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RECEIVED 10 October 2022

ACCEPTED 27 March 2023

PUBLISHED 21 April 2023

## CITATION

Virtanen P and Parpala A (2023) The role of teaching processes in turnover intentions, risk of burnout, and stress during COVID-19: a case study among Finnish University teacher educators.

*Front. Educ.* 8:1066380.

doi: 10.3389/educ.2023.1066380

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# The role of teaching processes in turnover intentions, risk of burnout, and stress during COVID-19: a case study among Finnish University teacher educators

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Previous research in teaching contexts other than Higher Education (HE) has shown that teachers struggle with stress, burnout, and intention to leave the profession. There is rather scarce evidence that HE teachers' wellbeing is affected by their teaching processes. Thus, in this case study, how HE teacher educators' ( $N = 83$ ) risk of burnout is related to their approaches to teaching, their intention to leave teaching in HE, and the stress experienced during the COVID-19 pandemic have been investigated. Based on the correlations and regression analyses of the survey data, the results showed that the COVID-19 pandemic had increased the work stress of over half of the HE teacher educators, but only a few suffered from burnout and had intended to leave teaching in HE. The risk of teachers suffering from burnout was negatively related to having an interactive teaching approach, and positively related to having an unreflective teaching approach. Both intending to leave teaching and the stress experienced during the COVID-19 pandemic predicted HE teacher educators' risk of burnout. This study has shown the importance of conducting more research on university teachers' wellbeing.

## KEYWORDS

teaching processes, teacher education, higher education, burnout, teacher turnover, COVID-19

## 1. Introduction

Stress, burnout, and increased workload have been common among university teachers before and during COVID-19 (e.g., [Gonzalez et al., 2021](#); [Arrona-Palacios et al., 2022](#)). Interestingly, among school teachers, turnover intentions have also increased during COVID-19 ([Collie, 2022](#); [Zamarro et al., 2022](#)) pandemic, but research has not shown similar evidence among higher education (HE) teachers; however, in some of the US universities, massive increases in employee turnover have been documented ([Kays, 2022](#)). However, in general, job demands and burnout have shown to predict turnover intention among HE professionals ([Winfield and Paris, 2021](#)), and thus, turnover intentions may also become

common among HE teachers as their stress and burnout are increasing. A particular challenge to teachers' wellbeing has been caused by distance teaching, and thus the theme has become more important. However, the focus has been less on teachers' teaching practices, although they have also been challenged in distance teaching (Cutri et al., 2020; Meishar-Tal and Levenberg, 2021) during the COVID-19 pandemic. Interestingly, there is some, rather scarce, evidence that HE teachers' wellbeing is affected by their teaching processes (Cao et al., 2018). However, developing and training teaching practices might offer practical ways to reduce teachers' stress, risk of burnout, and turnover intentions, and therefore, the relationship between teaching practices and teachers' wellbeing is important to examine. The question would, therefore, be if training teachers' teaching practices would strengthen their coping in unforeseen teaching situations.

Interestingly, although teachers' wellbeing and retention have been studied widely for a long time, among teacher educators, who are working at universities, research has not been focused on their teaching practices. Teaching practices of teacher educators have been less researched although they play a crucial and influential role in the preparation and development of future teachers (Hadar and Brody, 2016). Still, several studies have examined teacher educators' wellbeing during COVID-19 pandemic (Cutri et al., 2020; Meishar-Tal and Levenberg, 2021; Scherer et al., 2021). This study is, thus, investigating the relationship between HE teacher educators' risk of burnout, intention to leave teaching, experienced stress during the COVID-19 pandemic, and their teaching practices, which have not yet been in focus among teacher educators. Particularly, the relationships are explored during the pandemic, which posed special challenges for teacher educators.

