

Prevalence and predictors of burnout syndrome among schoolteachers during the COVID-19 pandemic in Italy: A cross-sectional survey

Francesco CHIRICO^{1†}, Pietro CRESCENZO,^{2†} Behdin NOWROUZI-KIA³, Livio TARCHI,⁴ Kavita BATRA⁵, Giuseppe FERRARI⁶, Murat YILDIRIM⁷, Alessandra ROMANO⁸, Gabriella NUCERA⁹, Serena RIPA¹⁰, Manoj SHARMA^{11#}, Michael LEITER^{12#}

Affiliations:

¹ Università Cattolica del Sacro Cuore, Post-Graduate Specialization, Rome, Italy. Email: francesco.chirico@unicatt.it
ORCID: 0000-0002-8737-4368.

² Faculty of Psychology, eCampus University, Novedrate, Italy. Email: pietro.crescenzo@unicampus.it. ORCID: 0000-0001-5240-315X.

³ Department of Occupational Science and Occupational Therapy, Temerty Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada E-mail: behdin.nowrouzi.kia@utoronto.ca ORCID: 0000-0000-0002-5586-4282

⁴ Psychiatry Unit, Department of Health Sciences, University of Florence, Florence, FI, Italy. Email: livio.tarchi@gmail.com. ORCID: 0000-0002-9931-5621

⁵ Department of Medical Education, Kirk Kerkorian School of Medicine at UNLV, University of Nevada, Las Vegas, Nevada, United States of America. Office of Research, Kirk Kerkorian School of Medicine at UNLV, University of Nevada, Las Vegas, United States of America. Email: kavita.batra@unlv.edu. ORCID: 0000-0002-0722-0191

⁶ SIPISS, Milan, Italy. Email: ferrari@sipiss.it. ORCID: 0000-0003-1244-5931

⁷ Ağrı İbrahim Çeçen University, Turkey. University of Leicester, Leicester, United Kingdom. Email: muratyildirim@agri.edu.tr. ORCID: 0000-0003-1089-1380.

⁸ Department of Social, Political and Cognitive Sciences, University of Siena, Italy. Email: alessandra.romano2@unisi.it. ORCID: 0000-0002-5679-8758.

⁹ Department of Emergency, Fatebenefratelli Hospital, ASST Fatebenefratelli and Sacco, Milan, Italy. Email: gabriellanutcera@gmail.com ORCID: 0000-0003-1425-0046

¹⁰ Unobravo srl, Casalnuovo di Napoli, Naples, Italy. Email: serena.ripa@gmail.com. ORCID: 0000-0003-4552-111X

¹¹ Department of Social and Behavioral Health, School of Public Health, University of Nevada, Las Vegas, Nevada, United States of America. Email: manoj.sharma@unlv.edu. ORCID: 0000-0002-4624-2414

¹² School of Psychology, Faculty of Health, Deakin University, Geelong, VIC, Australia. E-mail: michael.leiter@acadiau.ca ORCID: 0000-0001-5680-0363.

† First coauthorship # Last coauthorship

*Corresponding Author:

Adjunct Professor Francesco Chirico, Via Umberto Cagni, 21 20162 Milan, Italy. E-mail: francesco.chirico@unicatt.it.

Abstract

Introduction: During the COVID-19 pandemic, teleworking affected the mental well-being of nearly all strata of the population. Teachers, who were employed to teach online courses during lockdown have been psychologically distressed. The primary aim of the current study was to estimate the prevalence and differences in the Burnout Syndrome (BOS) symptomatology in the light of gender, work position, teaching role, and subject taught. As a secondary aim, differences in perceived well-being were estimated through the contribution of individual factors.

Methods: An online cross-sectional survey was conducted from February - May 2021 to recruit a total of 361 teachers from all Italian regions. The Work-Life Balance scale, the Maslach Burnout Inventory, and an ad-hoc questionnaire with items on perceived physical well-being and perceived impact and difficulty in remote work were utilized. Predictors associated with burnout and its subscales were examined using linear regression analyses.

