Article

The Role of Work Engagement in Facing the COVID-19 Pandemic among Mental Healthcare Workers: An Italian Study to Improve Work Sustainability during Emergency Situations

Valentina Fietta [1] , Francesca Bertoldo [2], Lorenzo Gasperi [2], Cristina Mazza [3,*] , Paolo Roma [4] and Merylin Monaro [1]

1   Department of General Psychology, University of Padova, 35131 Padua, Italy
2   Unità Operativa di Psichiatria, Area Territoriale EST, APSS, 38123 Trento, Italy
3   Department of Neuroscience, Imaging and Clinical Sciences, G. d'Annunzio University of Chieti-Pescara, 66100 Chieti, Italy
4   Department of Human Neuroscience, Sapienza University of Roma, 00185 Rome, Italy
*   Correspondence: cristina.mazza@unich.it

Abstract: During the COVID-19 pandemic, healthcare workers faced an emergency that had significant psychological impacts on them. In this study, an investigation regarding work engagement as a protective factor for well-being was conducted on a sample of Italian healthcare workers in the field of mental health. Correlation and linear regression analyses were run on scores of standardized questionnaires about work engagement, burnout, resilience, stress, and coping strategies. Results indicate that work engagement is positively correlated with resilience, while it is negatively correlated with burnout and stress, particularly caused by personal attacks at work. As concerns the use of functional or dysfunctional coping strategies, negative correlations between work engagement and problem avoidance and emotional distress strategies were found. In conclusion, work engagement was confirmed to be an important protective factor that should be promoted among mental healthcare professionals to help them deal with health emergencies and to improve the psychological sustainability of the work.

Keywords: mental healthcare workers; COVID-19; work engagement; burnout; work-related stress

1. Introduction

Since December 2019, the COVID-19 pandemic brought health facilities around the world to their knees with 626,337,158 confirmed cases and 6,566,610 deaths from the start of the pandemic emergency [1]. In this context, health services had to go through a sudden reorganization, both in terms of staffing, space, and protocols [2], where doctors and nurses were often subjected to grueling shifts in an emergency setting [3]. Beds in intensive care units were increased by 36% [4]; however, in many countries, it was still not enough to cope with the emergency [5]. A major internal reorganization was necessary due to the introduction of containment measures such as the isolation of COVID-positive patients, the use of masks or other protective devices, the protective distances, and the constant sanitization of environments [6].

These changes have greatly impacted the psychophysical health of health workers, with evident psychological outcomes [7]. A recent systematic review, including 59 heterogeneous studies with 54,707 healthcare professionals, highlighted the presence of anxiety, depression, distress, and somatic symptoms (e.g., sleep disorders, loss of appetite) in health personnel all over the world during the pandemic [7,8]. A study published in October 2021 showed, in a cohort of 5938 health professionals, symptoms related to posttraumatic stress disorder, generalized anxiety, insomnia, depression, alcohol abuse, suicidal ideation, and high risk of burnout [9]. According to a study conducted in northern Italy during the

COVID-19 emergency, 71.2% of 330 health professionals felt anxiety, 31.9% reported severe and 14% moderate levels of burnout, and 12.1% severe levels of depersonalization [10]. Additional symptoms were detected by other studies, such as fear of self and colleague infection, hyper-vigilance, constant fatigue, inability to relax, irregular lifestyles, negative emotional flashbacks, poor emotional management, malaise in the work team, and tendency towards avoidance [11–13].

Healthcare workers, who suffered from changes imposed by the pandemic, include not only physicians and nurses who treated COVID-19 patients in the frontline, but also the clinical staff who have continued to carry out the work of diagnosis and treatment of patients with other diseases [14]. Health and care facilities had to reorganize their protocols for managing patients, family members, and staff to cope with the containment of the virus [3]. In addition, in some cases, the clinical staff have had to reinvent care and assistance provision, such as by delivering telemedicine or home-based care [2].

A particular case of this kind is mental healthcare workers. Professionals working in mental healthcare deal with patients suffering from psychiatric disorders. In Italy, the facilities related to psychiatric diagnosis usually consist of mental health centres (MHCs), intensive residential facilities (SRP1), extensive residential facilities (SRP2), hospital diagnostic and treatment departments (SPDC), residences for the execution of security measures (REMS), and psychiatric assisted living residences (RSAP) [15,16]. In this system, patients are treated as ambulatory outpatients but sometimes also as inpatients in psychiatric hospitals or in psychiatric residential facilities. The professional figures involved are psychiatrists, psychologists, psychiatric rehabilitation therapists, educators, nurses, and health auxiliaries. Healthcare performances take place both individually and in groups, normally in presence, and they include the improvement of social and daily skills, behavioral therapies, cognitive and metacognitive treatments, psychoeducational interventions, arts therapy, and family interventions. Indeed, respecting the patient's privacy, family members play a key role in caregiving, especially working with patients with complex symptoms. Family members support the patient and facilitate the maintenance at home of the therapeutic project [17].

2. Literature Review

The COVID-19 pandemic has brought a large number of changes for mental healthcare professionals: (i) the need for implementation of telerehabilitation programs, (ii) the renovation of work settings such as smart working [18], and (iii) the application of home-based rehabilitation programs with the attendant difficulties in managing the caregivers and constantly implementing anti-contagious measures. All these changes in work activity during a global health emergency were implemented with the sense of a lack of support from the "outside", especially from the staff of the mental health residence facilities [6]. Consequently, the pandemic had a strong impact on these professionals in terms of psychological and occupational well-being.

The first Italian survey analyzing the early impact of the pandemic on mental health professionals underlined that one in three workers had severe experience of burnout, while 11.6% showed moderate or severe levels of anxiety, and 6.6% had a moderate or severe level of depression. Moreover, inpatient service workers showed a greater increment of workload, more concerns regarding infection, and higher levels of distress, tension, and restlessness compared to outpatient service workers. An Italian observational study assessing the impact of the COVID-19 pandemic in the period from March to April 2020 included the category of psychiatric rehabilitation therapists. The study reports that about 38% of participants showed a poor compassion satisfaction, and a negative expectation toward the future, both in the short and long term [19]. Low compassion satisfaction is associated with severe emotional distress in clinical work, burnout, and low quality of professional life [20,21]. Minelli et al. (2022) highlighted that, during the first COVID-19 wave, mental healthcare workers experienced contagion fear, suffering of patients' death, increased workload, and bad team relationships. Nurses reported more depression, anxiety, and post-traumatic stress symptoms compared to other professional roles. On the other

hand, being a psychiatrist or psychologist/psychotherapist and having good team relationships appeared to be protective factors [22]. The study suggests that work-related factors such as team relationships might have had an impact in containing the development of psychological symptoms of this professional category during the pandemic emergency. However, to date, few studies investigated the work-related protective and risk factors that influenced the psychological impact of COVID-19 on workers [23–25], especially considering the professional category of healthcare workers (e.g., physicians and nurses) [26–30]. Lack of personal protective equipment, heavy workloads, staff shortages, and feeling unsupported and unappreciated at work were risk factors for emergency stress. On the other hand, resilience and coping strategies (healthy lifestyles, meditation, seeking social support, humor, spiritual practices, and substance use) have been found to play a protective role in secondary traumatic stress and anxiety, while increasing self-efficacy. Additionally, protective factors include financial and recognition from management, teamwork, communication, positive attitudes, and access to therapy, as well as workplace benefits such as assistance with childcare, flexible work schedules, stress prevention training, and paid time off [26–29]. Nevertheless, there are no studies (to the authors' knowledge) specifically concerning work-related protective and risk factors for mental health of mental healthcare workers.

