

Article

Work and Environmental Factors on Job Burnout: A Cross-Sectional Study for Sustainable Work

Ginevra Malta ^{1,†}, Fulvio Plescia ^{1,†}, Stefania Zerbo ¹, Maria Gabriella Verso ¹, Serena Matera ², Alenka Skerjanc ³ and Emanuele Cannizzaro ^{1,*}

¹ Department of Health Promotion, Mother and Childcare, Internal Medicine and Medical Specialties (PROMISE), University of Palermo, 90127 Palermo, Italy; ginevra.malta@unipa.it (G.M.); fulvio.plescia@unipa.it (F.P.); stefania.zerbo@unipa.it (S.Z.); mariagabriella.verso@unipa.it (M.G.V.)

² Department of Clinical and Experimental Medicine, Occupational Medicine, University of Catania, 95124 Catania, Italy; serena.matera@unict.it

³ Clinical Institute for Occupational, Traffic and Sports Medicine, University Medical Centre Ljubljana, 1000 Ljubljana, Slovenia; alenka.skerjanc@kclj.si

* Correspondence: emanuele.cannizzaro@unipa.it; Tel.: +39-392-9254066

† These authors contributed equally to this work.

Abstract: In the context of sustainable development, the occupational sphere must be integrally considered within health promotion frameworks, ensuring an equitable work–life balance while recognizing and amplifying the capabilities of every employee. Concurrently, there is a notable trend of physicians transitioning from public to private healthcare sectors, with burnout frequently cited in scholarly discourse as a primary catalyst for this shift. The objective of our study was to examine the vulnerability of medical staff to burnout. To achieve this, we conducted a cross-sectional analysis involving 1084 physicians from various specialties, employed in urban hospital settings. This research was executed via the distribution of an anonymous questionnaire, utilizing the Google Forms platform during work hours. The questionnaire was based on the Maslach Burnout Inventory (MBI) scale, specifically adapted for medical professionals, requiring respondents to provide insights into their experiences. Analysis of the collected data from a total of 614 respondents indicated a moderate predisposition towards burnout among the sample. These findings underscore the necessity for interventions targeting organizational flexibility and, notably, the restructuring of remuneration practices. Salaries often do not reflect the terms of employment contracts across numerous EU jurisdictions, necessitating urgent reforms. In conclusion, the reinforcement of interpersonal dynamics within medical teams and between healthcare institutions and their practitioners emerges as a critical strategy. Enhancing these relationships is essential for revitalizing the healthcare delivery system, ensuring that medical professionals are adequately compensated in alignment with the principles of sustainable employment.



Citation: Malta, G.; Plescia, F.; Zerbo, S.; Verso, M.G.; Matera, S.; Skerjanc, A.; Cannizzaro, E. Work and Environmental Factors on Job Burnout: A Cross-Sectional Study for Sustainable Work. *Sustainability* **2024**, *16*, 3228. <https://doi.org/10.3390/su16083228>

Academic Editor: Hyo Sun Jung

Received: 22 March 2024

Revised: 4 April 2024

Accepted: 9 April 2024

Published: 12 April 2024

Keywords: burnout; work environment; public health; healthcare prevention; welfare; occupational risk



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The World Health Organization defines “sustainable development” as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The Triple Bottom Line concept supports the idea, emphasizing the balance between environmental, social, and economic sustainability. Environmental sustainability ensures a healthy environment for financial activities and people’s well-being; social sustainability promotes human rights, equality, and cultural preservation; and economic sustainability maintains capital for income and living standards. Balancing these pillars is crucial for comprehensive sustainable development. Still, it is challenging because progress in one area can undermine others, particularly ecological sustainability, which is critical to overall development capacity. Achieving sustainable development requires

harmonizing the interests of all pillars to avoid imbalances [1], also using an analytical and methodological approach to the study of sustainable development, suggesting that we return to the roots of classical political economy and consider development in both historical and transhistorical contexts [2].

In this regard, policy decisions and actions are critical to achieving sustainability and sustainable development. Both regional and local strategies should include policies that involve and engage citizens in collective or individual sustainable actions and lead to transformation into a sustainable society [3].