Results: Burnout, measured as the co-existence of high emotional exhaustion (EE), high depersonalization (DP), and low personal accomplishment (PA) was revealed in 16.9% of teachers, while high EE, high DP, and low PA were respectively measured in 35.2%, 13.2% and 35.2% of the sample. Variables, such as gender, work position, teaching role, and subject taught were all significant for group differences in perceived well-being or BOS dimensions among teachers.

Discussion: Our findings suggest that the implementation of occupational health programs and workplace health promotion programs for improving the mental well-being of teachers. In particular, a higher caution must be needed for implementing critical institutional changes, such as the wide and rapid adoption of telecommuting.

Take-home message: Italian schoolteachers engaged in teleworking are exposed to a high risk of stress and burnout during the COVID-19 emergency. Implementing occupational health surveillance programs and workplace health promotions programs are needed to protect and improve teachers' mental well-being.

Keywords: Burnout syndrome; Mental health; Teacher well-being; Occupational health.

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INTRODUCTION

Teaching is considered to be one of the most stressful occupations in the world [1,2]. Reportedly, stress and burnout among teachers emerged as a global concern in literature [3,4]. Burnout has been defined in the 11th Revision of the International Classification of Diseases (ICD-11) as an occupational syndrome resulting from poorly managed chronic workplace stress [5–9], which is characterized by three dimensions, as follows: 1) feelings of energy depletion or emotional exhaustion; 2) feelings of negativism or cynicism related to one's job; and 3) reduced professional efficacy. The recent World Health Organization (WHO) definition mirrors the first and most widely accepted definition of Burnout Syndrome (BOS) provided by Maslach and Jackson (1981, 1986), according to which BOS is

a long-term stress reaction to emotional pressure in people-oriented professions (“people who work with people of any kind”), including human services, education, and health care [10,11]. The BOS can be explained by three key dimensions, namely emotional exhaustion, a feeling of cynicism or detachment from the job, and a sense of ineffectiveness and failure [10,11]. This multi-dimensional model of burnout led to the development of a measure widely used in research and practice for evaluating teacher burnout, i.e. the Maslach Burnout Inventory (MBI)-Educator Surveys, which is a version of the original MBI used for educators, including teachers, and other staff members working in any educational setting [12,13].

Emotional exhaustion has been explained as the depletion of a teacher’s energetic resources. Therefore, to cope with emotional exhaustion, teachers develop negative and indifferent attitudes towards their work and students (“depersonalization”), which is described as a maladaptive coping strategy. Finally, this maladaptive coping results in feelings of low personal achievement (“reduced personal accomplishment”) [2,14].

The Coronavirus disease- 2019 (COVID-19) pandemic has led to significant health, social, economic, and educational disruption around the world [15–21]. The pandemic has caused an enormous psychological impact on the general population, COVID-19 patients, occupational subgroups, i.e. frontline and healthcare workers (HCWs), and college students. High prevalence of BOS, anxiety, depression, fear, sleep problems, and post-traumatic stress disorders was reported among these groups [22–34]. Vulnerable and understudied population subgroups, including women, children, unemployed and fragile patients, experienced a disproportionate burden of worse mental health outcomes during COVID-19 [22,35]. Following the closure of the schools, teachers have also reported high levels of psychological disorders, such as stress, anxiety, and depression [36–38]. These psychological disorders were the consequence of lockdown and social distancing measures [39] alongside increased workloads due to the sudden transition to e-learning [40], and teleworking with low levels of social interaction with colleagues, management staff, and students [41]. In the context of the COVID-19 pandemic, teachers need to constantly adapt to radical changes occurring in the educational system to ensure the transformation of skills among students to maintain high educational standards. Educators who are teaching students with special needs experience more challenges, although the job in itself is rewarding [42].