Among the factors that promote workers' psychological well-being, the literature suggests that work engagement plays a significant role. Work engagement is a positive state of mind and satisfaction characterized by vigor, dedication, and absorption in the job [31]. People with high levels of work engagement show a high level of energy and strong identification with their work [32]. In 2017, Van Bogaert et al. demonstrated that healthcare professionals who complained about high levels of fatigue, frustration, and negativity toward their job role developed greater susceptibility to burnout [33]. A cross-sectional study of 1459 healthcare professionals, which was conducted during the COVID-19 pandemic, reported an association between psychological distress (measured with the General Health Questionnaire) and work engagement (measured with the Utrecht Work Engagement Scale), where distressed professionals showed significantly lower levels of work engagement [34]. Similar results were obtained by Ruiz-Frutos et al. among non-health workers [35]. Moreover, different studies observed a significant positive relationship between work engagement and psychological resilience during COVID-19 in sanitary and non-sanitary cohorts [36,37].

Present Study Aims

The goal of the present study is twofold:

(1) Expanding the literature regarding the psychological outcomes of the COVID-19 pandemic on mental healthcare professionals, particularly regarding the experience of a group of professionals in the Italian context. Indeed, Italy was one of the nations most affected by the virus in terms of incidence, but especially in terms of deaths; it counts about 179,436 people died from the SARS-CoV-2 virus between 2019 and 2022 [38] in spite of the fact that it was one of three nations that took the most restrictive measures to contain the infection. In these terms, the study was conceived as a case study in a specific population (Operative Unit (O.U.) of Psychiatry of Trento, Trento, Italy), which is considered as an exemplary case of the Italian panorama;

(2) Identifying the risk and protective factors, related to the work context, that can improve the psychological sustainability of the work of these healthcare figures in emergency situations. Specifically, the present study aims to investigate the impact of work engagement on the psychological response to the pandemic among mental healthcare workers. Results could be helpful to suggest a possible way of increasing workers' well-being by enhancing engagement through work relation modulation interventions built up by health facilities and hospitals.

Specifically, in the present research, we hypothesize that work engagement among mental healthcare professionals is:

- Positively correlated with and influences resilience levels, (**H1**);
- Negatively correlated with and affects levels of stress and burnout, (**H2**);
- Positively correlated with the use of positive coping strategies (such as problem-oriented coping or social support coping) and negatively correlated with negative (less functional) coping strategies (such as avoidance coping and emotional distress coping) and has influence or not in the use of these strategies (**H3**).

3. Materials and Methods

3.1. Participants

Participants were recruited during August 2022 in the Operative Unit (O.U.) of Psychiatry of Trento, North Italy. They were selected according to the following inclusion criteria: being a mental healthcare worker; having performed professional activities during the COVID-19 pandemic in the O.U. of Psychiatry of Trento; being currently in service at the O.U. of Psychiatry of Trento. Participants who met these criteria received the invitation to participate in the study from their coordinators and they were authorized to participate in the study by the director of the O.U. Participation was voluntary and they did not receive any compensation for their involvement.

The final sample consists of 21 volunteers, 17 female (80.95%) and 4 male (19.05%). The participants' average age is 40.95 (SD = 10.731, range: 28–62). As regard education, 57.14% have a bachelor's degree, and 42.86% have at least a master's degree. Regarding the work activity, 5 are socio-medical professional educators (23.81%) and 16 are psychiatric rehabilitation technicians (76.19%). Moreover, 5 of them work at hospitals (23.81%), and 16 at other territorial psychiatric services (76.19%). Participants work on average 31.86 h weekly (SD = 7.19, min = 8, max = 40), and they are in the same workplace, on average, for 12.33 years (SD = 11.98, min = 0, max = 40). Specifically, during the COVID-19 pandemic, 6 subjects experienced a quarantine due to direct contagion (28.57%), 5 of them due to indirect contagion (23.81%), and 10 of them have never lived in quarantine (47.62%).

3.2. Design and Procedures

To test the previously mentioned hypotheses, we designed an online questionnaire using Google Forms to collect sociodemographic factors, psychological work-related experience during COVID-19, and work engagement. All participants were required to read and provide informed consent before beginning the online questionnaire. The experimental procedure was designed in accordance with the Declaration of Helsinki and approved by the ethics committee for psychological research at the University of Padova.

The questionnaire consisted of sociodemographic questions (gender, age, educational level, weekly job hours, and number of years spent in the present job), and psychological scales measuring resilience (BRCS), burnout (LBQ), coping strategies adopted to cope with changes due to pandemic emergency (HPSCS–I), and work engagement (UWES).

Specifically, the Italian versions of the following five standardized questionnaires were administered:

- UWES (Utrecht Work Engagement Scale; Cronbach's alpha = 0.92) analyzes engagement at work [39,40]. It consists of nine items investigating subjective work experience, rated on a 0–6 Likert scale where 0 identifies the "*never*" frequency of the experience and 6 the "*always, every day*" experience (0–54 total score range). The questionnaire is structured into three subscales: *Vigor, Dedication*, and *Absorption* in the work role and in the job context. *Vigor* means a high degree of energy, a constancy in one's task, the presence of mental resilience, and the determination to self-realize through the working role. *Dedication* means being totally engaged by work and considering it, with pride and enthusiasm, fundamental to oneself. *Absorption,* on the other hand, indicates being completely absorbed in the role with difficulty in detachment [41]. For each questionnaire scale, subjects could be divided into 5 groups based on the answers scores' percentiles: "Very low engagement", "Low engagement", "Average engagement", "High engagement", "Very high engagement" [42]. Some items exam-

ples are: "*In my work I felt full of energy*" for subscale *Vigor*, "*I was immersed in my work*" for subscale *Absorption*, and "*I was enthusiastic about my work*" for subscale *Dedication*;

- BRCS (Brief Resilient Coping Scale; Cronbach's alpha = 0.71) measures resilience [43,44]. The questionnaire consists of 4 items that measure the skill of coping with hindering situations. The items are rated from 1 (*total adherence to the item content*) to 5 (*no adherence to the expressed behavior*). An example is: "*I thought I could learn positive things when I had to deal with difficult situations.*" Through the standardized cut-off, subjects can be divided into three groups based on their total score (4–20 score range): low resilience level (score $\leq$ 13), medium resilience level ($14 \leq$ score ≤ 16), and high resilience level (score ≥ 17);

- LBQ (Link Burnout Questionnaire; Cronbach's alpha = 0.77–0.85) investigates the level of burnout in helping professions [45,46]. The questionnaire consists of twenty-four items linked to subjective feelings experienced in the work context, with intensity from never to every day (6-points frequency scale). Items are grouped in four subscales: i) *Psychophysical Exhaustion*: feeling tired and under pressure, with a reduction of physical and mental resources, where an example is "*The job made me feel active and vital*"; ii) *Relationship Deterioration*: whether helping relationship with the user becomes alienated, an item is: "*The users seemed ungrateful to me*"; iii) *Professional Ineffectiveness*: whether professional problems become incomprehensible situations, an item example is "*I felt inadequate to deal with my users' problems*"; and iv) *Disillusionment*: whether the proper role became a meaningless routine, where an item example is "*My expectations related to this job were disappointed*". Subjects are then split into three groups based on their standardized score at each subscale: low burnout level (Stanine score ≤ 2), medium burnout level ($3 \leq$ Stanine score ≤ 7), and high burnout level (Stanine score ≥ 8) [46];

