is important to know their satisfaction with online teaching, as well as the reasons that may lead them to accept or reject it (Hiltz et al. 2010; Owens et al. 2018). Therefore, the main objective of the present study is to understand faculty satisfaction with online teaching and its impact on teachers' well-being.

This study shows that faculty satisfaction with online teaching positively and significantly influences some dimensions of teachers' well-being, namely, general well-being, home–work interface and job and career satisfaction. The most relevant factors to faculty satisfaction with online teaching are interaction with students, student engagement, flexibility and technology. Having control at work, good working conditions and general well-being are the most relevant factors for faculty overall well-being.

## 2. Literature Review

### 2.1. Online Teaching

Online teaching is a type of distance education—distance in time and/or space (Moore and Kearsley 1996)—with courses that are delivered using internet-based technologies (Tallent-Runnels et al. 2006). These types of courses are also referred to as “e-learning” (Murphy 2020). When they combine online with traditional, face-to-face components, they are called “hybrid” or “blended”. Online classes can be asynchronous—the teacher records the lectures and each student chooses when to log on—or synchronous—the teacher and the students are online at the same time (Tallent-Runnels et al. 2006).

Several benefits and limitations of online education have been identified, the most referred-to advantage being flexibility. Asynchronous classes provide both time and space flexibility, whereas synchronous classes are only flexible in the spatial dimension (Van Wart et al. 2020). They can be particularly attractive to those with caring duties, who prefer to attend classes from home, who live far from the university or those who are frequent travelers (Conrad 2004; Li and Irby 2008). The multimedia experience may also be motivating for some students, and the potential use of self-assessment tools can help students and instructors (Mupinga 2005). Technology may be engaging and facilitate collaboration between students and teachers (Aguilera-Hermida 2020). Moreover, the enhancement of digital skills can also be considered a benefit from the point of view of the institutions, once the lower need for and use of physical infrastructure is cost-saving (Van Wart et al. 2020).

On the other hand, online learning may be experienced as impersonal and distant, failing to provide an environment favorable to social and cultural learning, as the use of computers does not ensure interaction and it may be difficult to stimulate students' participation (Jacobs 2013; Rumble 2001). Additionally, online teaching is frequently accused of contributing to increasing faculty workload (Bolliger and Wasilik 2009) because of the required adaptation to a new teaching environment, the design and development

of an online course and the additional volume of messaging that requires more time to answer than verbal class interactions (Rumble 2001). This argument implicitly assumes that verbal interaction is more typical of the in-person classes than the online classes. As the use of technology requires preparation, both students and teachers should have the necessary skills, otherwise stress and frustration result (Minutillo et al. 2020; Mupinga 2005). It has also been observed that the intensive use of electronic devices can have health costs (e.g., musculoskeletal disorders) (Mahadik et al. 2017), and the lack of social interaction may even have mental health consequences (Minutillo et al. 2020). The overlap between classes and home life may also pose difficulties, particularly when dedicated private spaces are not available (Minutillo et al. 2020). The lack of an appropriate internet connection is another frequently mentioned problem (Mishra et al. 2020; Saha et al. 2022). Although theoretical disciplines work well in the online environment, that is not true for sports or other disciplines with more hands-on activities (Adedoyin and Soykan 2020; Saha et al. 2022).

There is an increasing number of studies that indicate the benefits of integrating the media in education (Greenhow et al. 2020). These means can extend learning beyond the classroom to other networks of contacts (networking), introduce a specialized hybrid model (former students, professionals in the field), mix different types of information and resources, reshape the role of teachers and build and solidify student/teacher relationships, contributing to greater engagement, socialization and learning outcomes (Greenhow and Galvin 2020). The creation and management of a profile on social networks can complement the interaction between teachers and students during distance learning, mitigating one of the disadvantages of distance learning—permitting fewer opportunities for informal identity sharing (e.g., casual conversations in hallways, conversations before and after classes, and conversations over lunch). Teachers may be encouraged to connect with students on topics or ideas that are not limited to the content of the lessons (e.g., personal hobbies and interests), helping teachers to build strong relationships with diverse students (Greenhow and Galvin 2020). Teachers should consider using social media platforms designed for educational purposes that work within closed and limited networks, guaranteeing transparency, privacy and ethics (Krutka et al. 2019).

However, the adoption of technology in education programs was limited until the COVID-19 pandemic turned online teaching and learning into the only possible way of maintaining the regular delivery of classes (Dubey and Pandey 2020). Although not all countries in the world were technologically prepared to implement online teaching (Sintema 2020), several studies show that online teaching was successfully used in most HEIs, as long as there was technical support and an appropriate environment (Basilaiia and Kvavadze 2020). Nevertheless, several authors (Adedoyin and Soykan 2020; Aguilera-Hermida 2020; Bozkurt and Sharma 2020; Hodges et al. 2020) note that the conditions of these emergency remote education (ERE) programs are substantially different from those of well-planned online programs.