In Italy, special needs teachers and regular teachers are employed together in mixed classroom settings (classrooms of students with and without special needs) [43]. This hybrid educational setting may be very challenging for schoolteachers, who employ more cognitive resources to address different needs leading to high emotional demands [44]. The pandemic has drastically changed teachers’ way of instruction and many are utilizing several Information and Communications Technologies (ICTs) tools to support teaching and learning in their classrooms [45]. In Italy, during lockdown teachers have been constrained to working from home with the use of ICT [28].

Teleworking has been defined as the use of ICTs, including smartphones, tablets, laptops, and desktop computers for work that is performed outside the employers’ premises [46]. Teleworking in the COVID-19 context has resulted in high levels of mental health disorders among telecommuters due to a combination of old and new psychosocial risk factors, such as work-family conflict, high workloads, and rhythms, long working days, excessive task fragmentation, and the perception of having to be available at all times [26,47,48]. Technostress is a new type of stress induced by ICT use,

resulting from a combination of “overload, invasion, complexity, privacy and inclusion” [23,24,49–51], which may combine with well-recognized psychosocial risks and create a new source of stress [52]. During the COVID-19 pandemic, the adaptation to ICTs in the teaching work and the difficulty in managing the virtual environment has increased technostress and burnout [50] among schoolteachers. A direct relationship between work-family conflict, family-work conflict in terms of role conflict and all the dimensions of burnout was found among teleworkers [3,53,54]. During telecommuting, many teachers experienced increased levels of working hours and job demands in terms of more work and family responsibilities [55], in combination with unexpected changes in the working methods, unergonomic work stations shared with their partners and children, and, sometimes, the need to assist their family members in case of COVID-19 infection [47]. In literature, high teacher stress and burnout levels have been linked to lower self-efficacy and performance, low job satisfaction, poor physical health, and high turnover rates [47]. Teacher burnout may result in lower levels of teachers’ and students’ academic performance, job satisfaction, and well-being [56–59].

In the context of a pandemic, these poor mental outcomes may be aggravated by severe lockdown measures and result in lower levels of quality education provided by schoolteachers. A systematic review with a meta-analysis of eight studies conducted during the pandemic reported high levels of anxiety (17%), depression (19%), and stress (30%) among teachers from different educational levels. A lower prevalence of anxiety was found in Asia; schoolteachers reported lower levels of anxiety as opposed to university teachers [60].

Another systematic review by Silva et al. [61] carried out in the context of the COVID-19 pandemic, indicated a high prevalence of anxiety, depression, and stress among schoolteachers, however great variations among studies were observed. This review included cross-sectional studies from China, Brazil, the United States of America, India, and Spain, but only three of these studies were carried out on schoolteachers. The authors advocated for implementing specific preventive measures to protect teachers' mental health upon returning to face-to-face instruction.

Previous studies cited younger age [62,63], and lack of job security as the predisposing factors associated with teachers’ burnout, however, the role of gender remains unclear in literature [64–67]. Additionally, there is no clear evidence of an association between other sociodemographic or working conditions, such as school grade, teaching experience, and type of teaching (e.g., teaching in regular classrooms *vs* being a special needs teacher and working with students living with disabilities) and teacher burnout [68].

To our best knowledge, there are no studies on teachers’ BOS in the context of COVID-19 and its association with the sociodemographic predictors in Italy. The aim of the current study was, therefore, to study the prevalence of BOS, their job satisfaction, and their perception of physical health during the lockdown. The secondary aim was to estimate differences in BOS symptomatology in the light of gender, work position, school type, teaching role, and subject taught.

METHODS

Study design and procedure

We conducted an online cross-sectional survey between February and May 2021, a period that corresponds with confinement and teleworking for Italian teachers. In Italy, measures such as strict lockdown and closure of the schools were instituted as part of the emergency regime during –March-

May 2020. The educational institutions were reopened starting in May 2020 with a sudden transition to online learning. Next, teacher-student and student-student interactions were modulated based on epidemiological trends of the COVID-19 infection. Therefore, teaching face-to-face was replaced with teaching online in some Italian regions and during certain periods during the COVID-19 emergency.