Similarly, sustainable work refers to forms of employment that meet current needs without compromising the ability of future generations to meet their own needs. This concept, too, integrates environmental, social, and economic aspects into the organization and practice of work, promoting the creation of safe and decent jobs, the mental and physical well-being of workers, environmental protection, and long-term economic stability [4].

In 2018, The Lancet Commission on Global Mental Health and Sustainable Development attended to the social determinants of mental health and mentioned several indicators to monitor mental health progress [5].

In the field of sustainable mental health, where digitization has also fostered cultural, educational, and communicative evolution, those phenomena affecting healthcare workers should be included [6], where professional figures are most exposed to particularly strenuous phenomena, both physically and psychologically, in part due to the effects produced by the COVID-19 pandemic. From 2019 to 2021, we witnessed more than 8000 exits of white-care professionals throughout Italy due to voluntary resignations and 12,645 due to expiration of term contracts, retirements, or deaths [7]. Between 2022 and 2023, the number of healthcare professionals leaving the public system exceeded 6000, more than double the number in previous years; by 2024, Anao-Assomed (the largest union of hospital physicians [8] and NHS managers) estimates that more than 7000 physicians will leave public hospitals.

Among the causes of this drastic decision are the aspiration for more flexible schedules, greater professional autonomy, less bureaucracy, and a concrete salary adjustment [9]. People increasingly seek a balance between personal and work life by defending the “work–life balance” [10].

It should be noted that the increase in this phenomenon has accelerated the most since the COVID-19 pandemic; plausibly, this event has brought to light the actual deficiencies of the national healthcare system even more, both in terms of staffing and structural provision [11,12]. Physicians are victims of the global phenomenon better known by the term “great resignation”, the leading cause of burnout [13], which is a feeling of exhaustion, alienation, or cynical or pessimistic feelings toward one’s work, with reduced job performance, resulting from chronic stress in the workplace [14–18].

A sense of accomplishment and job effectiveness are essential for every individual because they represent basic needs for human motivation to work [19,20]. If the work environment does not meet workers’ needs, and if shifts are excessively exhausting, there is a reduction in their energy and enthusiasm, with various negative consequences, including high absenteeism rates, reduced performance, increased risk of work-related injuries, depression, anxiety, and sleep disorders, which are in turn causes of more complex neuropsychiatric disorders [15,21–24].

Understanding the mechanisms underlying burnout is crucial to ensuring the well-being of workers and, consequently, the effectiveness of their performance [20]. In particular, a radical change in work organisation in the healthcare environment is necessary to reduce burnout significantly [25,26]. Individual empowerment, which is achieved when the work environment enables staff to perform well overall, is one of the mechanisms promoted by empowered organisations [27].

Aspects conducive to organisational empowerment include support, professional learning and development opportunities, and the resources needed to provide safe and ef-

fective health care [28]. Improving the work environment improves levels of organisational commitment and employees' feelings of autonomy and self-efficacy [14,29–34].

The purpose of our study was to analyse, in the territory of the metropolitan city of Palermo (Italy), the susceptibility to burnout among medical personnel, specifically investigating the factors affecting the three different dimensions of burnout (cynicism, emotional exhaustion, and reduced personal accomplishment or effectiveness). In the first step, we explored the psychosocial factors in healthcare personnel who exhibited different levels of burnout (high, medium, and low). Finally, we assessed the relationship between these and burnout to identify possible corrective interventions that could improve care delivery and workers' well-being.

2. Materials and Methods

2.1. Sample and Procedure

We conducted a cross-sectional study on a group of 1084 physicians (belonging to different specialities, including anaesthesia and resuscitation, surgery, emergency medicine, orthopaedics, gynaecology, internal medicine, cardiology, cardiac surgery, urology, dermatology, and plastic surgery), distributed in different operating units, both complex and straightforward, of urban hospitals in the metropolitan city of Palermo.

The study was conducted by administering an anonymous questionnaire drafted and distributed on a Google Form platform during working hours. Because the data were obtained anonymously, with informed consent submitted at the time of collection, the study, in terms of World Health Organization [35] regulations on scientific research, did not require approval from local ethics committees. A total of 712 physicians from different operating units participated in the survey, with a participation rate of 65.67%. A total of 614 questionnaires could be used, representing a response rate of 86.21%. A total of 98 questionnaires were discarded because they were incomplete. The response rate for each unit ranged from 53.01% to 100%.