Given the significant advances in technology that are likely to continue for decades to come, all faculty members must be prepared to implement best practices in online teaching, ensuring positive outcomes in students' retention and engagement (Davis et al. 2019). For a successful transition from face-to-face to online teaching, faculty have to change traditional teaching methods used within the "traditional classroom" and learn new skills. However, for the success of this change, it is essential that faculty not only strive to learn the technologies associated with online learning, but also understand the need to radically change and transform their pedagogical approaches and teaching methods (Keengwe and Kidd 2010).

#### Satisfaction with Online Teaching

Students' motivation and performance in distance learning courses can be directly affected by faculty satisfaction with online teaching (Hartman et al. 2019). Thus, it is of

the utmost importance to identify the factors that influence faculty satisfaction with online teaching.

[Bolliger and Wasilik \(2009\)](#) present a typology of factors that may be relevant to explain teachers' satisfaction (or lack of it) with online teaching:

1. Student-related factors: on the one hand, the possibility of reaching a more diverse population and engaging students in a highly interactive communication, but, on the other hand, the limited interaction with students, due to the lack of personal contact;
2. Faculty-related factors: on the one hand, promoting positive results in students (self-gratification), receiving recognition for the work they do and having opportunities for professional development and research, but, on the other hand, dealing with technological difficulties or inadequate tools;
3. Institution-related factors: on the one hand, the value placed by the organization on online teaching and the existing policies that support faculty with this, but, on the other hand, workload issues and possible negative impact in pedagogical evaluation.

The institutions' support is considerably important to help teachers deal with the transition ([Naylor and Nyanjom 2021](#); [Ntereke et al. 2021](#)). Instructors who received timely technical support and training for software and hardware deal better with the stress of the change. Positive emotions and a sense of a shared vision facilitate a constructive approach ([Naylor and Nyanjom 2021](#)). In contrast, the lack of recognition of the additional time needed to research and implement online teaching creates discontent. Unfortunately, the lack of confidence in their technical skills to design effective online instruction is a common experience for university teachers ([Ntereke et al. 2021](#); [Tsegay et al. 2022](#)). Another motive of discontent is the difficulty in interacting with students: teachers are not absolutely sure whether students are really there or only appearing online ([Ntereke et al. 2021](#)). Catching students' attention and provoking their enthusiasm is frequently particularly challenging ([Mishra et al. 2020](#); [Saha et al. 2022](#)).

## 2.2. Faculty Well-Being

Well-being at work results from the interaction between the organizational environment and personal characteristics ([Abid et al. 2020](#)). There are different approaches to well-being at work. One of these approaches focuses on subjective experiences and work performance, considering satisfaction and commitment to be key elements of happiness at work ([Pagán-Castaño et al. 2020](#)), with satisfaction being more related to work and commitment to the organization as a whole ([Fisher 2010](#)). Another approach focuses on the quality of interactions and relationships between employees, managers and/or organization ([Grant et al. 2007](#)). A different approach to well-being focuses on the impact that work experiences and stressors can have on employees' health, both physical and mental (e.g., stress, anxiety and burnout) ([McCoy et al. 2013](#)). Stressors usually manifest themselves in the form of threats, obstacles and challenges in the work environment, affecting employees' effectiveness, levels of performance and well-being ([Ahmed et al. 2019](#)). In this paper, we will follow the last approach and consider ERE as a challenge that faculty had to face due to the COVID-19 pandemic with potential negative impact on faculty's well-being.

Most of the literature on faculty well-being has focused on job satisfaction, that is, the extent to which people like or dislike their jobs ([Mudrak et al. 2018](#)), partly because job satisfaction is relevant to increase faculty retention ([McCoy et al. 2013](#)). Even though job satisfaction is considered a key index of well-being ([Seipel and Larson 2018](#)), in our study we preferred to use a more holistic construct to encompass other variables that may give a better overview of the work experience and better explain how various factors interact to affect individuals at work ([Kandasamy and Ancheri 2009](#)). Therefore, in our study, we evaluated faculty well-being using a measure of the quality of working life that includes not only job satisfaction, but a set of other relevant constructs for faculty well-being.

## Quality of Working Life

The quality of working life is associated with an environment where employees feel safe and happy, do not feel stressed, are satisfied with their work, their personal and professional needs are met and work–life balance is ensured. Diverse benefits have been associated with a high work-related quality of life, such as: higher job performance; higher organizational performance; increased job satisfaction, organizational commitment and general well-being; and reduced absenteeism, intention to leave and burnout (Akar 2018; Gokhale 2015).

According to Easton and Van Laar (2018), existing theoretical approaches to quality of working life are inconsistently defined and sometimes even contradictory. They proposed a broader conceptualization of quality of working life that included six dimensions: (i) general well-being; (ii) home–work interface; (iii) job and career satisfaction; (iv) control at work; (v) working conditions; and (vi) stress at work.