Higher Education teachers around the world faced a huge challenge in their work when they had to change from face-to-face teaching to synchronous distance teaching and homeworking because of the COVID-19 pandemic (Coman et al., 2020; Cutri et al., 2020; Meishar-Tal and Levenberg, 2021). Due to university closures, teachers were asked to transition, create, and implement online teaching even if their degree of readiness for online teaching (Sobaih et al., 2020) and their attitudes about online teaching (Meishar-Tal and Levenberg, 2021) varied. The sudden shift to online teaching has had an effect on HE teachers' wellbeing (Cutri et al., 2020). University lecturers reacted emotionally and felt the tension, stress, anxiety, worry, fear, anger, disappointment, frustration, and annulment (Meishar-Tal and Levenberg, 2021) and even identity disruption (Scherer et al., 2021). On the contrary, some HE teachers have reported feelings related to success, excitement, expectation (Meishar-Tal and Levenberg, 2021), willingness to try new things, and confidence to be flexible and creative (Cutri et al., 2020). In addition, while teacher educators have supported their students who have become depressed, educators' own levels of stress and anxiety have been elevated (Martin and Mulvihill, 2021).

Work burnout is a multidimensional construct described by several researchers as a reaction to chronic occupational stress characterized by exhaustion (exertion and overload from work), cynicism (loss of interest and distal attitude toward work, seeing work as meaningless), and feelings of inadequacy or inefficacy as an employee (Maslach et al., 2001; Schaufeli et al., 2002; González-Romá et al., 2006; Salmela-Aro et al., 2009). Schaufeli and Salanova (2014, p. 296) describe the three work-based burnout dimensions:

exhaustion refers to fatigue irrespective of its cause, cynicism reflects an indifferent and distant attitude toward work instead of other people, and lack of professional efficacy encompasses social and non-social aspects of occupational accomplishment. Empirical studies have confirmed that stress caused by the demands of work can predict burnout (Demerouti et al., 2001; Schaufeli and Bakker, 2004). Upadyaya et al. (2016) found that a high workload was positively associated with burnout and depressive symptoms and negatively associated with life satisfaction. A previous study showed that teachers who suffer from burnout are more likely to experience negative emotions and poor interaction with students (Grayson and Alvarez, 2008). In addition, burnout is related to a low level of self-efficacy (Skaalvik and Skaalvik, 2007), which is a factor that influences teachers' motivation and teaching behavior (Temiz and Topcu, 2013). However, research on HE teacher educators' burnout still remains scarce.

Previous research has shown that work-based stress is also related to potential turnover and attrition (Borman and Dowling, 2008; Klassen and Chiu, 2011; Rajendran et al., 2020). The concept of *turnover intention* refers to the employees' willingness to change employers (Schyns et al., 2007). The challenge of the turnover of teachers is global (Clandinin et al., 2015). Previous research showed that 25% to even 50% of educators in Western countries resigned within the first 5 years of teaching (Arnup and Bowles, 2016). There have been studies (Räsänen et al., 2020; Virtanen and Laine, 2021) showing that in Finland, approximately half of the novice teachers in primary and secondary schools have considered leaving the profession, even though most of them, in general, are satisfied with their profession (OECD, 2020; Virtanen and Laine, 2021). Research on teacher educators' work satisfaction is less common. The Trade Union of Education in Finland conducted a survey in September 2021 to find out if the COVID-19 pandemic has increased the likelihood of teacher turnover. The results show that 56% of university teachers in the field of education, for example, teacher educators, had considered leaving the profession during the previous 12 months (OAJ, 2021). Kinman and Jones (2008) found out that when HE teachers and researchers in the UK experienced more imbalance between the actual and the ideal levels of work, the more they experienced psychological distress and job dissatisfaction. Their work invaded their non-working lives through preoccupation with work issues and by making it more difficult to relax. In addition, 48% of respondents had seriously considered leaving HE—even though they were satisfied, particularly, with the intellectual stimulation obtained from their work.

Teaching processes, especially interaction with students, have been shown to relate to teachers' wellbeing (Grayson and Alvarez, 2008). HE teachers' teaching processes have been explored since the early 1990s. The best-known categorization of HE teachers' teaching processes was introduced by Trigwell et al. (1994), when they categorized two teaching processes: (1) Information Transmission/Teacher-Focused (ITTF) and (2) Conceptual Change/Student-Focused (CCSF) approaches to teaching. In qualitative studies, consisting of almost 200 university teachers' interviews (Postareff and Lindblom-Ylänne, 2008, 2011), the researchers found that these two approaches to teaching included several subcategories. Due to the presence of the various subcategories, the Teacher-Focused approach (ITTF) was labeled as the Content-Focused approach and the Student-Focused

approach (CCSF) was labeled as the Learning-Focused approach (Postareff and Lindblom-Ylänne, 2008). The subcategories were the interactive approach (between the teacher and the students), the organized approach (how teachers organize their teaching), the transmissive approach (delivering content from the teacher to the students), and the unreflective approach (lack of pedagogical awareness). In their study, Postareff and Lindblom-Ylänne (2008) found that interaction and reflective teaching (pedagogical awareness) are important elements in learning-focused teaching. On the contrary, in the content-focused approach transmitting the information and strict lecture plans around teachers' own interests and expertise are important elements of teaching (Postareff and Lindblom-Ylänne, 2008).