- HPSCS-I (Health Professions Stress and Coping Scale—nonmedical staff version; Cronbach's alpha = 0.57–0.90) is a self-report questionnaire, specific to the health professions, designed to identify stress and coping skills in the work environment [47]. It proposes a series of potentially stressful work situations and measures the level of perceived stress and four possible coping mechanisms used to deal with it. The areas of stress were related to: *Clinical Emergency* as worsening clinical condition or actual death of patients; *Problematic Relationships* with patients and family members; *Personal Attack*s by colleagues, superiors, or patients' family members; *Personal Devaluation* when requests, suggestions, and training needs are not listened to; *Organizational Unforeseen Events* that compromise the sanitary performance or interfere with one's private life. Each area is investigated through four stimulus situations with four response options ("*not at all*", "*a little*", "*quite a lot*", and "*very much*"). Then, for each situation, there is proposed a choice of coping strategies between being focused on solving the problem (*Problem solving*: when one seeks the most appropriate solutions and makes extensive use of personal resources and experiences); being centered on social support (*Social Support*: when one seeks advice and help in other people); being centered on emotional distress (*Emotional distress*: when one reacts emotionally and is unable to an adequately manage of the situation); being problem avoidance centered (*Problem avoidance*: when one tries to avoid totally the problematic situation). Based on T standardized scores, subjects are divided into five groups of stress level: very low stress level (T < 35), low stress level ($35 \leq$ T < 45), medium stress level ($45 \leq$ T < 55), high stress level ($55 \leq$ T < 65), very high stress level (T $\geq$ 65). Moreover, according to the frequency of using a certain coping strategy, participants are split into five groups: very rarely frequency (T < 35), rarely frequency ($35 \leq$ T < 45), medium frequency ($45 \leq$ T < 55), often frequency ($55 \leq$ T < 65), very often frequency (T $\geq$ 65).

Note that all questionnaires were adapted using the past simple tense to help participants referring to the past COVID-19 pandemic period.

3.3. Data Analysis

Data analysis was conducted using the JASP software [48]. The significance threshold of the *p* value was set to 0.05. Due to the small sample size, we chose to use non-parametric tests [49]. We used Spearman's correlations as a first-look analysis to investigate associations between work engagement and the other considered variables. Then, bootstrapped multiple regression was used to look, at the same time, at the influence of multiple variables related to work engagement (*Vigor, Absorption, Dedication*) on other psychological measures.

More in-depth, Spearman's correlations (r_s) were performed to study the association between psychological variables (i.e., resilience, stress, burnout, coping strategies) related to experience during the COVID-19 pandemic and the level of engagement at work (UWES score). Additionally, bootstrapped multiple regression analyses were run to investigate the relationship between the UWES subscales' scores (independent variables: *Vigor, Absorption, Dedication*) and the dependent variables that were hypothesized to be impacted by the level of work engagement (i.e., resilience, stress, burnout, coping strategies). The analysis was performed using the stepwise variable selection method, which identified independent variables with a significant *($p < 0.05$)* individual association with the outcome variable. Bootstrap confidence intervals were added to coefficients in linear regression (number of bootstraps from 5000). Being aware of the small sample size, we used this method to increase the validity of our results, as recommended by Field et al. [49]. The results were reported using unstandardized coefficients, as recommended by Friedrich [50].

4. Results

4.1. Descriptive Statistics

In this section, the results obtained by the participants in the psychological (BRCS, LBQ, HPSCS–I) and work-engagement (UWES) scales are reported.

The average UWES total score was 34.38 (SD = 10.03). Regarding the subscales, the average score was 11.38 (SD = 3.60) for *Vigor*, 11.76 (SD = 3.42) for *Absorption*, and 11.24 (SD = 3.59) for *Dedication*. Specifically, the distribution of subjects between distinct levels of engagement in all scales is reported in Table 1.

Table 1. Distribution of subjects' answers between standardized cut-offs.

Test	Subscales	Cut-Off Level	N Subjects	%
UWES	Total score	Very low engagement	1	4.76
		Low engagement	3	14.29
		Average engagement	11	52.38
		High engagement	4	19.05
		Very high engagement	2	9.52
	Vigor	Very low engagement	0	0
		Low engagement	5	23.81
		Average engagement	10	47.62
		High engagement	4	19.05
		Very high engagement	2	9.52
	Absorption	Very low engagement	2	9.52
		Low engagement	3	14.29
		Average engagement	9	42.86
		High engagement	5	23.81
		Very high engagement	2	9.52
	Dedication	Very low engagement	0	0
		Low engagement	5	23.81
		Average engagement	9	42.86
		High engagement	5	23.81
		Very high engagement	2	9.52
BRCS		Low resilience	11	52.38
		Medium resilience	9	42.86
		High resilience	1	4.76

Table 1. *Cont.*

Test	Subscales	Cut-Off Level	N Subjects	%
LBQ	*Psychophysical Exhaustion*	Low burnout level Medium burnout level High burnout level	0 15 6	0 71.43 28.57
	Relationship Deterioration	Low burnout level Medium burnout level High burnout level	0 17 4	0 80.95 19.05
	Professional Ineffectiveness	Low burnout level Medium burnout level High burnout level	0 14 7	0 66.67 33.33
	Disillusionment	Low burnout level Medium burnout level High burnout level	0 16 5	0 76.19 23.81
HPSCS-I-Stress	Total score	Very low stress Low stress Medium stress High stress Very high stress	8 7 5 1 0	38.10 33.33 23.81 4.76 0
	Clinical Emergency	Very low stress Low stress Medium stress High stress Very high stress	2 7 8 4 0	9.52 33.33 38.10 19.05 0
	Personal Attack	Very low stress Low stress Medium stress High stress Very high stress	9 9 2 1 0	42.86 42.86 9.52 4.76 0
	Problematic Relationships	Very low stress Low stress Medium stress High stress Very high stress	2 6 8 2 3	9.52 28.57 38.10 9.52 14.28
	Personal Devaluation	Very low stress Low stress Medium stress High stress Very high stress	12 7 0 2 0	57.14 33.33 0 9.52 0
	Organizational Unforeseen Events	Very low stress Low stress Medium stress High stress Very high stress	9 8 2 2 0	42.86 38.10 9.52 9.52 0
HPSCS-I-Coping	*Problem Solving*	Very rarely frequency Rarely frequency Medium frequency Often frequency Very often frequency	9 7 3 2 0	42.86 33.33 14.29 9.52 0
	Social Support	Very rarely frequency Rarely frequency Medium frequency Often frequency Very often frequency	2 2 6 8 3	9.52 9.52 28.57 38.10 14.29
	Problem Avoidance	Very rarely frequency Rarely frequency Medium frequency Often frequency Very often frequency	0 4 8 5 4	0 19.05 38.10 23.81 19.05
	Emotional Distress	Very rarely frequency Rarely frequency Medium frequency Often frequency Very often frequency	0 5 10 5 1	0 23.81 47.62 23.81 4.76

Note. UWES = Utrecht Work Engagement Scale; BRCS = Brief Resilient Coping Scale; LBQ = Link Burnout Questionnaire; HPSCS-I = Health Professions Stress and Coping Scale—nonmedical staff version.

The average score for BRCS questionnaire was 13.429 (SD = 2.14). The distribution of subjects between different levels of resilience is reported in Table 1.

As concerns the LBQ, the average response score for *Psychophysical Exhaustion* subscale was 21.05 (SD = 5.30), for *Relationship Deterioration* subscale was 14.95 (SD = 4.13), for *Professional Ineffectiveness* was 17.143 (SD = 4.35), and for *Disillusionment* subscale was 18.81 (SD = 6.09). The distribution of subjects between different levels of burnout among subscales is reported in Table 1.