1. General well-being indicates the extent to which an individual feels good and/or satisfied with their life in general. It includes both physical and psychological well-being, which are deeply connected (e.g., physical illness affects job performance, which in turn can affect psychological well-being).
2. Home–work interface relates to the conciliation between personal and work demands.
3. Job and career satisfaction reflect how satisfied the individual is with his or her job and how fulfilled they feel.
4. Control at work is the level at which individuals feel involved in decisions that affect them at work.
5. Working conditions refer to the essential resources provided by the organizations to employees so they can do their work safely and effectively.
6. Stress at work is a harmful physical and emotional response that occurs when work demands do not match a worker's abilities, resources or needs (e.g., when an individual perceives and feels excessive pressures and feels he is unable to fulfill the job requirements).

Higher education has long been considered a low-stress job given the flexible working hours, autonomy and low workload that were associated with an academic career. In most countries, before the COVID-19 pandemic, academic work was associated with high levels of job satisfaction (Mudrak et al. 2018). However, in recent decades, around the world, HEIs have undergone significant changes (e.g., massification, increasing internationalization, diversification of the academic work, profound changes in the way universities are managed, etc.) (Bentley et al. 2013) that increased faculty challenges and demands and decreased the quality of their working life (McCoy et al. 2013). The abrupt transition to online teaching during the pandemic imposed new challenges that may have had an impact on job satisfaction as well as other components of faculty quality of working life (Krugielka et al. 2021). Recent studies (Chen et al. 2022) have reported that low levels of satisfaction with online teaching have a negative impact on teachers' psychological well-being. In reverse, faculty being satisfied with online teaching may have a positive impact on well-being.

**H1.** *Faculty satisfaction with online teaching has a positive impact on general well-being.*

Home–work interface relates to the conciliation between personal and work demands (Easton and Van Laar 2018). The most relevant issues that impact this balance can be adequate facilities at work, flexible working hours, working from home, job rotation, maternity and parental leave and care for children and dependents (Chen et al. 2014). Convenience and flexibility are important characteristics of the online teaching environment, and previous research has found a positive relationship between those characteristics and the online teaching satisfaction (Elshami et al. 2021). Furthermore, a study carried out by (Bhattarai 2020) during the COVID-19 pandemic suggests that the affordances from working from home can be important to achieve an enhanced work–life balance. This has important implications for the faculty well-being, as the lack of balance between work and family



can have a negative impact on individuals, both physical and psychological (e.g., depression, hypertension, risk of burnout, etc.) and also on organizations (e.g., job satisfaction; job performance, etc.) (Easton and Van Laar 2018). Therefore, we propose the following hypothesis:

**H2.** *Faculty satisfaction with online teaching has a positive impact on home–work interface.*

Job and career satisfaction reflect how satisfied the individual is with his or her job and how fulfilled they feel (Easton and Van Laar 2018). Some authors state that job satisfaction depends on both intrinsic and extrinsic factors. Having role and objectives clearly defined, a good recognition and reward system capable of satisfying employees' personal development, career improvement and training needs, good working conditions and positive social relationships with coworkers and the supervisor are aspects that contribute to job and career satisfaction. Online teaching often affords several tools that improve communication between students and the faculty, facilitating the interactions between them, thus creating a supportive learning environment (Wu et al. 2010) with a positive impact in terms of the learning quality and student performance. As teaching is one of the main activities of faculty members (Ortan et al. 2021), if they are satisfied with online teaching, this will positively impact job and career satisfaction. Therefore, we propose the following hypothesis:

**H3.** *Faculty satisfaction with online teaching has a positive impact on job and career satisfaction.*

Control at work is the level at which individuals feel involved in decisions that affect them at work (Easton and Van Laar 2018). Individual perceptions of control at work influence negative emotional reactions, both short-term (headaches or stomach-aches) and long-term (cardiovascular disease), and also counterproductive behavior at work (Easton and Van Laar 2018). During the pandemic, teachers were compelled to turn suddenly to a new format of online teaching without the required previous preparation (Minutillo et al. 2020; Mupinga 2005), which may have affected their perceptions of control at work. Nevertheless, many HEIs provided teachers with the appropriate technical support which increased their satisfaction with online teaching (Basilaia and Kvavadze 2020) and their sense of control at work. Thus, we propose:

**H4.** *Faculty satisfaction with online teaching has a positive impact on general control at work.*

Working conditions refer to the essential resources provided by the organizations to allow their employees to do their work safely and effectively (Easton and Van Laar 2018). Adverse working conditions (e.g., dust, fumes, heat, etc.), can affect workers that may want to avoid the workplace, increasing turnover (Easton and Van Laar 2018). If the online teaching environment can provide faculty members with the necessary tools to effectively perform their jobs, it will positively impact the working conditions dimension of well-being (Bhattarai 2020). Therefore, we propose the following hypothesis:

**H5.** *Faculty satisfaction with online teaching has a positive impact on working conditions.*

Stress at work is a harmful physical and emotional response that occurs when work demands do not match a worker's abilities, resources or needs (e.g., when an individual perceives and feels excessive pressures and feels he is unable to fulfil the job requirements) (Easton and Van Laar 2018). Previous researchers have found that online teaching often increases workload, is more difficult to engage students in the learning processes and needs more time for class preparation (Elshami et al. 2021). These factors are related with higher levels of stress among the faculty community (Ortan et al. 2021). Therefore, we propose the following hypothesis:

**H6.** *Faculty satisfaction with online teaching has a negative impact on stress at work.*

Figure 1 presents the research model that portrays the relationships under study.