In about 524 questionnaires (85.49%), the age of the respondents ranged from 25 to 55 years, with a higher percentage of female subjects, amounting to about 353 (67.41%); the major speciality areas represented were those regarding the macro-departments of emergency and surgery, with about 300 respondents (57.09%); the average length of employment of the total sample at the facility was more than 10 years, with between 1 and 3 years for about 251 subjects (41.22%), between 4 and 10 years for 160 subjects (25.7%), and more than 10 years of service for 203 subjects (32.97%).

All physicians were informed of the study's significance and the data's confidentiality.

2.2. Tool

The questionnaire, structured anonymously in all its components, included two macro-sections:

1. Demographic data and employment section (i.e., information on age, gender, role, including in terms of precariousness, operational unit of employment, etc.);
2. Burnout section containing specific questions and organizational variables of the study.

Since some of the scales used do not have Italian validation and have therefore fallen into disuse, the questionnaire was appropriately translated by an expert native-speaker.

The measurement scales used for the study variables are described below:

2.2.1. Burnout

Maslach, Jackson, and Leiter's version of the Maslach Burnout Inventory (MBI) scale [36], customized for medical personnel, developed by the Pontifical Lateran University, was used [36]. This version includes 22 items divided into the three different dimensions of burnout: increased mental distance from one's work, or feelings of negativity or cynicism related to one's work (cynicism); feeling of mental exhaustion or depletion of energy used in work (emotional exhaustion); adjustment problems between the person and the job, due to the excessive demands of the latter (reduced personal accomplishment

or effectiveness). For each item, physicians indicated their level of agreement using a point scale from 0 (never) to 6 (every day).

Using this tool, burnout can be read either dichotomously (present or absent) [37] or as a continuous variable being a gradually unfolding process (considering the various levels: low, moderate, and high), and, in addition, the results can be expressed either by considering individual dimensions or by considering a single outcome of the three subscales [38].

2.2.2. Organizational Empowerment

The CWEQ-II (Job Efficacy Conditions Questionnaire-II) [39] measures the three main components of empowerment through 19 items, with a scale ranging from 1 (never) to 5 (always). The information dimension (inherent in job titles) was not considered for statistical purposes because the sample examined was homogeneous.

2.2.3. Workload and Manpower Control

The extent of workload is significant in terms of the development of burnout. When work demands exceed human limits, the most likely consequence is emotional exhaustion. Kouvonen and Awa (2005) found that exceptionally high workload is associated with high emotional exhaustion [40,41].

The dimension of control includes people's perceived ability to influence decisions about their work, exercise personal autonomy, and access resources (e.g., social support and rewards) to get the job done [42].

These items were analysed with the Areas of Worklife—AWS scale by Leiter and Maslach [43].

2.2.4. Quality of the Team

A questionnaire for the intensive care unit, customized for medical staff, was used to explore the quality of teamwork [44].

The version used included two subscales, one for communication and one for perceived team effectiveness. The items were rated using a 5-point scale ranging from 1 (strongly disagree) to 5 (totally agree).

2.2.5. Association between Empowerment and Burnout

Empowerment is a set of actions aimed at strengthening the worker's position of choice, representing a preventive mechanism by reducing the relationship between cynicism and emotional exhaustion, with other preventive strategies including enhancing the communication and effectiveness aspects of the team. According to Deci and Ryan [45], the goal of interpersonal relationships is not only the achievement of work goals but also the fulfilment of the individual's intrinsic needs for competence and autonomy.

In our study, we wanted to consider the dimensions of burnout as simultaneous and assess their relationship with elements of empowerment, such as communication and team effectiveness, to understand how they can positively influence them by preventing burnout.

2.2.6. Statistical Analysis

As anticipated by Maslach et al. (2000) and applied by Wickramasinghe et al. (2018), it is possible to translate the multidimensionality of burnout into a dichotomous view to account for the extent of the problem in terms of susceptibility and prevalence [36,37,46,47]; therefore, we chose to process the obtained data on burnout status by dividing the sample into two groups: not predisposed (NP), with an overall low test result, and predisposed (P), with an overall moderate/high test result.