Concerning stress measured through HPSCS-I, participants showed a mean row score (RS) of M_{RS} = 29.57 (SD_{RS} = 9.14), which is equivalent to a standardized score (T points)

of T = 36.86 (SD$_\text{T}$ = 12.44) in the total Stress score. In the subscales, subjects obtained the following results: M$_\text{RS}$ = 7.71 (SD$_\text{RS}$ = 2.55, T = 43.57 and SD$_\text{T}$ = 12.76) in the *Clinical Emergency* subscale, M$_\text{RS}$ = 6.29 (SD$_\text{RS}$ = 2.35, T = 35.71 and SD$_\text{T}$ = 11.24) in the *Personal Attack* subscale, M$_\text{RS}$ = 7.52 (SD$_\text{RS}$ = 3.25, T = 48.57 and SD$_\text{T}$ = 12.51) in the *Problematic Relationships* subscale, M$_\text{RS}$ = 3.43 (SD$_\text{RS}$ = 1.94, T = 35.14 and SD$_\text{T}$ = 10.86) in the *Personal Devaluation* subscale, and M$_\text{RS}$ = 4.62 (SD$_\text{RS}$ = 2.18, T = 35.67 and SD$_\text{T}$ = 13.71) in the *Organizational Unforeseen Events* subscale. In Table 1, the distribution of subjects between different levels of stress among subscales is represented.

HPSCS-I was also used to measure coping strategies use frequency. The average scores at the different subscales, corresponding to the four coping strategies, are the following: M$_\text{RS}$ = 33.62 (SD$_\text{RS}$ = 9.51, T = 35.67 and SD$_\text{T}$ = 13.84) in the *Problem Solving* subscale, M$_\text{RS}$ = 32.76 (SD$_\text{RS}$ = 10.30, T = 52.81 and SD$_\text{T}$ = 12.51) in the *Social Support* subscale, M$_\text{RS}$ = 17.38 (SD$_\text{RS}$ = 7.08, T = 52.48, and SD$_\text{T}$ = 10.04) in the *Problem Avoidance* subscale, and M$_\text{RS}$ = 20.43 (SD$_\text{RS}$ = 9.63, T = 49.48, and SD$_\text{T}$ = 9.76) in the *Emotional Distress* subscale. In Table 1, the distribution of subjects between different frequencies of coping strategies' use is represented.

4.2. Engagement Role on Resilience, Burnout, Stress, and Coping Strategies

Running Spearman correlations, we obtained a series of significant associations between UWES score and the other considered variables. An overview of the significant and insignificant correlations is given by Figure 1. In the Supplementary Materials, confidence intervals are reported (Table S1), along with the output of additional correlations between burnout, stress, resilience, and coping variables (Table S2).

Moreover, we investigated the role of engagement on the other variables (resilience, burnout, stress, and coping), running bootstrapped multiple regressions. UWES subscales (*Vigor, Dedication* and *Absorption*) were entered in the model as independent variables, and the BRCS, LBQ, and HPSCS-I scores as dependent variables (DVs).

4.2.1. Resilience (H1)

UWES total score and all UWES subscales are positively correlated with BRCS score, as reported in Figure 1.

The BRCS scores were set as the DV, while UWES subscales (*Vigor, Absorption*, and *Dedication*) were entered as independent variables in the multiple linear regression model. The final model accounted for a significant proportion of the variance in the resilience levels (R^2 = 0.42, *adjusted* R^2 = 0.39, *F-change*$_{(1, 19)}$ = 14.01, $p < 0.01$). Only the *Dedication* subscale was found to contribute to the level of resilience. *Vigor* and *Absorption* subscales did not affect the resilience grade. Results are reported in Table 2.

Table 2. Multiple linear regression model investigating the relation between the level of resilience and UWES subscales variables.

	Unstandardized	S.E.	Standardized	*t*	*p*	95% CI		95% bca * CI	
						Lower	Upper	Lower	Upper
(Intercept)	9.08	1.22		7.45	4.751×10^{-7}	6.53	11.63	6.19	11.17
UWES-*Dedication*	0.39	0.10	0.65	3.74	0.001	0.17	0.60	0.22	0.63

Note: RMSE = 1.66. The following covariates were considered but not included: Vigor, Absorption. * Bias corrected accelerated with bootstrapping based on 5000 replicates.
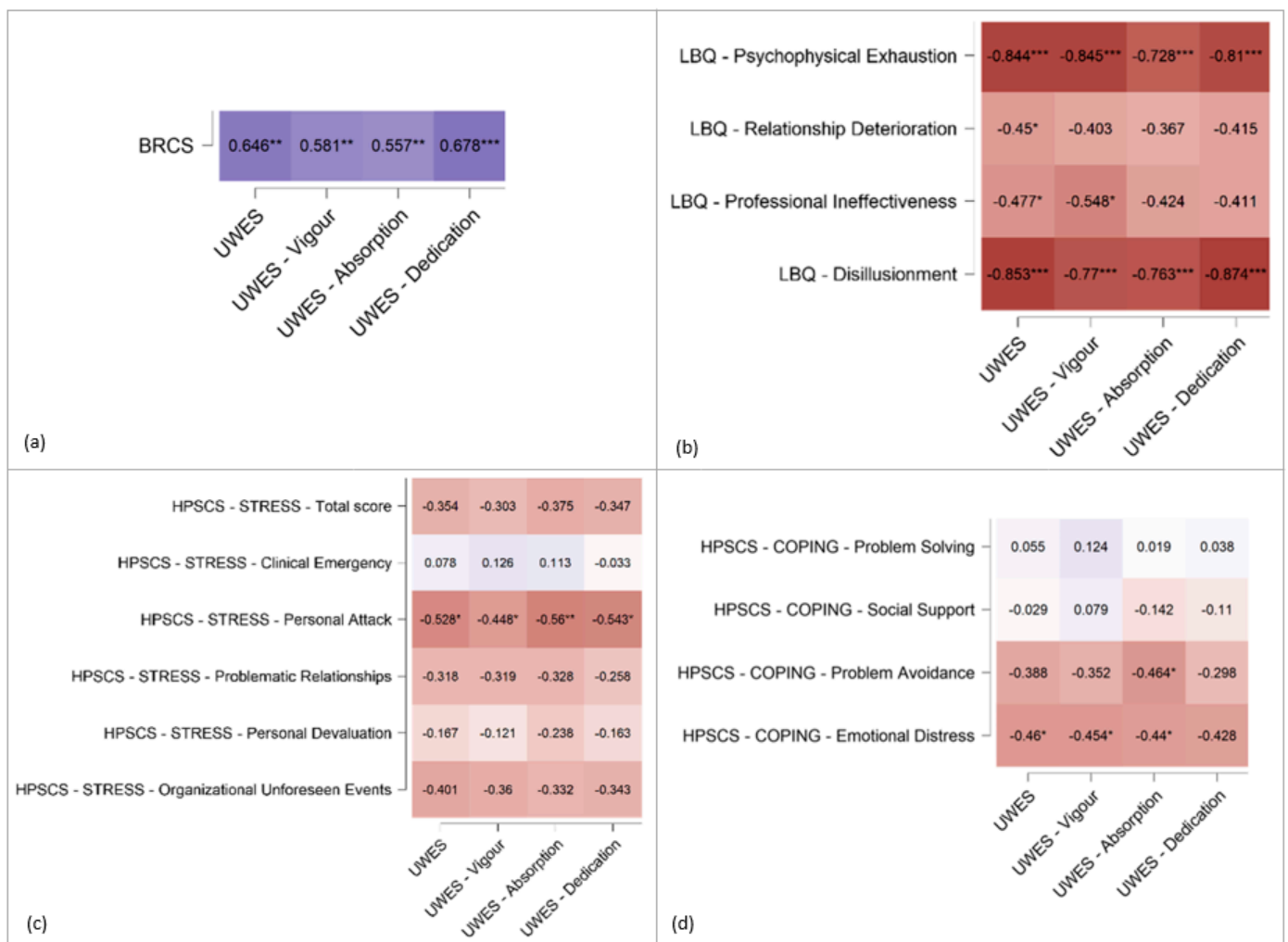
Figure 1. Correlations between UWES score and other variables. (**a**) UWES and BRCS correlations. (**b**) UWES and LBQ correlations. (**c**) UWES and HPSCS-STRESS correlations. (**d**) UWES and HPSCS-COPING correlations. Color intensity represents the correlation strength: blue colors = positive correlations, red colors = negative correlations. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.2.2. Stress and Burnout (H2)

UWES total score has a negative association with all LBQ subscales (see Figure 1). Moreover, single subscales of UWES correlated negatively with LBQ subscales. Subscale *Vigor* is negative correlated with *Psychophysical Exhaustion*, *Professional Ineffectiveness*, and *Disillusionment* subscales. Subscale *Absorption* is negatively associated with *Psychophysical Exhaustion* and *Disillusionment* subscales. Finally, the subscale *Dedication* negatively correlates with *Psychophysical Exhaustion* and *Disillusionment* subscales.