**Figure 1.** Research Model.

### 3. Research Methods

This study aims to understand the impact of online teaching on the overall well-being of the faculty staff at a business school in Lisbon. To access the validity of the proposed research model and hypotheses, a quantitative approach based on data collected through a questionnaire sent to all faculty members of the Business School was adopted. For the operationalization of the research model, construct items were adapted from existing scales (Appendix A). All items were measured with a five-point Likert scale, ranging from ‘strongly disagree’ to ‘strongly agree’.

To validate the questionnaire translation from English to Portuguese, the back-translation procedure suggested by [Sekaran and Bougie \(2016\)](#) was applied. A pretest was conducted with five faculty members, which resulted in the restructuring of some sentences to enhance clarity.

Given that we have a latent variable model and a small sample size, Partial Least Squares (PLS) Path Modeling was adopted in this study as implemented by the SmartPLS 3.0 software ([Ringle et al. 2015](#)) to assess the quality of the measurement and the structural models.

#### 3.1. Data Collection and Participants

The questionnaire was administered online with Qualtrics XM and sent by email to all faculty members of the business school, leading to a nonprobabilistic sampling. Data were collected between March and April of 2021, during the second confinement period due to COVID-19 pandemic, when teaching was being conducted only remotely. After one follow-up to increase the response rate, a total of 139 responses were gathered, which corresponds to a response rate of 54.3%. From the total of 139 responses, 102 were considered valid, corresponding to 39.8% of the population.

Regarding the demographic characterization of the final sample, there is a slightly higher number of male respondents (54.9%); 41.2% are females and 3.9% decided to not reveal their gender. Concerning age, 21.9% of respondents are millennials and the rest are over 40 years old, the average being 48.44 years. Most of the faculty participating in

this study (63.6%) live in households with three or more people, 27.3% live in households of two people and only 9.1% live alone. Most respondents (63.7%) are in the university teaching career, while the remaining ones are invited professors (36.3%).

To further characterize our final sample, we computed some additional descriptive statistics. Respondents who are most satisfied with work and career (average = 3.70) are the ones with the most numerous households (more than 2 members), and the least satisfied ones are the faculty members that live alone (average = 2.90). Additionally, there are statistically significant differences in satisfaction with online education, as invited faculty members are more satisfied (average = 3.09) than career faculty members (average = 2.72). Furthermore, we also found statistically significant differences regarding the satisfaction with online education ( $F = 3.736; p < 0.05$ ), where younger faculty members are the most satisfied ones with online teaching (average = 3.05).

### 3.2. Measures

The two scales that make up the final questionnaire have already been validated in samples of faculty members with good levels of reliability. The Work-Related Quality of Life (WRQoL), developed by [Easton and Van Laar \(2018\)](#), measures work-related quality of life, and was used as a measure of the well-being construct in the present study. It was previously applied in several other universities and countries and has shown good psychometric quality. It includes six dimensions: (i) general well-being; (ii) home–work interface; (iii) job and career satisfaction; (iv) control at work; (v) working conditions; and (vi) stress at work.

The Online Faculty Satisfaction Survey Revised (OFSS-R) was adapted by [Blundell et al. \(2020\)](#) from the Online Faculty Satisfaction Survey (OFSS) developed by [Bolliger and Wasilik \(2009\)](#) to measure faculty's satisfaction with online education. The first 15 items of the original instrument were excluded because they belonged to the introductory question of [Bolliger and Wasilik \(2009\)](#), which was not evaluated by [Blundell et al. \(2020\)](#), thus resulting in a scale of only 28 items. These items measure the faculty satisfaction with different aspects of online education that, according to the authors, would be related to students, the institution, and faculty. In addition to these three dimensions, they included a fourth one to measure general satisfaction with online teaching. Once we could not reproduce the proposed factorial structure, we grouped the items in six different dimensions based on their content. The student-related dimensions are: student engagement (e.g., "My online students are more enthusiastic about their learning than their traditional counterparts"); student Interaction (e.g., "The level of my interactions with students in an online class is higher than in a traditional face-to-face class"); and flexibility (e.g., "Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses"). The institution-related dimension is workload (e.g., "I have a higher workload with online teaching compared to traditional teaching"). The faculty-related dimension is technology (e.g., "I use fewer resources in online teaching than in face-to-face teaching"). The sixth-dimension measures general satisfaction with online teaching—overall satisfaction with online teaching (e.g., "I look forward to teaching my next online course"). Appendix A presents the complete operationalization for each latent variable of the research model.