Interestingly, previous research has indicated that when HE teachers adopt more interactive and learning-focused teaching, they have more positive emotions about their teaching tasks (Postareff and Lindblom-Ylänne, 2011) and score lower on scales that measure burnout risk (Cao et al., 2018). These findings show that teachers' approaches to teaching play a role in teachers' wellbeing. However, this has not been studied among teacher educators in HE, although it would be important as the relationship between approaches to teaching and teachers' wellbeing has become especially interesting during the pandemic when HE teachers have overcome the challenges of mastering digital tools, they still struggled to have quality interaction with the students (Kovacs et al., 2021). Moreover, both HE teachers and students have considered remote learning to be an impersonal way of teaching (Oliveira et al., 2021). This is an important viewpoint, as there is also evidence that the perceived inadequacy in teacher-student interaction is positively related to teachers' intentions to leave the profession (Heikonen et al., 2017).

The aim of this study is to investigate the relationship between HE teacher educators' risk of burnout, intention to leave teaching, experienced stress during the COVID-19 pandemic, and their approaches to teaching. Particularly, the relationships are explored during the pandemic, which posed special challenges for teacher educators.

Our specific research questions and hypotheses are as follows:

1. What is the stress and burnout level, and intention to leave teaching career among teacher educators during the COVID-19 pandemic?

Hypothesis: According to previous research (Gonzalez et al., 2021; Santamaría et al., 2021; Arrona-Palacios et al., 2022) university teachers' stress, anxiety, and burnout increased during the COVID-19 pandemic and the intention to leave the teaching career has increased due the COVID-19 pandemic among school teachers (Collie, 2022; Zamorro et al., 2022). Furthermore, previous research shows that university teachers' experiences of stress and burnout have been shown to predict turnover intention among HE professionals (Winfield and Paris, 2021). Thus, we assume that in recent years, the stress and the intention to leave the teaching career have increased also among HE teacher educators.

2. What kind of approaches to teaching can be detected among teacher educators during the COVID-19 pandemic?

Hypothesis: We expect to detect four different approaches to teaching (*interactive, transmissive, unreflective, and organized*) because previous research (Parpala and Postareff, 2021; Postareff

et al., under review<sup>1</sup>) among HE teachers has identified four approaches.

3. How is HE teacher educators' risk of burnout, intention to leave the teaching profession in HE, and the stress experienced during the COVID-19 pandemic related to their approaches to teaching?

Hypothesis: In previous research (Cao et al., 2018) HE teachers' wellbeing and approaches to teaching were found to interconnect, thus we expect these results also to emerge during the COVID-19 pandemic.

4. What approach to teaching was the strongest predictor for HE teacher educators' risk of burnout, intention to leave the HE teaching profession, and stress experienced during the COVID-19 pandemic?

Hypothesis: On the bases of previous research (Cao et al., 2018) we assume that an interactive approach to teaching would be negatively related to the risk of burnout, intention to leave the HE teaching profession, and stress experienced during the COVID-19 pandemic.

## 2. Materials and methods

### 2.1. Context and participants

This case study was carried out in Finnish universities context. In Finland, universities have extensive autonomy and freedom of education and research. They are independent legal entities and make independent decisions on matters related to their internal administration, consisting of the development of their curricula. However, the degree qualifications, which steer the curricula development, have been determined at the European (European Parliament Council) and national (Finnish National Agency for Education) levels and include such learning outcomes as knowledge, skills, and competencies. The universities offer mainly bachelor's and master's degrees. University bachelor's degrees consist of 180 European Credit Transfer and Accumulation System (ECTS) credits and last 3 years. In general, to proceed the master's degree program, students need to have a bachelor's degree or equivalent studies. University bachelor's degrees usually offer continuation to a master's degree without taking a new entrance examination or being part of another selection process.