The cut-off between the two levels was established based on the studies of Breninkmeijer and Breninkmeijer et al. (2003) [48] and Roelofs et al. (2005) [49], according to which an individual is considered predisposed when he or she has a "moderate/high" MBI test score in at least two of the three dimensions. This decision rule, which is based on clinically validated cut-off points, allows the MBI to be translated into a dichotomy that can

be used to diagnose burnout. The tests' reliability was evaluated using Cronbach's Alpha coefficient (α) [50].

A confirmatory factor analysis was performed to check the usability of the responses obtained to the items. The responses were then analysed with a standard factorial collection model. The Root-Mean-Square Error of Approximation (RMSEA, cut-off ≤ 0.08), Comparative Fit Index (CFI, cut-off ≥ 0.90) and Incremental Fit Index (IFI, cut-off ≥ 0.90) were used to evaluate the performance of the model [51,52].

To test the differences between the means of the two groups, an ANOVA (between variance) analysis was conducted [53].

Pearson's coefficient was used to ascertain the correlation between the variables [54].

To assess the relationship between the dimensions of burnout and the elements of empowerment and the positive influence of the latter in preventing burnout, we performed regression analysis (moderation and mediation) [55].

The selected control variables were contained in the first part of the questionnaire and were age, role, and area of specialization.

Using the procedure of Aiken and West, we studied the regression line of the independent variable on the dependent variable for high and low levels of the moderator [56].

Bootstrap-adjusted 95% confidence intervals were also obtained to study the relationship between group communication and personal efficacy [57].

Statistical analyses were performed with GraphPad Prism 10.1.0 software (264).

3. Results

On the average of the total sample (N = 614), the results revealed a moderate level of susceptibility to burnout for the three dimensions considered, namely:

- Increased mental distance from one's work or feelings of negativity related to one's work (*cynicism*): M = 1.57, SD = 1.33, cut-off range ≤ 1.03 – ≥ 2.21 ;
- Feeling of exhaustion or depletion of energy used in work (*emotional exhaustion*): M = 2.36, SD = 1.52, cut-off range ≤ 2.02 – ≥ 3.20 ;
- Adjustment problems between the person and the job due to excessive demands of the latter (*reduction in personal achievement or effectiveness*): M = 4.60, SD = 1.02, cut-off range ≤ 5.03 – ≥ 4.02 .

In 54.73% of predisposition cases, all dimensions of burnout were present, and in 58.01% of cases, a reduction in personal accomplishment was manifested.

3.1. Comparison of Physicians Not Predisposed and Predisposed to Burnout

Combining the empowerment variables with the dimension of emotional exhaustion between the two groups revealed statistically significant variations.

For the group of physicians with moderate/high levels of emotional exhaustion, the level of empowerment was found to be inversely proportional, especially for the dimensions related to workload, which was found to be excessive in the responses, work control, and opportunities (expressing a reduced ability to acquire new skills and knowledge and to use existing skills and knowledge on the job); about the team (community) dimension, although it was found to be deficient regarding communication, no significant difference was found about perceived effectiveness in terms of teamwork and patient care, also being deficient.

Statistically significant variations were also found between the two groups in levels of negative feelings and alienation from work; the level of empowerment was low in physicians with moderate/high negative feelings.

All results are shown in Table 1.

Table 1. ANOVA results for the dichotomous levels (NP and P) of the three dimensions of burnout about the dimensions of empowerment.