## 4. Results

### 4.1. Measurement Model Assessment

To assess the measurement model quality, we assessed indicators for reliability (composite reliability for internal consistency) and evaluated convergent and discriminant validities (Table 1).



**Table 1.** Median, Reliability and Validity of constructs.

	Median	Composite Reliability	Average Variance Extracted (AVE)	R <sup>2</sup>
Control at Work	0.056	0.802	0.670	0.003
General Well-Being	0.159	0.874	0.570	0.076
Home–Work Interface	0.311	0.903	0.824	0.033
Job and Career Satisfaction	0.145	0.812	0.521	0.066
Stress at Work	0.136	0.903	0.824	0.003
Working Conditions	0.229	0.891	0.803	0.007
Overall Well-Being	0.133	1.000	1.000	0.651
Faculty Satisf. Online Teach.	0.041	0.904	0.824	0.997
Flexibility	0.210	0.851	0.741	NA
General Satisfaction	0.083	0.908	0.500	NA
Technology	0.094	0.753	0.613	NA
Student Engagement	−0.143	0.810	0.681	NA
Student Interaction	−0.028	0.810	0.587	NA
Work overload	−0.337	0.854	0.749	NA

Regarding the reliability of constructs, all indicators have higher values than the threshold value of 0.7 for composite reliability (Table 1). Henseler et al. (2009) emphasize that the absolute standardized outer loadings of each indicator and its construct should be higher than 0.7. For our study, all values are acceptable (Appendix A). All constructs exhibit AVE values higher than 0.5 (so we deleted the items with lower loading values (FSOFT\_6\_rev, FSOFT\_13\_rev and FSOFT\_14\_rev), which allowed us to achieve the AVE of at least 0.5 for all latent variables, revealing the capability of the latent variables to explain, at least, 50% of the variance of its indicators (Henseler et al. 2009), showing that the model has good convergent validity. Finally, discriminant validity is assessed through the Fornell–Larcker criterion (Table 2) and the cross-loadings analysis (Henseler et al. 2009). All values are according to requirements (the AVE of each variable is higher than the squared correlation with other variables), with the exception of faculty satisfaction with online teaching, as it is a second-order construct sharing indicators with its first-order constructs. Appendix A presents the means, standard deviations and loading for each indicator.

**Table 2.** Discriminant validity—Fornell–Larcker criterium.

	CAT	FLEX	GWB	HWI	JCS	STE	SAT	FSOT	TECH	OWB	WKC	STI	OSAT	WOL
Control at Work	<b>0.819</b>													
Flexibility	−0.024	<b>0.861</b>												
General Well-Being	0.435	0.214	<b>0.755</b>											
Home–Work Interface	0.570	0.132	0.648	<b>0.908</b>										
Job and Career Satisfaction	0.684	0.199	0.697	0.719	<b>0.722</b>									
Students’ Engagement	0.156	0.592	0.231	0.128	0.167	<b>0.825</b>								
Stress at Work	0.180	0.057	0.278	0.302	0.244	0.031	<b>0.908</b>							
Fac.Sat. Online Teaching.	0.055	0.849	0.276	0.181	0.256	0.805	0.057	<b>0.707</b>						
Technology	0.122	0.455	0.302	0.186	0.290	0.292	0.177	0.571	<b>0.783</b>					
Overall Well-Being	0.573	0.099	0.723	0.594	0.641	0.127	0.232	0.167	0.242	<b>1.000</b>				
Working Conditions	0.611	0.042	0.521	0.612	0.641	0.065	0.286	0.081	0.205	0.655	<b>0.896</b>			
Student Interaction	0.037	0.683	0.237	0.206	0.243	0.673	0.022	0.907	0.472	0.172	0.098	<b>0.766</b>		
Online Satisfaction	−0.037	0.690	0.153	0.043	0.164	0.673	0.017	0.885	0.423	0.049	−0.029	0.738	<b>0.908</b>	
Work Overload	0.095	0.150	0.090	0.119	0.144	0.137	0.157	0.149	0.140	0.028	0.157	0.097	0.148	<b>0.866</b>

Note: Numbers in bold denote the square root of the average variance extracted.

#### 4.2. Structural Model Results

After verifying that the outer model presents good psychometric characteristics, we proceed to the evaluation of the structural model. The bootstrapping technique was applied

to generate 1500 samples from 102 cases. The structural model was evaluated considering the coefficients of determination of endogenous latent variables (i.e.,  $R^2$ ) and the path coefficients (in terms of sign, magnitude and significance). The model depicted in Figure 2 presents the PLS model results, and Table 1 presents the  $R^2$  values for each endogenous variable. The results show that the data collected allow us to accept three out of six theoretical hypotheses that this research puts forward (H1, H2 and H3) and conclude that the nomological net explains 65% of the ultimate endogenous construct: overall well-being. Figure 2 shows results of the structural model analysis, and Table 3 shows the hypotheses that were or were not supported.