In Finland, initial teacher education is organized by universities. Primary and special education teacher programs offer a 3-year bachelor's and a 2-year master's degree. Also, early childhood education teachers study the bachelor's degree level (180 credits) or master's degree level (300 credits) at a university. We contacted the Teaching and Learning Services of teacher education units at Finnish universities in May 2021, asking for collaboration in the delivery of the electronic questionnaire. We, either received information to send a group email to educators, or the participating university's contact person forwarded an email. The email included the link to the electronic questionnaire,

<sup>1</sup> Postareff, L., Lahdenperä, J., Hailikari, T., and Parpala, A. (under review). The dimensions of approaches to teaching in higher education: a new analysis of teaching profiles.

information on the research, and the conditions for participation, namely, voluntariness and anonymity.

A total of 83 teacher educators from Finnish universities participated in the study. Most respondents worked as a university teacher or lecturer (62.3%), with the remaining working as a postdoctoral researcher (13%), as a professor (8.3%), as an associate professor (7.1%), or a doctoral student (7.1%) with teaching duties in teacher education. In total, 97.8% of respondents confirmed working in a HE teaching profession. Two-third of the respondents had a doctoral degree and one-third of them had a master's degree, and most of them (84%) had a teaching qualification and/or had completed courses in university pedagogics (9%). The age of the respondents varied between 26 and 66 years, with the mean age being 52 years. Of the respondents, 71% were female, 22% were male and the rest did not specify their gender.

In the spring term of 2021, most of the respondents (91.7%) had organized their teaching almost entirely as distance education, and a few (3.6%) had organized as face-to-face education. In addition, 10.6% reported that they had organized hybrid education—combination of distance education and face-to-face education in the same course. Of the respondents, 77% reported that they had increased the amount of distance education in the spring term of 2021. As some respondents did not respond to all items and some marked more than one choice, this study could not be a report of 100% respondents.

This study followed the ethical principles of research with human participants and ethical review in the human sciences in Finland (Finnish National Board on Research Integrity TENK, 2019).

## 2.2. Instruments

Teaching-related risk of burnout was measured with the Study-related Burnout Inventory (SBI) (Salmela-Aro et al., 2009). SBI is based on the Bergen Burnout Inventory (Näätänen et al., 2003; Salmela-Aro et al., 2004) and it has been used and validated in the higher education context (Asikainen et al., 2020). To examine HE teachers' teaching-related burnout, SBI was contextualized for the higher education teaching process as a part of the HowUTeach project (Parpala and Postareff, 2021). The instrument consists of nine items measuring three factors of risk of burnout: (1) exhaustion at work (e.g., "I feel overwhelmed by my work"); (2) cynicism about the meaning of work (e.g., "I feel lack of motivation in my work and often think of giving up"), and (3) sense of inadequacy (e.g., "I often have feelings of inadequacy in my work") to be rated on a five-point scale (1 = strongly disagree; 5 = strongly agree). Due to the small sample size, for the analyses, the SBI was used as one-dimensional measure. This was justifiable because exhaustion, cynicism, and a sense of inadequacy scales comprise a second-order overall study-related burnout score (Parpala and Postareff, 2021). The internal consistency of the burnout risk instrument as examined by Cronbach's  $\alpha$  was 0.87.

Higher Education teacher educators' approaches to teaching was measured with the instrument called Higher Education Approaches to Teaching (HEAT) which is included in the HowUTeach self-reflection tool for HE teachers (Parpala and Postareff, 2021). The HEAT measures a range of dimensions of

approaches to teaching and it was developed based on the in-depth interview results (Postareff and Lindblom-Ylänne, 2008). Previous instruments regarding approaches to teaching (ATI and ATI-R) (Trigwell and Prosser, 2004; Trigwell et al., 2005) and approaches to learning (HowULearn) (Parpala and Lindblom-Ylänne, 2012) were also utilized in developing HEAT (Parpala and Postareff, 2021). The HEAT instrument includes four scales and consists of a total of 12 items, 3 items per each scale: the *interactive approach* ("In my teaching, I create situations where I encourage students to discuss their thoughts and opinions about the topic"); the *unreflective approach* ("It is difficult for me to understand what learning is all about"); the *transmissive approach* ("The majority of my teaching time is spent transmitting information to the students about the topic"); and the *organized approach* ("I am organized and systematic as a teacher"). The instrument has been validated in Finland among HE teachers in universities and universities of applied sciences (Postareff et al., 2008). The internal consistency of the HEAT instrument's dimensions was examined by Cronbach's  $\alpha$  values, which in the current data varied between 0.72 and 0.82 accordingly as follows: the *interactive approach*, 0.82; the *transmissive approach*, 0.75; the *unreflective approach*, 0.72; and the *organized approach*, 0.72.