When comparing UWES total score with HPSCS-I-Stress, we obtained significant correlations just for the subscale *Personal Attack* of HPSCS-I. Indeed, we found a negative correlation between this variable and UWES total score, but also *Vigor*, *Absorption*, and *Dedication* subscales. All these correlations are reported in Figure 1.

Entering LBQ scales as VD in the multiple linear regression model, we found significant regression results for three of them; specifically, the subscale *Vigor* was found to contribute to the level of burnout due to *Psychophysical Exhaustion* ($R^2 = 0.66$, adjusted $R^2 = 0.65$, F-change$_{(1, 19)} = 37.58$, $p < 0.001$), and *Professional Ineffectiveness* ($R^2 = 0.30$, adjusted $R^2 = 0.26$, F-change$_{(1, 19)} = 7.97$, $p < 0.05$). *Dedication* and *Absorption* subscales did not emerge to affect these two burnout variables. Instead, the subscale *Dedication* score was associated with the level of burnout due to *Disillusionment* ($R^2 = 0.75$, adjusted $R^2 = 0.73$,

F-change$_{(1, 19)}$ = 56.27, *p* < 0.001), while *Vigor* and *Absorption* subscales did not contribute to the *Disillusionment* level. Results are presented in Tables 3–5.

Table 3. Multiple linear regression model investigating the relation between the level of *psychophysical exhaustion* and UWES subscales variables.

	Unstandardized	S.E.	Standardized	*t*	*p*	95% CI		95% bca * CI	
						Lower	Upper	Lower	Upper
(Intercept)	10.40	0.65		16.12	1.537×10^{-12}	9.05	11.75	9.04	11.67
UWES-*Vigor*	−0.33	0.05	−0.82	−6.13	6.813×10^{-6}	−0.45	−0.22	−0.46	−0.21

Note: RMSE = 0.87. The following covariates were considered but not included: *Dedication, Absorption*. * Bias corrected accelerated with bootstrapping based on 5000 replicates.

Table 4. Multiple linear regression model investigating the relation between the level of *professional ineffectiveness* based on UWES subscales variables.

	Unstandardized	S.E.	Standardized	*t*	*p*	95% CI		95% bca * CI	
						Lower	Upper	Lower	Upper
(Intercept)	9.25	0.98		9.48	1.242×10^{-8}	7.21	11.30	7.25	10.88
UWES-*Vigor*	−0.23	0.08	−0.54	−2.82	0.011	−0.40	−0.06	−0.37	−0.04

Note: RMSE = 1.32. The following covariates were considered but not included: Dedication, Absorption. * Bias corrected accelerated with bootstrapping based on 5000 replicates.

Table 5. Multiple linear regression model investigating the relation between the level of *disillusionment* based on UWES subscales variables.

	Unstandardized	S.E.	Standardized	*t*	*p*	95% CI		95% bca * CI	
						Lower	Upper	Lower	Upper
(Intercept)	10.36	0.53		19.59	4.634×10^{-14}	9.25	11.46	9.51	11.46
UWES-*Dedication*	−0.34	0.05	−0.87	−7.50	4.299×10^{-7}	-0.43	−0.24	−0.44	−0.26

Note. RMSE = 0.72. The following covariates were considered but not included: Vigor, Absorption. * Bias corrected accelerated with bootstrapping based on 5000 replicates.

Studying specific HPSCS-I-Stress subscales, the variance of the *Personal Attack* subscale was found to be accounted for the UWES *Absorption* subscale (R^2 = 0.29, *adjusted R^2* = 0.25, *F-change*$_{(1, 19)}$ = 7.63, *p* < 0.05). *Vigor* and *Dedication* subscales did not affect the personal attack score's variability. Results of these last regression are reported in Table 6.

Table 6. Multiple linear regression model investigating the relation between the level of stress due to *personal attack* based on UWES subscales variables.

	Unstandardized	S.E.	Standardized	*t*	*p*	95% CI		95% bca * CI	
						Lower	Upper	Lower	Upper
(Intercept)	56.41	7.79		7.24	7.087×10^{-7}	40.11	72.71	41.18	69.51
UWES-*Absorption*	−1.76	0.64	−0.54	−2.76	0.012	−3.09	−0.43	−3.02	−0.60

Note. RMSE = 9.74. The following covariates were considered but not included: Dedication, Vigor. * Bias corrected accelerated with bootstrapping based on 5000 replicates.

4.2.3. Use of Positive Coping Strategies (H3)

Concerning HPSCS-I coping strategies, several negative correlations emerge between the UWES and the coping strategies of *Problem Avoidance* and *Emotional Distress*. Specifically, UWES total score correlates negatively with *Emotional Distress* score. Additionally, the score of the *Emotional Distress* subscale negatively correlates with *Vigor* and *Absorption* subscales; *Absorption* subscale correlates negatively also with *Problem Avoidance*. All correlational values are reported in Figure 1.

No significant regression results were found for coping strategies as VD and UWES subscales as independent variables.

5. Discussions

This study examined the relationship between work engagement and psychological variables, namely, resilience, burnout, and stress, in a sample of twenty-one Italian mental healthcare workers referring to the COVID-19 pandemic period. Work engagement was tested using the UWES (*Vigor, Absorption, and Dedication*). Psychological variables were tested through the BRCS (resilience), the LBQ (burnout), and the HPSCS-I (Stress and Coping strategies) questionnaires.

From a descriptive point of view, the results showed that during the COVID-19 pandemic, subjects experienced, on average, medium levels of burnout and stress, and low levels of resilience. Indeed, according to previous studies, mental health workers might have experienced less stress or burnout effects because they were not on the front lines like other health workers, such as nurses, in the fight against the virus [22]. Despite this, levels of resilience during the pandemic were faced with the struggle of continuing to adapt to all organizational changes and care procedures [2,3]. Moreover, this study points out that participants used a variety of coping strategies to manage stress, particularly searching for *Social Support*. This coping strategy was found to be essential in helping healthcare workers face the increasing work pressure due to the pandemic [51].

As concerns work engagement, the scores obtained by participants in the UWES test are within the mean of the normative values [42], revealing an average work engagement of the sample. The quantitative results of this study suggest that work engagement is related to various aspects of psychological well-being at work. Indeed, significant associations were found between measures of work engagement and the considered psychological variables (resilience, burnout, stress, and coping strategies), revealing which particular engagement component affects the psychological elements of well-being.

(**H1**) Specifically, the hypothesis that work engagement is positively correlated with high resilience levels is supported. Analysis' results showed that the *Dedication* subscale of the UWES scale was found to have a significant association with resilience (with a one unit increase in *Dedication* being associated with a 0.39 unit increase in resilience), and that there were positive correlations between the UWES total score and all UWES subscales with the BRCS score. Summing up, higher levels of engagement, even more in terms of *Dedication* at work, were found to be associated with higher levels of resilience. These findings are in line with the literature demonstrating the relationship between high levels of work engagement and high levels of energy and resilience during work [32,36,37]. Moreover, these results enrich the state-of-the-art literature focusing on a specific category of healthcare workers affected by the COVID-19 restrictions.