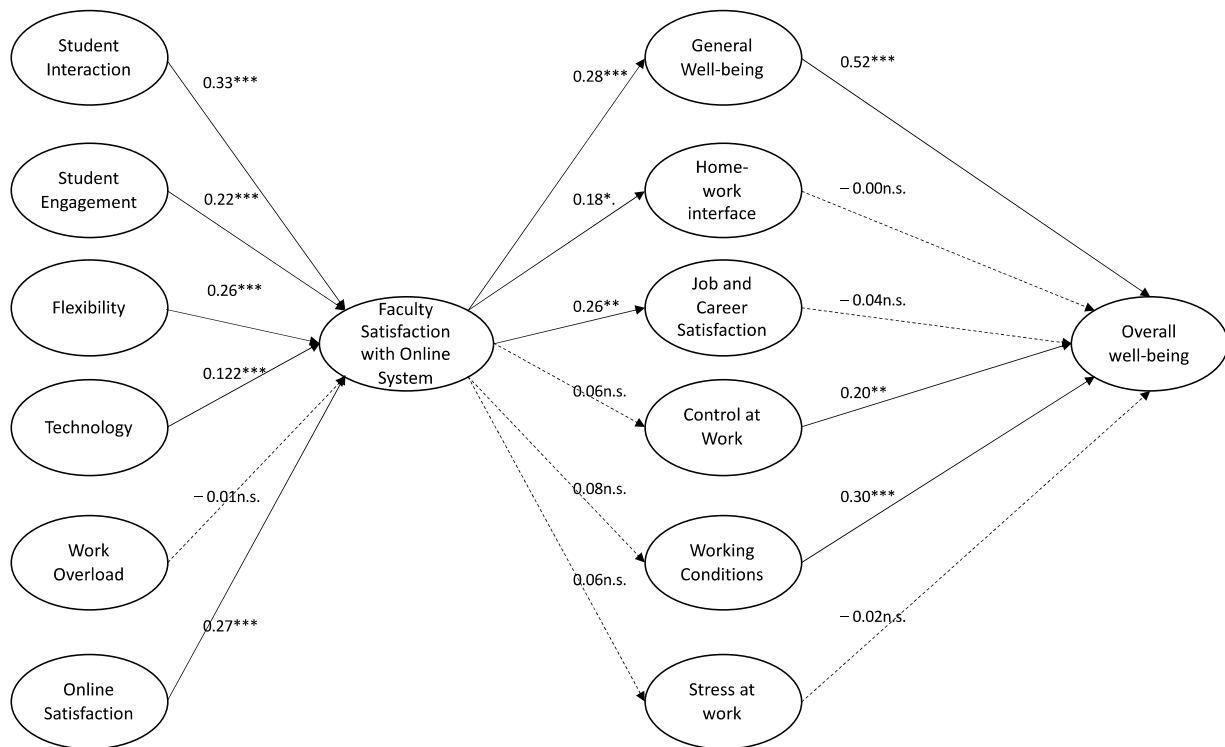


Figure 2. PLS results (n = 102). Note: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ ; n.s. non significant.

Table 3. Research Hypothesis evaluation.

Hypothesis	Description	Path Coef.	Bootstrap $t$ -Test	Hypothesis Evaluation
H1	Faculty satisfaction with online teaching has a positive impact on general well-being.	0.28	2.697	Accept
H2	Faculty satisfaction with online teaching has a positive impact on home–work interface.	0.18	1.647	Accept
H3	Faculty satisfaction with online teaching has a positive impact on job and career satisfaction.	0.26	2.274	Accept
H4	Faculty satisfaction with online teaching has a positive impact on general control at work.	0.06	0.494	Reject
H5	Faculty satisfaction with online teaching has a positive impact on working conditions.	0.08	0.715	Reject
H6	Faculty satisfaction with online teaching has a negative impact on stress at work.	0.06	0.501	Reject

To assess the predictive relevance of our research model, the  $Q^2$  was computed, showing positive values for the endogenous variables that the model explains—faculty satisfaction with online teaching and overall well-being (respectively, 0.482 and 0.561); hence, the model has good predictive relevance (Hair et al. 2011).

## 5. Discussion

Our paper contributes to the understanding of the implications of online teaching on the faculty members' well-being. Previous studies have not addressed those two constructs in a single research model. Our results suggest that among the several dimensions of faculty satisfaction with online teaching, student interaction, online satisfaction and flexibility are the most important dimensions contributing to faculty satisfaction with the online teaching system. In fact, being able to succeed in the interaction with students, getting them involved in the learning processes and being able to provide better feedback are important to accomplish one of the faculty members' main missions, as they contribute to the development of a supportive learning context (Wu et al. 2010). Moreover, the flexibility afforded by the online system and the possibility to reach a wider set of students are very much appreciated by faculty members.