Higher Education teacher educator's stress during the COVID-19 pandemic was measured using a single argument item "*the COVID-19 situation has increased my work-based stress*" with a five-point Likert scale (1 = fully disagree; 5 = fully agree). The argument was modified from a single-item measure of stress symptoms "Stress means a situation in which a person feels tense, restless, nervous or anxious or is unable to sleep at night because his/her mind is troubled all the time. Do you feel this kind of stress these days?" validated in previous studies (Elo et al., 2003; Eddy et al., 2019). Due to the small sample size, we were not able to validate the stress scale using the current data. Moreover, the likelihood of leaving teaching was measured with one item: "*I have considered leaving the teaching profession in HE.*" The item was answered using a Likert scale from 1 (fully disagree) to 5 (fully agree). The one item about the intention to leave HE teaching was modified from a previous study (Nguyen et al., 2016), which validated the item by finding it to be a reliable measure of the likelihood of there being teacher turnover.

In addition, for background information, single items were used to explore how the participants had organized their teaching. The questionnaire, specifically, included an item "*How much of your teaching in the 2020–2021 academic year did you organize as (a) distance teaching, (b) face-to-face teaching, and (c) hybrid teaching?*" with a five-point Likert scale (1 = not at all; 5 = fully). Another item, such as "*Because of COVID-19 I have changed the amount of distance teaching,*" using the same Likert scale was used to explore how many teacher educators had increased distance teaching.

## 2.3. Data analyses

The intercorrelations among the sum scale of the SBI, teaching approaches, intention to leave HE teaching, and stress during the COVID-19 pandemic were analyzed by using Pearson's correlation coefficient analysis.

The interrelationships between the HE teacher educator's risk of burnout, their approaches to teaching (*interactive, transmissive, unreflective, organized*), level of stress experienced during COVID-19, and intention to leave the teaching profession in HE were examined using linear regression analysis (enter). The risk of burnout scale was treated as the dependent variable and approaches to teaching scales, variables measuring experienced stress during COVID-19 and intending to leave teaching in HE as independent variables. Software IBM SPSS software, version 28 (RRID:SCR\_019096) was used for the analyses.

### 3. Results

Our first research question concentrated on the levels of work stress, burnout risk, and intention to leave HE teaching during the COVID-19 pandemic. Over half of the respondents reported that the COVID-19 pandemic had increased their *work stress* fundamentally (mean, 3.23; standard deviation [SD], 1.44) [see [Table 1](#), rated on a five-point scale (1 = strongly disagree; 5 = strongly agree)]. The mean level of *burnout risk* among the HE teacher educators was 2.28 (SD, 0.86). Almost 25% of the participants did not consider themselves to be suffering from teaching-related burnout at all or just slightly (mean score, <1.5), while 5% experienced more risk of burnout (mean score, >3.5). However, the mean score of *intention to leave HE teaching* was quite low (mean, 1.96; SD, 1.30). Specifically, 18% of the respondents agreed or fully agreed that they had considered leaving the teaching profession in HE.

To address the second research question, we examined what kind of approaches to teaching HE teacher educators used during the COVID-19 pandemic. We detected four different approaches as was hypothesized. The mean scores of the approaches of teaching showed that the *interactive* (mean, 4.54; SD, 0.48) and the *organized* (mean, 4.17; SD, 0.65) *teaching approaches* were used very often. The *transmissive approach* was used somewhat by HE teacher educators (mean, 2.28; SD, 0.77), while the *unreflective teaching approach* was used the least (mean, 1.64; SD, 0.62).

In the third research question, we investigated how HE teacher educators' risk of burnout, intention to leave the teaching profession in HE, and the stress experienced during the COVID-19 pandemic were related to HE teacher educators' approaches to teaching. The correlation analyses (see [Table 1](#)) revealed that among HE teacher educators, the work-based *burnout risk* was statistically significant and positively related to *turnover intentions*, *work stress increased during COVID-19*, and the *unreflective teaching approach*, even though the correlation coefficients were not remarkably high. In addition, the *transmissive teaching approach* correlated positively and statistically significant with the *unreflective* and *organized teaching approaches*.