(**H2**) The hypothesis that work engagement is negatively correlated with elevated levels of stress and burnout (as measured by the HPSCS-I and LBQ scales, respectively) appears to be partially supported by the results. Several negative correlations were found between UWES total score and subscales scores with burnout and stress levels due to *Personal Attacks*. Moreover, regression outputs highlight that the *Dedication* subscale was found to be significantly related to burnout due to *Disillusionment*, while the *Vigor* subscale was found to be significantly related to burnout due to *Psychophysical Exhaustion* and *Professional Ineffectiveness*. The *Absorption* subscale was found to be significantly related to stress due to *Personal Attacks*, with a one unit increase in *Absorption* being associated with a 1.76 unit decrease in *stress*. Our results appear to be supported by previous research studies demonstrating that high levels of workplace fatigue, frustration, and negativity— in other, words low engagement levels—are burnout triggers [33]; additionally, a cross-sectional study demonstrated that low levels of work engagement are associated with psychological distress [34]. However, the present study did not find a relationship between the UWES scales and all stress levels, so **H2** cannot be considered fully supported by the data.

(**H3**) The hypothesis that work engagement is positively correlated with the use of positive coping strategies (such as problem-oriented coping or social support coping) and negatively correlated with less functional coping strategies (such as avoidance coping and emotional distress coping) appears to be partially supported by the results. No

significant regression results were found between UWES scores and HPSCS-I coping strategies scores in addition to significant correlations. In this study work engagement resulted significantly and negatively correlated with the use of avoidance or emotional distress strategies. However, a larger sample could have been useful to explore other non-significant results, potentially related to the use of positive coping strategies such as problem-oriented strategies. Indeed, functional coping strategies (e.g., healthy lifestyles, meditation, and seeking social support) were underlined as improving self-efficacy at work [27,28,42], but also as a protective factor during the pandemic emergency in a large sample of healthcare workers and the general population [51,52]. To conclude, **H3** is partially confirmed by correlations, but it is important to note that the direction and strength of these relationships may vary depending on the specific sample, i.e., in front-line or other healthcare worker categories.

Briefly, it is also worth discussing the results reported in Table S2 of the Supplementary Materials, which highlight that the link between burnout and resilience is inversely proportional, while stress and burnout are positively correlated. Furthermore, some dysfunctional coping strategies, such as "Emotional Distress", correlate positively with burnout and stress. "Social Support" coping appears to be associated with stress experienced in social situations due to "Problematic Relationships" and "Personal Attacks". On the other hand, more functional coping strategies such as "Problem Solving" are associated with stressful situations but also specific to the stress caused by "Clinical Emergencies" problems. These results could provide further insights for future scientific research on psychological components and their interactions in the work context during times of emergency. They could also be a potential first step in increasing occupational well-being through supportive and focused interventions for mental health professionals.

6. Conclusions

The COVID-19 pandemic has had a significant impact on the psychophysical health of healthcare workers, including those in the mental healthcare field [7]. Studies have shown high levels of anxiety, depression, distress, and somatic symptoms, globally, among these professionals during the pandemic. Healthcare facilities had to rapidly reorganize protocols [6] for managing patients, family members, and staff, and, in some cases, mental healthcare professionals had to adapt to providing care remotely through telemedicine or home-based care [1–4,18]. The changes and additional stressors brought about by the pandemic have also been linked to symptoms such as posttraumatic stress disorder, generalized anxiety, insomnia, depression, alcohol abuse, suicidal ideation, and burnout [10]. Consequently, it is important to address the mental health needs of healthcare workers, particularly those in the mental health field, to support their well-being and ability to provide care during the pandemic and beyond [5,6,11–13,52].

In light of these premises, our research contributed to the study of the psychological outcomes of the COVID-19 pandemic on an Italian group of mental healthcare professionals. Moreover, the present study focused on work engagement as a possible key element to enhance the work sustainability of mental healthcare workers in emergency situations. Work engagement was identified as a protective factor; indeed, it emerged to be positively associated with resilience and functional coping strategies, whereas it appeared negatively associated with stress, burnout, and dysfunctional coping strategies. The results of this study are in line with the previous scientific literature that demonstrated that work engagement is an essential element for healthcare workers' well-being [22,26,29]; indeed, work engagement has been proven to enhance not only positive attitudes towards work [53], but also resilience, motivation, personal initiative, and healthy coping strategies [54], reducing instead levels of stress, depression, and burnout at work [55]. In addition, our study pointed out that it has been—and could be in the future—a protective factor during emergencies, also enhancing workers' well-being in critical situations.

Finally, it is worth reporting that the present study has some limitations. First, as it takes into account a specific population (mental healthcare professionals of the O.U. of

Psychiatry of Trento, North Italy), the sample size is small and may not be thoroughly representative of the larger population of healthcare workers. The study followed a cross-sectional design so the limitations of the results (and their interpretation) in terms of causality should be considered. Additionally, the study used self-report measures, which may be subject to bias and may not provide a complete picture of the participants' mental health and well-being. It is crucial to underline an inevitable limit: these data were collected after the COVID-19 pandemic outbreak and after more critical periods. For this reason, stress, burnout, and other state variables could have diminished in their intensity during the present research. In addition, other limitations were the presence of low-numbered samples with unbalanced gender and job types, and the possible social desirability effect in completing self-report questionnaires. Despite the limitations, the findings of the study do provide some insight into the relationship between job engagement, resilience, burnout, and stress, and highlight the importance of addressing these factors to support the well-being of mental healthcare workers during the COVID-19 pandemic and beyond. For these reasons, it is important for healthcare facilities and organizations to consider the mental health and well-being of their employees and to provide support as needed. This may include offering resources such as mental health services, training on stress management and coping strategies, activities to improve engagement, and ensuring that workers have adequate rest and support during demanding times.

Future implementations could be represented by follow-up studies among these workers concerning the hopefully declining levels of stress and burnout due to COVID-19 extinction. Another future enrichment of this topic could be the possible replication of these results using the same standardized measures among mental health workers in other regions of Italy or other countries, focusing on the COVID-19 pandemic period. Furthermore, the extension of this work to various types of healthcare employee or general worker could provide interesting comparative results to those we reported here. The implementation of other parallel studies on the associations and mutual influences of the other variables included here (resilience, coping strategies, stress, and burnout) could certainly improve the future investigation of the role of work engagement in the well-being and sustainability of mental healthcare professionals in the workplace.

References

1. Ministero della Salute. Health Emergency Dashboard COVID-19—Situazione Nel Mondo. Available online: https://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?lingua=italiano&id=5338&area=nuovoCoronavirus&menu=vuoto (accessed on 1 December 2022).
2. Bommersbach, T.; Dube, L.; Li, L. Mental Health Staff Perceptions of Improvement Opportunities around COVID-19: A Mixed-Methods Analysis. *Psychiatr. Q.* **2021**, *92*, 1079–1092. [CrossRef] [PubMed]

3. Søvold, L.E.; Naslund, J.A.; Kousoulis, A.A.; Saxena, S.; Qoronfleh, M.W.; Grobler, C.; Münter, L. Prioritizing the Mental Health and Well-Being of Healthcare Workers: An Urgent Global Public Health Priority. *Front. Public Health* **2021**, *9*, 679397. [CrossRef] [PubMed]

4. Weiner-Lastinger, L.M.; Dudeck, M.A.; Allen-Bridson, K.; Dantes, R.; Gross, C.; Nkwata, A.; Tejedor, S.C.; Pollock, D.; Benin, A. Changes in the Number of Intensive Care Unit Beds in U.S. Hospitals during the Early Months of the COVID-19 Pandemic, as Reported to the National Healthcare Safety Network's COVID-19 Module. *Infect. Control Hosp. Epidemiol.* **2021**, *43*, 1477–1481. [CrossRef] [PubMed]