The current research was carried out in the context of a workplace health promotion program developed by the Italian Ministry of Education and University in agreement with the National Board of Italian Psychologists, during the period between October 2020 to June 2021. Psychologists have been recruited from schools in all Italian territories. They were employed for online/and in-person activities to provide psychological support and promote higher levels of mental well-being among students or their family members, administrative and teaching personnel during the COVID-19 pandemic.

Study population and sampling

Sixty schools from all Italian territories were randomly selected from all 21 Italian regions. Public and private schools were included. Teachers were invited to fill out an anonymous questionnaire and to provide verbal informed consent. A non-probabilistic sample of elementary, middle, and/or high school teachers was utilized in this study.

Study instruments and measures

A self-administered questionnaire was used to collect participants' demographic characteristics (age, gender, region, and city of residence within Italian territory), job-related information including type of school (private, public, or private with state subsidies), work contract type (indefinite or fixed-term, grade taught), years of experience and type of job (ordinary teaching or teaching pupils with special education needs).

Some psychosocial risk factors typical of teleworking were selected, namely technostress and work-family conflict. Technostress was evaluated with some questions developed by Finstad and Giorgi [50] concerning some aspects of technostress, such as technological self-efficacy ("the degree of competence perceived by the employees in the use of technologies"), privacy/monitoring ("the perception that employees have of the traceability of their work activity due to ICT and the related compromise of privacy").

The pervasiveness/work-life balance, in terms of the "perception of always being connected to work even outside standard hours and blurred home-work boundaries due to the use of technologies", was measured with a specific scale of the multifactorial Organizational and Psychosocial Risk Assessment (OPRA) questionnaire, developed by Magnani et al. to assess work-related stress [69]. The Work-Life Balance (WLB) Scale, included in the Inventory of Sources of Risk, comprises a five items Likert scale (from "never" to "always") that assesses the pressures from work to family and vice versa (e.g., "Relationships with family members and/or partners are problematic because of work") [69,70].

Maslach Burnout Inventory

The MBI consists of 22 items where participants were asked to evaluate how often a given event occurs, using a seven-point Likert scale (0 "Never" to 6 "every day"). The instrument considers BOS as an emotional exhaustion syndrome measured by three main aspects: Emotional Exhaustion (EE, Cronbach's Alpha = .088), Depersonalization (DP, Cronbach's Alpha = .070) and Personal Realization (RP, Cronbach's Alpha = .083) [71,72]. The ranges for determining burnout severity levels for the

Italian validation of the MBI-EE questionnaire established the following ranges: high EE ≥ 24 , DP ≥ 4 , PA ≥ 40 ; average EE = 14–23, DP = 2–3, PA = 34–39; and low EE ≤ 13 , DP ≤ 1 , PA ≤ 33 . High scores in the EE and DP scales indicate a condition of emotional exhaustion and depersonalization respectively, while high scores on the RP scale indicate a positive consideration of one's personal accomplishment [71,73].

Ethical aspects

This study was approved by the management of each participating school. A letter of informed consent was included in Google Form for the questionnaire, and completing the questionnaire implied their consent. Confidentiality and privacy were ensured through secure data transfers and storage. This study followed the guidelines from the Declaration of Helsinki. This study was carried out through a Ministerial Agreement Protocol between the National Council of the Order of Psychologists (CNOP) and the Ministry of Education (DGRUF protocol no. 23072 of 30/09/2020). The Italian Ministry of Education signed this protocol for improving the psychological health of all Italian school workers during the pandemic emergency, to address the psychological impact of COVID-19 through workplace health promotion programs.

Data analysis

Descriptive statistics were computed for measuring the prevalence of BOS and their relative subscales in our sample. Categorical variables were represented as frequencies and proportions, whereas continuous variables were presented as means and standard deviations (in the case of normal distributions). If the normality assumption was not met, continuous variables were represented as median and interquartile ranges. Mann-Whitney U-tests were used to estimate group differences. The effect size was estimated through Rank-Biserial Correlation. Predictors were evaluated through linear regression models; all variables were included. All analyses were performed using R, version 4.1.2 (R Core Team, 2020) and its library tidyverse [74].