To address the fourth research question, we conducted a regression analysis to find out the strongest relations between the HE teacher educators' risk of burnout, their approaches to teaching, their intention to leave the HE teaching profession, and the stress experienced during the COVID-19 pandemic (see [Table 2](#)). The results showed that the *interactive approach* was statistically significant and negatively related to the *risk of burnout* ( $\beta$ , -0.23;

$t$ , -2.55;  $p$  < 0.05) while the other approaches had no statistically significant relations to the risk of burnout in the regression analysis. Moreover, both *experienced stress during the COVID-19 pandemic* ( $\beta$ , 0.45;  $t$ , 5.2;  $p$  < 0.001) and *intention to leave HE teaching* ( $\beta$ , 0.39;  $t$ , 4.40;  $p$  < 0.001) predicted *risk of burnout* statistically significant and positively.

### 4. Discussion

The aim of this study was to examine how HE teacher educators' risk of burnout is related to their approaches to teaching, intention to leave the teaching profession in HE, and stress experienced during the COVID-19 pandemic. Overall, the results showed that there is a variety of experiences of HE teacher educators in the risk of burnout during the COVID-19 pandemic. The research results indicate that some teaching approaches predict the risk of burnout more than others and that the COVID-19 pandemic and intention to leave teaching play an important role also as predictors. These results are discussed in more detail below.

The results of the current study show that over half of the participating Finnish HE teacher educators considered that the COVID-19 pandemic had increased their work stress fundamentally. This was hypothesized based on previous research (e.g., [Gonzalez et al., 2021](#); [Arrona-Palacios et al., 2022](#)). We also assumed that the burnout risk among HE teacher educators would be on a mediocre level. However, one-fourth of respondents considered they were not suffering from teaching-related burnout or suffered only slightly and only five percent of responding HE teacher educators felt teaching-related burnout. Our hypothesis based on previous research ([Winfield and Paris, 2021](#)) that many HE teacher educators during the pandemic would have turnover intentions was partially mistaken, as fortunately only 18% of respondents had considered leaving the teaching profession in HE.

As hypothesized, we detected four different approaches of teaching among HE teacher educators. The approaches found were interactive, transmissive, unreflective, and organized as found in previous research ([Parpala and Postareff, 2021](#); see text footnote 1). The findings of this study show that HE teacher educators' approaches to teaching are connected closely to their wellbeing satisfy with the results of previous research ([Postareff and Lindblom-Ylänne, 2008](#); [Cao et al., 2018](#)) and our hypothesis. More precisely, when looking separately at the correlations between various factors, we found that specifically the *unreflective teaching approach*, which indicates difficulties in understanding how students learn and in supporting learning, is positively related to the *risk of burnout*. This result can be interpreted by taking a closer look at the items measuring an unreflective approach. The scale unreflective approach was initially developed to measure teachers' inability to understand student learning, which in turn reflects their pedagogical awareness. During the pandemic, in a totally new teaching-learning environment, the unreflective approach may, however, measure more of teachers' uncertainty in a new situation than the lack of pedagogical awareness. It may even indicate teacher educators' critical reflection on their teaching and the challenges in it in a new environment. Thus, to understand better the unreflective approach and teacher educators' pedagogical awareness person-oriented and longitudinal methods are needed.

TABLE 1 The Pearson correlation coefficients between the approaches to teaching, stress caused by COVID-19, intention to leave teaching, and teaching-based burnout risk, means, and SD of scales.

Scales	1	2	3	4	5	6	7
1. Interactive approach	–						
2. Transmissive approach	–0.008	–					
3. Unreflective approach	–0.067	0.363**	–				
4. Organized approach	0.274*	0.308**	0.078	–			
5. COVID-19 increased work stress	0.170	–0.036	0.007	0.108	–		
6. Intention to leave the teaching profession in HE	–0.023	–0.018	0.153	0.214	0.173	–	
7. Burnout risk	–0.166	0.126	0.244*	0.123	0.479**	0.496**	–
Mean (SD)	4.54 (0.48)	2.28 (0.77)	1.64 (0.62)	4.17 (0.65)	3.23 (1.44)	1.96 (1.30)	2.28 (0.86)

\* $p < 0.05$ ; \*\* $p < 0.01$  (two tailed). In all scales, Likert scale 1–5 was used.