5. Buselli, R.; Corsi, M.; Veltri, A.; Baldanzi, S.; Chiumiento, M.; Del Lupo, E.; Marino, R.; Necciari, G.; Caldi, F.; Foddis, R.; et al. Mental Health of Health Care Workers (HCWs): A Review of Organizational Interventions Put in Place by Local Institutions to Cope with New Psychosocial Challenges Resulting from COVID-19. *Psychiatry Res.* **2021**, *299*, 113847. [CrossRef] [PubMed]

6. Johnson, S.; Dalton-Locke, C.; Vera San Juan, N.; Foye, U.; Oram, S.; Papamichail, A.; Landau, S.; Rowan Olive, R.; Jeynes, T.; Shah, P.; et al. Impact on Mental Health Care and on Mental Health Service Users of the COVID-19 Pandemic: A Mixed Methods Survey of UK Mental Health Care Staff. *Soc. Psychiatry Psychiatr. Epidemiol.* **2021**, *56*, 25–37. [CrossRef]

7. Muller, A.E.; Hafstad, E.V.; Himmels, J.P.W.; Smedslund, G.; Flottorp, S.; Stensland, S.Ø.; Stroobants, S.; Van de Velde, S.; Vist, G.E. The Mental Health Impact of the Covid-19 Pandemic on Healthcare Workers, and Interventions to Help Them: A Rapid Systematic Review. *Psychiatry Res.* **2020**, *293*, 113441. [CrossRef]

8. Norwegian Institute of Public Health Map of COVID-19 Evidence. Available online: https://www.fhi.no/en/qk/systematic-reviews-hta/map/ (accessed on 1 December 2022).

9. Robles, R.; Rodríguez, E.; Vega-Ramírez, H.; Álvarez-Icaza, D.; Madrigal, E.; Durand, S.; Morales-Chainé, S.; Astudillo, C.; Real-Ramírez, J.; Medina-Mora, M.-E.; et al. Mental Health Problems among Healthcare Workers Involved with the COVID-19 Outbreak. *Braz. J. Psychiatry* **2021**, *43*, 494–503. [CrossRef]

10. Giusti, E.M.; Pedroli, E.; D'Aniello, G.E.; Stramba Badiale, C.; Pietrabissa, G.; Manna, C.; Stramba Badiale, M.; Riva, G.; Castelnuovo, G.; Molinari, E. The Psychological Impact of the COVID-19 Outbreak on Health Professionals: A Cross-Sectional Study. *Front. Psychol.* **2020**, *11*, 1684. [CrossRef]

11. Vanhaecht, K.; Seys, D.; Bruyneel, L.; Cox, B.; Kaesemans, G.; Cloet, M.; Van Den Broeck, K.; Cools, O.; De Witte, A.; Lowet, K.; et al. COVID-19 Is Having a Destructive Impact on Health-Care Workers' Mental Well-Being. *Int. J. Qual. Health Care* **2021**, *33*, mzaa158. [CrossRef]

12. Shreffler, J.; Huecker, M.; Petrey, J. The Impact of COVID-19 on Healthcare Worker Wellness: A Scoping Review. *West. J. Emerg. Med.* **2020**, *21*, 1059. [CrossRef]

13. Zhang, J.; Wu, W.; Zhao, X.; Zhang, W. Recommended Psychological Crisis Intervention Response to the 2019 Novel Coronavirus Pneumonia Outbreak in China: A Model of West China Hospital. *Precis. Clin. Med.* **2020**, *3*, 3–8. [CrossRef]

14. Greenberg, N. Mental Health of Health-Care Workers in the COVID-19 Era. *Nat. Rev. Nephrol.* **2020**, *16*, 425–426. [CrossRef]

15. Ministero della Salute Disposizioni Urgenti in Materia Di Superamento Degli Ospedali Psichiatrici Giudiziari. Available online: https://www.trovanorme.salute.gov.it/norme/dettaglioAtto?id=48672&articolo=1 (accessed on 1 December 2022).

16. Conferenza Unificata 17 Ottobre 2013 Le Strutture Residenziali Psichiatriche. Available online: https://www.salute.gov.it/portale/documentazione/p6_2_2_1.jsp?lingua=italiano&id=2460 (accessed on 1 December 2022).

17. Associazione Italiana Tecnici della Riabilitazione Psichiatrica (A.I.Te.R.P.) Profilo Professionale del Terp. Available online: https://www.aiterp.it/profilo-professionale-del-terp/ (accessed on 1 December 2022).

18. Fond-Harmant, L.; Kane, H.; Gourret Baumgart, J.; Rusch, E.; Breton, H.; El-Hage, W.; Deloyer, J.; Lebas, M.-C.; Marazziti, D.; Thome, J.; et al. International Professional Practices in Mental Health, Organization of Psychiatric Care, and COVID-19: A Survey Protocol. *PLoS ONE* **2021**, *16*, e0261818. [CrossRef]

19. Franza, F.; Basta, R.; Solomita, B.; Rosato, G. Il Ruolo Dell'empatia in Ambito Lavorativo: Riflessioni in Tempo Di Pandemia Da COVID-19. *Telos* **2021**, *2*, 125.

20. Rapisarda, F.; Vallarino, M.; Cavallini, E.; Barbato, A.; Brousseau-Paradis, C.; De Benedictis, L.; Lesage, A. The Early Impact of the Covid-19 Emergency on Mental Health Workers: A Survey in Lombardy, Italy. *Int. J. Environ. Res. Public Health* **2020**, *17*, 8615. [CrossRef]

21. Almadani, A.H.; Alenezi, S.; Algazlan, M.S.; Alrabiah, E.S. Compassion Fatigue Among Practicing and Future Psychiatrists: A National Perspective. *Cureus* **2022**, *14*, e25417. [CrossRef]

22. Minelli, A.; Silva, R.C.; Barlati, S.; Vezzoli, M.; Carletto, S.; Isabello, C.; Bortolomasi, M.; Nibbio, G.; Lisoni, J.; Menesello, V.; et al. The Elephant in the Room: A Cross-Sectional Study on the Stressful Psychological Effects of the COVID-19 Pandemic in Mental Healthcare Workers. *Brain Sci.* **2022**, *12*, 408. [CrossRef]

23. Abbas, S.M.; Zhiqiang, P.L. COVID19, Mental Wellbeing and Work Engagement. *Int. J. Res. Bus. Soc. Sci.* **2020**, *9*, 356–365. [CrossRef]

24. De-la-Calle-Durán, M.-C.; Rodríguez-Sánchez, J.-L. Employee Engagement and Wellbeing in Times of COVID-19: A Proposal of the 5Cs Model. *Int. J. Environ. Res. Public Health* **2021**, *18*, 5470. [CrossRef]

25. Shimazu, A.; Nakata, A.; Nagata, T.; Arakawa, Y.; Kuroda, S.; Inamizu, N.; Yamamoto, I. Psychosocial Impact of COVID-19 for General Workers. *J. Occup. Health* **2020**, *62*, e12132. [CrossRef]

26. Kone, A.; Horter, L.; Rose, C.; Rao, C.Y.; Orquiola, D.; Thomas, I.; Byrkit, R.; Bryant-Genevier, J.; Lopes-Cardozo, B. The Impact of Traumatic Experiences, Coping Mechanisms, and Workplace Benefits on the Mental Health of U.S. Public Health Workers during the COVID-19 Pandemic. *Ann. Epidemiol.* **2022**, *74*, 66–74. [CrossRef] [PubMed]