RESULTS

An overall sample of 361 teachers was recruited. Of these, 57 (15.8%) were males and 304 (84.2%) were females. The average age of the sample was 45.5 (SD ± 10.5) years old, and on average teachers were employed for 16.3 (SD ± 12.3) years. Moreover, 232 (64.3%) were employed on a permanent basis and 29 (35.7%) on a temporary substitute role. Teachers were distributed across varying school grades: Early Childhood 15 (4.2%); Primary School 76 (21.1%); Secondary Middle School 38 (10.5%); Secondary High School 232 (64.3%). Teachers were also employed for different subjects: 247 (68.4%) taught Humanities; 114 (31.6%) Science, Technology, Engineering, and Mathematics (STEM). Most teachers, 266 (73.7%), taught in an ordinary role, while 95 (26.3%) were employed in support of children with disabilities (Special Needs role from hereon). By the geographical distribution, 82 (22.6%) were currently based in the North (Piedmont, Valle d'Aosta, Liguria, Lombardy, Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia-Romagna), 118 (32.7%) in the Central region (Tuscany, Sardinia, Umbria, Marche, Lazio) and 161 (44.7%) in the Southern part of the country (Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily). Further descriptive findings are shown in the Table 1.

Table 1. Descriptive statistics of the study participants (n=361).

	Age	Length of Service	Work Life Balance	Emotional Exhaustion	Depersonalization	Personal Accomplishment	Physical Health	Remote Work Impact	Remote Work Difficulty
Mean	46.474	16.341	3.548	21.759	4.571	34.499	2.732	3.216	2.535
Std. Deviation	10.477	12.258	0.529	13.306	6.155	9.321	0.850	0.979	0.922
Minimum	24.000	0.000	1.000	0.000	0.000	2.000	1.000	1.000	1.000
Maximum	67.000	43.000	5.200	54.000	30.000	48.000	4.900	5.000	5.000

The MBI revealed that 16.9% of teachers were affected by BOS (high levels of EE, DP, and low levels of PA). Emotional exhaustion was high in 35.2%, depersonalization in 13.2%, and a low personal accomplishment in 32% of participants.

Primary results

For what concerns group differences in BOS symptomatology, gender was found to be statistically significant for the subjective perception of physical health (Rank-Biserial Correlation -0.209, p=0.012, better perception among women). Teachers employed with a permanent contract exhibited a higher appreciation of their physical health than temporary-employed teachers (Rank-Biserial Correlation -0.337, p<0.001). The subjective perception of physical health was also significantly different between teachers with ordinary roles and those teaching special needs children (Rank-Biserial Correlation -0.222 p=0.001, better perception among ordinary role teachers). Employees teaching humanities showed a worse appreciation for their physical health than those teaching STEM subjects (Rank-Biserial Correlation -0.147 p=0.025), and lower values of personal accomplishment (Rank-Biserial Correlation 0.137, p=0.036). Conversely, STEM teachers showed higher levels of depersonalization (Rank-Biserial Correlation -0.159, p=0.013). The results were reported in Table 2.

Table 2. Group differences in BOS dimensions, physical health perception, work-life balance, remote work impact and remote work difficulty.

Variable	Males vs Females		Substitute vs Ordinary Teachers		Special vs Ordinary Role Teachers		Humanities vs STEM Teachers	
	Rank-Biserial Correlation	P-Value	Rank-Biserial Correlation	P	Rank-Biserial Correlation	P	Rank-Biserial Correlation	P
Emotional Exhaustion	-0.053	0.523	-0.229	<0.001	-0.116	0.093	-0.147	0.025 *
Depersonalization	0.106	0.195	-0.067	0.280	-0.110	0.103	-0.159	0.013 *

Personal Accomplishment	-0.160	0.055	-0.021	0.741	0.061	0.376	0.137	0.036 *
Physical Health	-0.209	0.012	-0.337	<0.001 1	-0.222	0.001 *	-0.116	0.076
Work-Life Balance	0.013	0.877	0.116	0.067	0.129	0.060	-0.123	0.058
Remote Work Impact	-0.050	0.596	-0.005	0.940	-0.046	0.484	-0.051	0.416
Remote Work Difficulty	0.042	0.525	-0.075	0.212	0.009	0.895	0.101	0.105

Note: Mann-Whitney U test. For significant results, distribution plots were offered in the Supplementary Materials. In bold statistically significant results.