TABLE 2 Regression for predicting risk of burnout (statistically significant relations).

Predictor	Standardized coefficients beta	$t$	$p$
Interactive approach	–0.23	–2.55	<0.05
COVID-19 increased work stress	0.45	5.2	<0.001
Intention to leave the teaching profession in HE	0.39	4.4	<0.001

Adjusted  $R^2 = 0.45$ ;  $F_{(6,72)} = 11.69$ ,  $p < 0.001$ .

Interestingly, based on regression analysis, the *interactive approach* was a stronger (negative) predictor than the *unreflective approach* (positive) for the *risk of burnout*. Furthermore, the results showed that HE teacher educators who consider teaching mostly as delivering knowledge tend to find it challenging to understand students' learning processes and use a lot of resources to plan and prepare the lessons.

Thus, the results imply that interaction in teaching supports not only students but also teachers (Nguyen et al., 2016). The regression analysis used in our study highlighted the negative relationship between burnout risk and the *Interactive teaching approach*, in which the main idea is that a teacher encourages students to discuss their thoughts and different viewpoints to deepen their understanding of the theme to be learned. Previous research, especially among secondary education teachers has shown that social interaction with students is the most important source of intrinsic rewards in teaching and career wellbeing (Schmidt et al., 2017), and establishing a positive relationship with students is related to lower levels of stress and higher levels of wellbeing of teachers (Spilt et al., 2011; Aldrup et al., 2018). In the HE context, Talbot and Mercer (2018) found that social interaction (e.g., with students) was a protective factor in emotional wellbeing. Based on the previous results and our study, we can assume that interaction with students also prevents HE teachers from becoming overly stressed. In addition, the teacher–student relationship also fosters more positive growth among students (Roorda et al., 2011; Madigan and Kim, 2021). For example, teachers who promote discussion and dialogic instruction increase students' engagement and active participation (Wang and Holcombe, 2010). Thus, an interactive teaching approach can be advantageous for both teachers and students. The teacher–student interaction is limited and challenging in distance education settings (e.g., Zoom and Teams meetings), which were commonly in use during the

pandemic. Thus, during the pandemic, teachers also missed the stress prevention provided by interaction with students as well as their colleagues. We consider that longitudinal research is needed to understand more deeply the relationships between teacher–student interaction, teacher efficacy, and burnout in HE.

The correlation and regression analyses showed that burnout risk was positively related to stress experienced during the COVID-19 pandemic and intention to leave teaching in HE. We measured work burnout, which is a reaction to chronic occupational stress (González-Romá et al., 2006) (and thus work-based burnout can be perceived as a more severe condition than occupational stress). However, both conditions weaken teachers' ability to cope at work. Considering the differences and convergence between these concepts, we consider that our results parallel those from previous research showing that teacher educators' turnover intentions and attrition are related to work-based stress (Borman and Dowling, 2008; Klassen and Chiu, 2011; Rajendran et al., 2020). Recent research shows that the pandemic caused a huge challenge to HE teachers (Coman et al., 2020; Gülbahar and Adnan, 2020; Sobaih et al., 2020). Therefore, it is not surprising that our study found a connection between HE teacher educators' burnout risk and occupational stress, which increased during the pandemic. This result parallels the previous findings (Dinu et al., 2021) showing that during the COVID-19 pandemic, university academics' mental wellbeing in the UK was at a significantly lower level than among the general population pre-COVID-19. In the future, it is necessary to carry out research on HE teachers' wellbeing in the post-COVID-19 situation and also to compare the findings to the results of research carried out during the COVID-19 pandemic. This offers a possibility to find out what psychological experiences of HE teachers are specific to the pandemic era and what are the relationships between teaching approaches and wellbeing in a more normal HE teaching context. In addition,

more research is needed to find out how stress, burnout, and intention to leave HE teaching are interconnected (e.g., which comes first).