27. Rose, S.; Hartnett, J.; Pillai, S. Healthcare Worker's Emotions, Perceived Stressors and Coping Mechanisms during the COVID-19 Pandemic. *PLoS ONE* **2021**, *16*, e0254252. [CrossRef] [PubMed]

28. Spoorthy, M.S.; Pratapa, S.K.; Mahant, S. Mental Health Problems Faced by Healthcare Workers Due to the COVID-19 Pandemic–A Review. *Asian J. Psychiatr.* **2020**, *51*, 102119. [CrossRef] [PubMed]

29. Maiorano, T.; Vagni, M.; Giostra, V.; Pajardi, D. COVID-19: Risk Factors and Protective Role of Resilience and Coping Strategies for Emergency Stress and Secondary Trauma in Medical Staff and Emergency Workers—An Online-Based Inquiry. *Sustainability* **2020**, *12*, 9004. [CrossRef]

30. Mazza, C.; Colasanti, M.; Ricci, E.; Di Giandomenico, S.; Marchetti, D.; Fontanesi, L.; Verrocchio, M.C.; Ferracuti, S.; Roma, P. The COVID-19 Outbreak and Psychological Distress in Healthcare Workers: The Role of Personality Traits, Attachment Styles, and Sociodemographic Factors. *Sustainability* **2021**, *13*, 4992. [CrossRef]

31. Schaufeli, W.B.; Salanova, M.; González-Romá, V.; Bakker, A.B. The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *J. Happiness Stud.* **2002**, *3*, 71–92. [CrossRef]

32. Bakker, A.B.; Demerouti, E.; Sanz-Vergel, A.I. Burnout and Work Engagement: The JD–R Approach. *Annu. Rev. Organ. Psychol. Organ. Behav.* **2014**, *1*, 389–411. [CrossRef]

33. Van Bogaert, P.; Peremans, L.; Van Heusden, D.; Verspuy, M.; Kureckova, V.; Van de Cruys, Z.; Franck, E. Predictors of Burnout, Work Engagement and Nurse Reported Job Outcomes and Quality of Care: A Mixed Method Study. *BMC Nurs.* **2017**, *16*, 5. [CrossRef]

34. Gómez-Salgado, J.; Domínguez-Salas, S.; Romero-Martín, M.; Romero, A.; Coronado-Vázquez, V.; Ruiz-Frutos, C. Work Engagement and Psychological Distress of Health Professionals during the COVID-19 Pandemic. *J. Nurs. Manag.* **2021**, *29*, 1016–1025. [CrossRef]

35. Ruiz-Frutos, C.; Ortega-Moreno, M.; Allande-Cussó, R.; Ayuso-Murillo, D.; Dominguez-Salas, S.; Gomez-Salgado, J. Sense of Coherence, Engagement, and Work Environment as Precursors of Psychological Distress among Non-Health Workers during the COVID-19 Pandemic in Spain. *Saf. Sci.* **2021**, *133*, 105033. [CrossRef]

36. Lyu, H.; Yao, M.; Zhang, D.; Liu, X. The Relationship among Organizational Identity, Psychological Resilience and Work Engagement of the First-Line Nurses in the Prevention and Control of COVID-19 Based on Structural Equation Model. *Risk Manag. Healthc. Policy* **2020**, *13*, 2379. [CrossRef]

37. Jeong, D.; Cho, I.-K.; Kim, K.; Lee, J.; Choi, J.M.; Kim, J.; Kim, C.; Yoo, S.; Chung, S. Mediating Effect of Public Service Motivation and Resilience on the Association Between Work-Related Stress and Work Engagement of Public Workers in the COVID-19 Pandemic. *Psychiatry Investig.* **2022**, *19*, 501–510. [CrossRef]

38. Ministero della Salute; Istituto Superiore di Sanità Aggiornamento Settimanale Casi COVID-19 in Italia. Available online: https://www.salute.gov.it/portale/home.html (accessed on 1 December 2022).

39. De Bruin, G.P.; Henn, C.M. Dimensionality of the 9-Item Utrecht Work Engagement Scale (UWES-9). *Psychol. Rep.* **2013**, *112*, 788–799. [CrossRef]

40. Balducci, C.; Fraccaroli, F.; Schaufeli, W.B. Psychometric Properties of the Italian Version of the Utrecht Work Engagement Scale (UWES-9): A Cross-Cultural Analysis. *Eur. J. Psychol. Assess.* **2010**, *26*, 143. [CrossRef]

41. Giannandrea, F.; Ferraro, P. *Work Engagement la Ricerca della Felicità nei Luoghi di Lavoro*; Edizioni FS: Milan, Italy, 2018; ISBN 8867632221.

42. Schaufeli, W.B.; Bakker, A.B.; Salanova, M. Utrecht Work Engagement Scale-9. *APA PsycTests* **2006**. [CrossRef]

43. Sinclair, V.G.; Wallston, K.A. The Development and Psychometric Evaluation of the Brief Resilient Coping Scale. *Assessment* **2004**, *11*, 94–101. [CrossRef]

44. Murphy, M.; Lami, A.; Moret-Tatay, C. An Italian Adaptation of the Brief Resilient Coping Scale (BRCS) and Attitudes during the Covid-19 Outbreak. *Front. Psychol.* **2021**, *12*, 641213. [CrossRef]

45. Santinello, M.; Verzelletti, C.; Altoè, G. Sviluppo e Validazione Del Link Burnout Questionnaire. *Svilupp. Validazione Link Burn. Quest.* **2006**, 1000–1012.

46. Santinello, M.; Altonoè, G. Link Burnout Questionnaire. *Man. dell'LBQ-Link Burn. Quest.* **2007**, 12–19.

47. Ripamonti, C.; Steca, P.; Prunas, A. Health Professions Stress and Coping Scale: Studio Preliminare Di Un Nuovo Strumento Di Valutazione Dello Stress e Del Coping in Ambito Sanitario. *Health Prof. Stress Coping Scale* **2006**, 1000–1017.

48. JASP Team JASP 2020. Available online: https://jasp-stats.org/ (accessed on 1 December 2022).

49. Field, A.P.; Jeremy, M.; Field, Z. *Discovering Statistics Using R*; SAGE Publications Ltd.: Southend Oaks, CA, USA, 2012; ISBN 978-1-4462-0045-2.

50. Friedrich, R.J. In Defense of Multiplicative Terms in Multiple Regression Equations. *Am. J. Pol. Sci.* **1982**, *26*, 797. [CrossRef]

51. Labrague, L.J. Psychological Resilience, Coping Behaviours and Social Support among Health Care Workers during the COVID-19 Pandemic: A Systematic Review of Quantitative Studies. *J. Nurs. Manag.* **2021**, *29*, 1893–1905. [CrossRef] [PubMed]

52. Flesia, L.; Monaro, M.; Mazza, C.; Fietta, V.; Colicino, E.; Segatto, B.; Roma, P. Predicting Perceived Stress Related to the Covid-19 Outbreak through Stable Psychological Traits and Machine Learning Models. *J. Clin. Med.* **2020**, *9*, 3350. [CrossRef] [PubMed]

53. Demerouti, E.; Bakker, A.B.; De Jonge, J.; Janssen, P.P.M.; Schaufeli, W.B. Burnout and Engagement at Work as a Function of Demands and Control. *Scand. J. Work. Environ. Health* **2001**, *27*, 279–286. [CrossRef]
54. Sonnentag, S. Recovery, Work Engagement, and Proactive Behavior: A New Look at the Interface between Nonwork and Work. *J. Appl. Psychol.* **2003**, *88*, 518. [CrossRef]
55. Schaufeli, W.B.; Taris, T.W.; Van Rhenen, W. Workaholism, Burnout, and Work Engagement: Three of a Kind or Three Different Kinds of Employee Well-being? *Appl. Psychol.* **2008**, *57*, 173–203. [CrossRef]