Interestingly, while technology has a significant impact on the satisfaction with the online system, it has smaller impact when comparing to the other dimensions that were found to be significant. This shows that the tools that a university adopts to deliver online teaching or the technical problems that faculty members may face are not so decisive for the faculty members' satisfaction with the online teaching. Work overload was the only dimension that was not found to be relevant. While existing research suggests that online teaching often involves more time for class preparation to be able to engage students in the learning processes, thus increasing work overload (Elshami et al. 2021), in our research we did not achieve the same results. One possible explanation is that the other dimensions with expected positive contribution to faculty satisfaction overcame the less positive implications of the usage of teaching online systems.

The results show that satisfaction of faculty with online teaching had a significant positive effect on general well-being ( $\beta = 0.28, p < 0.01$ ), suggesting that teachers who enjoy the online teaching experience are more satisfied with their life in general and enjoy their lives. Considering that the survey was launched during the confinement, faculty members were mostly occupied with online teaching during work time, and the results highlight that fact. Faculty members who were more satisfied with online teaching also exhibited greater job and career satisfaction ( $\beta = 0.26, p < 0.05$ ), suggesting that they felt encouraged to develop new skills and saw the new context as an opportunity to use their abilities at work. Furthermore, faculty satisfaction with online teaching was positively and significantly related to home–work interface ( $\beta = 0.18, p < 0.1$ ), possibly due to the fact that the confinement period provided more time for the family and more flexibility (in time and/or space) that facilitates the conciliation between personal and work demands, as suggested by the literature (Chen et al. 2014).

Contrary to our expectations, satisfaction with online teaching did not exhibit a significant relation with control at work. This is possibly due to the fact that, although teachers were compelled to turn to online teaching during the pandemic, they did not lose control at work since they were free to organize their classes in the new format in a way that they considered was best. Satisfaction with online teaching did not significantly impact the faculty's perceptions of the working conditions, as expected. A possible explanation is the fact that the business school where the study was conducted provided faculty with the required learning platforms and teaching pedagogies to ensure the quality of online teaching (Owens et al. 2018). This also may explain the fact that satisfaction with online teaching had no significant negative effect on stress at work. Technological support and training during the transition process increased faculty readiness to teach online and reduced faculty stress (Toto and Limone 2021).

## 6. Conclusions

The sudden move to an online teaching environment, due to the COVID-19 pandemic, raised unique challenges that affected faculty well-being. Furthermore, given the relevance of teachers to the success of learning, it is important to know their satisfaction with online teaching (Hiltz et al. 2010; Owens et al. 2018) as well its impact on faculty well-being.

This paper considers the satisfaction of faculty with online teaching as a multidimensional construct, measured by several factors: student-related (student interaction, student engagement and learning flexibility), faculty-related (workload) and institution-related (technology). Faculty well-being was measured by the quality of working life, which is also a multidimensional construct to encompass variables other than job satisfaction (the most studied dimension of faculty well-being) and give a better overview of the work experience (Kandasamy and Ancheri 2009). In addition to job and career satisfaction, the home–work interface, working conditions, stress at work, control at work and general well-being were also considered in this study. Thus, the current study fills a research gap by exploring the significant channels of influence of the satisfaction with online teaching during the pandemic on the well-being at work in university teaching.

Some limitations can be pointed to this study. It offers a snapshot vision of the relation between online teaching and well-being at work, very much influenced by the COVID-19 pandemic context. On one hand, the anxiety associated with the pandemic risks could have influenced faculty levels of well-being. On the other hand, the possibility to continue the education process, thanks to the new remote teaching technologies, may explain the strong positive relation between online teaching and general well-being. Therefore, it would be interesting to replicate the study after the pandemic to find out whether the results differ. Another limitation concerns the possibility of not being able to extrapolate the results from this study, since data were collected from a single business school.

Nevertheless, the last limitation also constitutes a relevant contribution to practice, since the study provides insights regarding a more sustainable Human Resource Management in the studied HEI. Although participants exhibit considerably good levels of quality of working life, there is plenty of space to improve faculty well-being. For example, some participants are not satisfied with the career opportunities available in the HEI and wish to be more involved in decisions that affect them in their own area of work. Considering their relevance to faculty members, these aspects should be topics of concern to the management of this specific HEI. Career advancement opportunities, autonomy, role clarity and performance feedback have been considered key job resources that may prevent the negative impact of job demands on stress/burnout (Mudrak et al. 2018).

Furthermore, the low levels of satisfaction with online teaching should be considered in the development of future online courses. Particularly, HEIs should address student-related factors (student engagement, flexibility and student interactions), which are the most relevant aspects for faculty satisfaction with online teaching. To mitigate teachers' perceptions of lack of interaction with students in online teaching and help to build strong relationships, teachers may connect with students on social networks to discuss topics or ideas that are not limited to the content of the lessons (Greenhow and Galvin 2020).

Being an HEI engaged in promoting social sustainability, it is of the utmost importance to evaluate on a regular basis faculty perceptions and satisfaction with online teaching and identify the factors that may impact teachers' well-being to improve both the quality of teachers working life and, also, the quality of online teaching and learning.