	CYNICISM M (SD)		F	EMOTIONAL EXHAUSTION M (SD)		F	PERSONAL INEFFECTIVENESS M (SD)		F
	NP n = 278	P n = 336		NP n = 322	P n = 292		NP n = 262	P n = 352	
OPPORTUNITIES	3.41 (0.93)	3.03 (0.97)	F = 11.42 ***	3.37 (0.99)	3.01 (0.96)	F = 8.77 **	3.53 (0.97)	2.94 (0.93)	F = 24.37 ***
RESOURCES	3.07 (0.93)	2.82 (1.01)	F = 6.15 *	3.15 (0.98)	2.71 (0.92)	F = 15.57 ***	3.15 (1.01)	2.75 (0.93)	F = 11.93 ***
SUPPORT	3.13 (1.02)	2.71 (1.02)	F = 14.82 ***	3.06 (1.13)	2.75 (0.96)	F = 5.47 *	3.23 (1.14)	2.65 (0.90)	F = 20.84 ***
WORKLOAD	2.71 (0.74)	3.02 (0.80)	F = 11.14 ***	2.54 (0.72)	3.23 (0.71)	F = 61.37 ***	2.84 (0.85)	2.89 (0.74)	F = 0.13
JOB CONTROL	3.43 (0.78)	3.27 (0.86)	F = 4.25 *	3.51 (0.77)	3.19 (0.86)	F = 13.03 ***	3.63 (0.74)	3.17 (0.84)	F = 27.13 ***
COMMUNICATION	3.65 (0.82)	3.22 (0.86)	F = 24.59 ***	3.57 (0.81)	3.23 (0.71)	F = 18.19 ***	3.57 (0.86)	3.32 (0.71)	F = 8.57 **
EFFECTIVENESS OF THE TEAM	3.95 (0.84)	3.62 (0.88)	F = 12.85 ***	3.85 (0.94)	3.61 (0.84)	F = 1.83	4.00 (0.86)	3.61 (0.86)	F = 15.25 ***

Note. N = 614. NP = not predisposed, P = predisposed. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.2. Validity and Reliability of Measurements and Correlation Analysis

Confirmatory factor analysis demonstrated that the 10-factor model adequately fit the data: χ^2 (df = 359) = 753.6, IFI = 0.90, CFI = 0.90, RMSEA = 0.06. In contrast, the single-factor model exhibited poor fit: χ^2 (df = 404) = 2549.1, IFI = 0.44, CFI = 0.44, RMSEA = 0.13. Consequently, substantial support was found for the 10-factor model: $\Delta\chi^2$ (Δ df = 45) = 1795.5, $p < 0.001$. The measures indicated good reliability coefficients (0.82–0.92). Cronbach's Alpha values for all measures ranged from 0.67 to 0.88, suggesting strong reliability and internal consistency of the measure items. Correlation analysis revealed negative relationships between the three components of empowerment (i.e., opportunities, resources, and support) and the three dimensions of burnout (emotional exhaustion, $r = -0.175, -0.269, -0.209, p < 0.01$, respectively; cynicism, $r = -0.270, -0.224, -0.297, p < 0.01$, respectively; personal ineffectiveness, $r = -0.360, -0.291, -0.295, p < 0.01$, respectively). Workload was positively correlated with emotional exhaustion ($r = 0.494, p < 0.01$) and cynicism ($r = 0.280, p < 0.01$). Job control, team communication, and team effectiveness were negatively associated with all dimensions of burnout (emotional exhaustion, $r = -0.241, -0.228, -0.304, p < 0.01$, respectively; cynicism, $r = -0.326, -0.359, -0.209, p < 0.01$, respectively; personal ineffectiveness, $r = -0.184, -0.249, -0.298, p < 0.01$, respectively).

3.3. Moderation and Mediation Analysis

The results established that empowerment significantly moderates ($\beta = -0.12, p < 0.05$) the relationship between emotional and work exhaustion and feelings of estrangement from work (results are shown in Table 2).

Table 2. Interaction effect of organizational empowerment on burnout dimensions.

Cynicism (Dependent Variable)	β	IF	t	p
Constant	2.05	0.32	6.40	<0.001
Specialist area ^a	-0.18	0.15	-1.20	0.230
Age ^a	-0.04	0.07	-0.57	0.568
Organizational mandate ^a	0.10	0.11	0.91	0.363
Emotional exhaustion	0.42	0.04	10.50	<0.001
Enhancement	-0.30	0.08	-3.75	<0.001
Exhaustion \times Empowerment	-0.10	0.07	-1.43	<0.05

Note. N = 614. ^a Control variables.

Regression analyses focusing on the relationship between feelings of distancing from work and emotional exhaustion indicated that these two dimensions occurred concurrently, mainly when empowerment levels were low (simple slope for low empowerment value = 0.48, 95% CI = 0.35–0.60, $t = 7.80, p < 0.001$). Conversely, the relationship be-

tween these variables was statistically less pronounced at high levels of empowerment ($=0.30$, 95% CI = -0.14 – 0.44 , $t = 4.15$, $p < 0.001$).