Additional findings

Years of service were associated with lower values of perceived work-life balance ($\beta = -0.007$; $p = 0.045$). Similarly, the perceived impact of remote work ($\beta = 1.165$; $p < 0.001$) was associated with lower values of perceived work-life balance. Appreciation of one's own physical health was significantly and positively predicted by gender (being women associated with higher values, $\beta = 0.273$; $p = 0.024$), work position (being permanently employed associated with higher values, $\beta = 0.267$; $p = 0.050$), subject taught (teaching STEM associated with higher values, $\beta = 0.187$; $p = 0.049$), work-life balance ($\beta = 0.205$, $p = 0.010$), impact and difficulty of remote work ($\beta = 0.231$, $p < 0.001$ and $\beta = 0.110$, $p = 0.024$, respectively).

For what concerns MBI scores, emotional exhaustion was significantly and positively predicted by years of service ($\beta = 0.175$; $p = 0.036$), subject taught (teaching STEM associated with higher values, $\beta = 3.684$; $p = 0.017$), perceived work-life balance ($\beta = 2.405$, $p = 0.048$), perceived impact and difficulty of remote work ($\beta = 4.774$ and $\beta = 2.874$ respectively, $p < 0.001$) Depersonalization was significantly and positively predicted by the subject taught (teaching STEM associated with higher values, $\beta = 1.516$; $p = 0.036$), and the perceived impact of remote work ($\beta = 1.068$, $p = 0.005$). The personal accomplishment was significantly predicted only by perceived difficulty of remote work ($\beta = -1.475$, $p = 0.016$). Results were illustrated in Table 3.

Table 3. Predictors of well-being.

	Work-Life Balance		Physical Health		Emotional Exhaustion		Depersonalization		Personal Accomplishment	
	Coefficients	P	Coefficients	P	Coefficients	P	Coefficients	P	Coefficients	p
Sex	-0.012	0.882	0.273	0.066	0.631	0.036*	-0.237	0.796	1.358	0.329
Work Position	0.053	0.554	0.267	0.024*	1.858	0.746	-0.005	0.996	-0.070	0.965
Length of Service	-0.007	0.045*	0.010	0.050*	0.175	0.402	0.014	0.714	0.042	0.485
Special Needs Teacher	-0.097	0.183	0.052	0.640	-0.639	0.724	0.985	0.248	-0.659	0.609
School Grade (1)	0.057	0.706	-0.237	0.311	-2.689	0.476	-2.124	0.231	0.237	0.930
School Grade (2)	0.011	0.947	-0.062	0.804	-2.070	0.609	-1.441	0.449	-2.287	0.428
School Grade (3)	-0.071	0.615	-0.106	0.629	-3.202	0.366	-1.523	0.361	-2.362	0.349
Teaching Subject	0.112	0.069	0.187	0.049*	3.684	0.017*	1.516	0.036*	-1.441	0.187
Remote Work Impact	0.165	<0.001*	0.231	0.010*	4.774	0.048*	1.068	0.005*	-0.695	0.229
Remote Work Difficulty	0.018	0.577	0.110	<0.001*	2.874	<0.001*	0.512	0.199	-1.475	0.016*
Work-Life Balance	/	/	0.205	0.024*	2.405	<0.001*	0.291	0.654	0.991	0.318

Note: All coefficients unstandardized. P values corrected for multiple comparisons, column-wise. In bold statistically significant results.