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**Data Availability Statement:** The datasets analyzed during the current study are available from the corresponding author on request due to privacy restrictions.

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### Appendix A. Constructs Indicators, Means, Standard Deviations and Loadings

Construct	Indicator Code	Indicator Description	Mean	Std Deviation	Loading
Control at Work	QOWL_12	I am involved in decisions that affect me in my own area of work	3.078	1.384	0.755
	QOWL_2	I feel able to voice opinions and influence changes in my area of work	3.882	0.973	0.878
Flexibility	FSOT_2	The flexibility provided by the online environment is important to me	3.480	1.341	0.857
	FSOT_25	Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses	3.029	1.361	0.864
General Well-Being	QOWL_10	I am satisfied with my life	3.824	1.052	0.819
	QOWL_15	In most ways my life is close to ideal	3.343	1.089	0.791
	QOWL_17	Generally, things work out well for me	4.000	0.918	0.815
	QOWL_21	Recently, I have been feeling reasonably happy, all things considered	3.422	1.124	0.827
	QOWL_4	I feel well at the moment	3.725	1.095	0.873
	QOWL_9_rev	Recently, I have been feeling unhappy and depressed	3.843	1.169	0.726
Home–Work Interface	QOWL_5	My employer provides adequate facilities and flexibility for me to fit work in around my family life	3.735	1.236	0.914
	QOWL_6	My current working hours/patterns suit my personal circumstances	3.529	1.326	0.901
Job and Career Satisfaction	QOWL_1	I have a clear set of goals and aims to enable me to do my job	4.343	0.707	0.659
	QOWL_11	I am encouraged to develop new skills	4.069	0.910	0.757
	QOWL_18	I am satisfied with the career opportunities available for me here	2.951	1.403	0.655
	QOWL_3	I have the opportunity to use my abilities at work	4.039	1.093	0.805
Student Engagement	FSOT_11	My online students are more enthusiastic about their learning than their traditional counterparts	2.088	0.919	0.805
	FSOT_20_rev	The participation level of my students in the class discussions in the online setting is lower than in the traditional one	2.157	1.135	0.845
Stress at Work	QOWL_19_rev	I often feel excessive levels of stress at work	2.922	1.250	0.893
	QOWL_7_rev	I often feel under pressure at work	2.775	1.283	0.922
Satisfaction with Online Teaching	FSOT_20_rev	The participation level of my students in the class discussions in the online setting is lower than in the traditional one	2.157	1.135	0.698
	FSOT_2	The flexibility provided by the online environment is important to me	3.480	1.341	0.722
	FSOT_25	Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses	3.029	1.361	0.739
	FSOT_9	I look forward to teaching my next online course	2.686	1.313	0.835
	FSOT_3	My online students are actively involved in their learning	2.843	1.153	0.671
	FSOT_1	The level of my interactions with students in the online course is higher than in a traditional face-to-face class	1.794	1.097	0.663
	FSOT_15	I am satisfied with the use of communication tools in the online environment (e.g., chat rooms, threaded discussions, etc.)	3.539	1.226	0.563
	FSOT_11	My online students are more enthusiastic about their learning than their traditional counterparts	2.088	0.919	0.628
	FSOT_16	I am able to provide better feedback to my online students on their performance in the course	2.353	1.099	0.744
	FSOT_17	I am more satisfied with teaching online as compared to other delivery methods	2.196	1.085	0.769
Technology	FSOT_13_rev	Online teaching is often frustrating because of technical problems	2.647	1.210	0.613
	FSOT_15	I am satisfied with the use of communication tools in the online environment (e.g., chat rooms, threaded discussions, etc.)	3.539	1.226	0.923
Overall Well-Being	QOWL_23	I am satisfied with the overall quality of my working life	3.863	1.029	1.000
Working Conditions	QOWL_13	My employer provides me with what I need to do my job effectively	3.569	1.201	0.869
	QOWL_22	The working conditions are satisfactory	3.902	1.133	0.923



Construct	Indicator Code	Indicator Description	Mean	Std Deviation	Loading
Student Interaction	FSOT_3	My online students are actively involved in their learning	2.843	1.153	0.744
	FSOT_1	The level of my interactions with students in the online course is higher than in a traditional face-to-face class	1.794	1.097	0.767
	FSOT_16	I am able to provide better feedback to my online students on their performance in the course	2.353	1.099	0.787
Overall SOT	FSOT_9	I look forward to teaching my next online course	2.686	1.313	0.916
	FSOT_17	I am more satisfied with teaching online as compared to other delivery methods	2.196	1.085	0.900
Work overload	FSOT_6_rev	I have a higher workload when teaching an online course as compared to the traditional one	1.922	1.143	0.726
	FSOT_14_rev	It takes me longer to prepare for an online course on a weekly basis than for a face-to-face course	2.461	1.126	0.985

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