Mediation analyses indicated that group communication significantly and indirectly enhanced perceived personal efficacy (-0.23 [95% CI = -0.11 , 0.36]), maintaining the significance of the effect. (Results are shown in Table 3.)

Table 3. The team-perceived effectiveness from the mediator effect.

<i>Model</i>	β	<i>IF</i>	<i>t</i>	<i>p</i>
<i>Group communication for team effectiveness</i>	0.68	0.05	13.53	<0.001
<i>Direct effects of team effectiveness on personal ineffectiveness</i>	−0.32	0.08	−3.93	<0.001
<i>Total effect of group communication on personal ineffectiveness</i>	−0.27	0.07	−3.69	<0.001
<i>Direct effect of group communication on personal ineffectiveness</i>	−0.05	0.09	−0.54	0.587
<i>Partial effect of control variables on personal ineffectiveness</i>				
<i>Specialist area^a</i>	−0.17	0.11	−1.44	0.151
<i>Age^a</i>	0.01	0.05	0.11	0.908
<i>Organizational mandate^a</i>	−0.10	0.08	−1.21	0.227

Note. $N = 614$. ^a Control variables.

4. Discussion

The current crisis of medical personnel employed in public hospitals, where, due to a lack of human, organizational, and instrumental resources, an exodus to private facilities has been taking place for years—the impact of which in the media has exacerbated the work difficulties of physicians, who are dissatisfied with their jobs—partially sees its reasons in the phenomenon of burnout, a high-risk event for any work organization, both in terms of staff health and the activity and productivity of the sector, particularly the health sector [58].

Thus, the impetus for this work arose with the prospect of investigating the reasons why medical personnel employed in public facilities do not achieve a sustainable working condition that facilitates the development of their professionalism, thus ensuring an adequate work–life balance, and are instead leaving their jobs [59,60].

Physicians increasingly find themselves managing extended shifts beyond their scheduled hours, which is exhausting psychologically and physically, with alterations in psychophysical balance affecting the quality of their work [59]. This phenomenon is also reflected in the international literature, where it is commonplace that higher remuneration and superior organic and structural organization promote team job satisfaction, with a bearable perception of workload [61].

In our study, we observed that in physicians serving in emergency/urgency settings, the dimensions of emotional exhaustion and moderate/high negative feelings are associated with a low level of almost all organizational empowerment variables (job control, community, resources), with high predisposition to incur burnout syndrome.

Workload does not appear to have statistically strong associations, probably because it is secondary to quality of work and work environment.

Correlation analyses confirmed the positive preventive role of empowerment on both emotional exhaustion and negative feelings of alienation from work. In addition, it was found that the more workload is perceived as excessive and the more control is lacking, the higher the level of burnout.

The same analysis also revealed an indirect role of the communicative and collaborative dimension of the team; in fact, personal ineffectiveness is reduced by good teamwork from the communication point of view, especially in terms of quality. This result reflects the clinical application of Nesh's mathematical equilibrium, confirming the fundamental importance of good interpersonal relationships among members of a team, whose synergistically coordinated activity can lead to improved quality of care [62].

The practical implications of this study have substantial significance for politics and health care institutions and their management, as already deemed by Razai et al. (2023) [63]. One of the key points of management is the importance of recognizing the negative impact of burnout on physicians' work [64].

Identifying the risk factors underlying the burnout phenomenon is an essential step in planning appropriate prevention interventions to ensure the protection of workers' health and safety [65].

A 2010 WHO document states that the most accurate and objective way to assess work-related stress is a combination of several tools, including objective measures of workload and observations of working conditions, compared with information provided by workers [66].

The concept of work-related stress is found in the contents of the European Framework Agreement of 2004, implemented in Italy by the interconfederal agreement of 09/06/2008, where stress is defined as a *"condition . . . consequence of the fact that some individuals do not feel able to meet the demands or expectations placed on them"* [67]. When such demands and expectations are work-related, stress is work-related. However, not all manifestations of stress at work can be considered work-related. Work-related stress is caused by dysfunction in work organization, affecting staff behaviour (such as negative health effects, absenteeism) and consequently the quality of care [68].