DISCUSSION

The objective of this study was to evaluate BOS levels in a sample of Italian teachers and their association with their sociodemographic characteristics, working conditions, and work-family balance during the COVID-19 pandemic. The most important finding of this study indicates that teachers working from home during the COVID-19 pandemic presented high levels of BOS (16,9%) and significant rates of high emotional exhaustion (EE) (35.2%), high depersonalization (13.2%), and low personal accomplishment (PA) (32%). This finding is in line with the literature showing high burnout levels among service professionals such as educators and teachers [75], as well as among helping professionals, including healthcare professionals and psychologists, in the context of the COVID-19 pandemic [23,24,33,76,77].

In addition, our study showed that difficulties faced by teachers in using Information and communication technologies (ICT) in teaching-online learning constitute a good predictor of high EE and low PA, while the usage of ICT was a predictor of high depersonalization (DP). This finding agrees with the literature showing high ICT-related levels of technostress in teachers during the COVID-19 pandemic [78,79]. A systematic review found that exposure to intensive use of technology in distance education may affect teachers' life and job performance due to increased levels of workload and the efforts to adapt to modern technologies in the pandemic context [80]. In a Chilean study, 11% of teachers revealed techno anxiety and 7.2%, techno fatigue. Combining both manifestations, 6.8% of teachers were techno-stressed [81].

Conversely, in Spain, there were no marked levels of technostress in a sample of teachers, although higher levels of perceived ineffectiveness and skepticism were found in teachers aged 46 years or older [82]. The unexpected transition from face-to-face offline education to online lessons has urged teachers to introduce educational technology into teaching practice, which has overwhelmingly impacted teachers' professional and personal lives [83]. Working from home may lead to a high workload, and the connection in off-working hours, evenings, and weekends has increased family-related stressors and work-family imbalance. Technostress may lead to anxiety, depression, sleep deprivation, and internet addiction. In literature, ICT-related privacy issues have been linked to high levels of EE among teachers, leading to emotional distance from students as a dysfunctional coping mechanism [84].

Technostress may have both individual (e.g., anxiety, depression, job dissatisfaction, fatigue) and organizational (e.g., poor performance and absenteeism) negative consequences [82]. Key predictors of technostress in teachers were ICT competence, alignment of educational use of ICT with teaching style, school support, and attitudes toward educational use of ICT [85]. Therefore, preventive measures should entail training, adequate support from organizations, and educational policies to encourage teachers to incorporate technology into the teaching process [85]. Furthermore, a working organization should split free/leisure and working time during teleworking hours. Finally, mandatory occupational health surveillance in combination with the voluntary wellness programs should be promoted to reduce burnout and promote teachers' mental well-being [86–90]. This will also help in improving the work engagement, particularly during the COVID-19 pandemic crisis [86–90].

Consistent with previous study, our study found that teachers with more working experience experiences reported higher levels of work-family imbalance and BOS [91]. Generally speaking,

teachers with more length of service were older and married, therefore, may have more family responsibilities [67].

In our study, STEM teachers reported higher EE and DP levels, as well as higher levels of BOS, as shown in the literature [92,93]. Conversely, no differences in BOS levels were found between ordinary teachers and teachers for pupils with special needs. This finding was not in agreement with the literature [94–96].

Our study has some limitations, as certain socio-demographic and working characteristics (e.g., school level, public or private school, and location [rural/urban]) have not been investigated. Furthermore, a cross-sectional design was employed to study the relationship between burnout and independent variables. The direction and causal relationships among the variables could not be assessed with such a design. Utilizing a longitudinal design to understand the changes in the relationship among the variables would be worth exploring in the future studies. This study used convenience sampling which limits the generalizability of the findings. However, our study is one of the few to studies that investigated teachers' burnout in the context of the COVID-19 pandemic, during the lockdown, and its association with working from home. To authors' best knowledge, this study is the first in Italy to investigate teachers' burnout.

CONCLUSIONS

In conclusion, our study provides evidence of BOS in Italian teachers working during the COVID-19 pandemic. The establishment of occupational health programs to support teachers' health and well-being is warranted. However, such programs should be implemented within an organizational culture that creates safe and respectful work environments; and where the culture of safety is promoted and supported by both employer and employees.

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