In general, the demands for improved performance by university teachers have grown in recent years, competition has increased, and expert work has become more fragmented and complex. The pandemic caused extra and challenging work for teachers as they were rapidly obliged to change to online teaching (Cutri et al., 2020; Meishar-Tal and Levenberg, 2021). The findings from our study, which show that HE teacher educators' work-based stress increased fundamentally during the pandemic, are in line with previous research showing positive associations between high workload and burnout (Schaufeli and Bakker, 2004; Upadaya et al., 2016). Recent studies have also found corresponding evidence that during the COVID-19 pandemic, university teachers' stress and anxiety increased (Santamaría et al., 2021), and depression, feeling discouraged, and fatigue have increased (Casacchia et al., 2021). However, Kita et al. (2022) found that the deterioration of HE teachers' mental health during the pandemic was not predicted by workload, but faculty members having difficulty using the required technology were at risk of poorer mental health. In addition, faculty members who were more satisfied with the university support services maintained good mental health (Kita et al., 2022).

However, we found out that only 18% of the HE teachers had seriously considered leaving their teaching career at university. In previous research, work-based stress has been found to be related to the intention to leave the profession (Borman and Dowling, 2008; Klassen and Chiu, 2011; Rajendran et al., 2020). Our data were collected at the end of the academic spring term in May 2021, when the infection rate of COVID-19 in Finland was declining. The HE teacher educators at this point, possibly, felt optimistic about the future. Or they might have been satisfied with the support provided by the university and the faculty and already solved most of the technological challenges related to distance education. A previous study highlighted the importance of an acceptable work-life balance for UK academics' health, job satisfaction, and retention (Kinman and Jones, 2008). Their findings strongly suggest that to improve employees' wellbeing and to minimize turnover, institutional support should be provided to academics in establishing and maintaining a balance between their work and non-work lives. In addition to enhancing the wellbeing of teacher educators, turnover could be diminished by organizational actions.

There were some limitations concerning our research. The number of participants was limited, and the sample was heterogeneous in regard to participants' age, occupational status, and amount of completed pedagogical studies. Some of the collected demographic data were left out from this study, because of the missing data in several responses and to ensure the anonymity of the rather limited number of respondents in a specific group of individuals. Despite the heterogeneous sample, the results showed clearly how specific teaching approaches are related to the risk of burnout. Thus, regardless of the sample, this research is relevant and brings new knowledge to understand better why some teachers suffered more from the pandemic than others did. In addition, we were not able to calculate the

exact response rate because in addition to working in teacher education programs, in some units the staff worked also in other programs, such as educational science and adult education. Thus, it is possible that those who responded to the survey did not represent the entire teaching staff. In addition, working remotely from home causes challenges by creating communication barriers, increasing distractions, and blurring lines between work and personal life (Dinu et al., 2021). However, in this study, we did not examine the relationship between work-based stress and working from home. Moreover, it must be acknowledged that although we used regression analysis for examining the strongest predictors for teaching-based burnout, the study was not longitudinal, and thus, we measured the relationships between teaching-based burnout, stress, intention to leave a teaching career in HE and teaching approaches among HE teacher educators.

## 5. Conclusion

To sum up, our study shows the importance of developing teaching practices and especially interaction skills of teacher educators working in university contexts and their understanding of students' learning in face-to-face and in distance education settings. As a practical implication, the results show that pedagogical in-service training is necessary to organize for all teaching personnel in HE. This training should involve interactive and learning-focused teaching practices, such as ways to encourage student-student and student-teacher interaction in online teaching. In addition, this study indicates that university teachers with the risk of burnout and intending to leave the profession should have departmental support, IT support, and training for distance education systems' meaningful use and online pedagogy. Support from colleagues was found to be an effective coping strategy for facing academic demands (Darabi et al., 2017). During lockdowns due to the COVID-19 pandemic, departments, and work communities in HE developed useful operating methods for collegial collaboration. These best practices should be recorded to be better prepared to act promptly in the future. In addition to general support from faculty and colleagues, HE teachers that are at risk of burnout might benefit from job counseling to find suitable coping strategies that may relieve stress and boost emotional wellbeing. In addition, our study shows that in the future it will be important to conduct more research on teaching staff's wellbeing in university contexts.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and

institutional requirements. The patients/participants provided their written informed consent to participate in this study.

## Author contributions

Both authors listed have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

## Funding

This research was funded by the Research Council of Norway, (Grant No. 300084). The open-access funding was provided by the University of Helsinki.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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