In fact, staffing and facility shortages are the input for these behaviours on the part of medical staff, who are exhausted by shortages that result in significant mental and physical stress and riskiness [69]. This study adds to that by showing the protective role of empowerment buffering the effect of burnout, especially considering the physician exodus phenomenon discussed earlier.

Another important finding is the importance of interpersonal communication that precedes both the psychosocial well-being of physicians and the risk of clinical errors.

When it comes to corporate prevention strategies, the proper execution of a preliminary assessment, in addition to producing a risk score, enables an understanding of what, if any, critical issues and corrective actions should be implemented for the company, organizational partitions, or homogeneous groups. Each criticality leads to the identification of the corresponding corrective action to be activated, consistent with the characteristics and modalities of the company [70].

The activation of tools for worker participation in business decisions and training interventions for the prevention of work-related stress risk, as well as specific learning paths, complement and make many of the corrective actions effective [71].

Corrective measures can also include solutions to individual cases, which also impact the group. The introduction of personnel management measures, for example, can resolve work-life balance difficulties, helping reduce absenteeism, unpredictable work overload, relationship difficulties, and productivity. In cases where organizational measures cannot further reduce the stressful condition, health surveillance protects individuals with illnesses likely to worsen under the continuous stressful stimulus [72].

Verifying the effectiveness of the corrective actions planned and implemented based on the criticalities found involves evaluation through reapplication of the tool adopted with the preliminary assessment. To verify the effectiveness of the parameters found to be critical, it is necessary to proceed with the involvement of all the contact persons planned for the preliminary assessment, possibly supplemented with others who were the subject of the corrective actions [73].

Finally, to improve the delivery of public health services, it is essential to pose some political, economic, and social considerations. At the policy level, such improvement requires effective public policies, good governance, and financial sustainability. Economically, it involves investment in the health sector, aiming to promote economic growth and reduce long-term costs. Socially, it aims to improve overall well-being, ensure equitable access to health services, and encourage patient empowerment. Such an integrated approach should

strive to ensure high-quality, accessible, and sustainable services for all, while protecting those who work in them [74].

In the specific case under study, better use of economic resources would ensure a more adequate working environment for physicians, a consonant remuneration, and more excellent protection from the inherent risks of the profession, containing the phenomenon of burnout and the consequent flight from public hospitals.

The assertion that improved use of economic resources could mitigate physician burnout, reduce their flight from public hospitals, and enhance the working environment aligns with findings from various studies. Research has documented the significant economic cost of physician burnout to the healthcare industry, with estimates reaching \$4.6 billion annually in the United States [75].

Further evidence supports the impact of burnout on healthcare professionals and the operational functioning of healthcare organisations. Burnout affects the personal well-being of healthcare workers and carries significant costs related to patient care quality, safety, and overall healthcare delivery efficiency. The Agency for Healthcare Research and Quality (AHRQ) highlights that burnt-out doctors are more likely to leave their practice, impacting patient access to care and continuity of care [76].

5. Limitations of the Study

However, our study has some limitations. First, the sample used consisted only of physicians who voluntarily participated in the survey, which limits the generalizability of the results. Although structured on validated scales, the questionnaire included responses based on self-reports (self-assessments), which may generate bias related to preference and the method used [73]. Using numerical data such as the number of health services, the number of employees, shift hours, etc., could reduce this bias.

6. Conclusions

In light of the above, our study highlighted how specific measures are desirable to change: the current lack of flexibility in the organization of work, in the absence of innovative corporate welfare tools, and especially given the process of progressive feminization of the profession; a reshaping of salaries, which are often not in line with labour contracts signed in several European Union countries; a more significant enhancement of the knowledge and skills of professionals in clinical governance processes; and a better guarantee of career paths and growth opportunities for employed physicians.

Directives along these lines have already been issued in some European hospital companies, where, specifically, several initiatives have been taken aimed at establishing less intense performance schedules, allowing autonomous time management that promotes a better work–life balance, limiting excessively long shifts, implementing team self-management, and promoting specific training for managers in “empathic leadership”, aimed at encouraging regular interaction between governance and employees [77,78]. These initiatives also highlight what specific interventions can improve and prevent burnout in healthcare workers, which we have identified as one of the current causes of inefficiency in public hospitals.

Moreover, given the widely established positive relationship between individual health and economic outcomes (Azarnert, 2006; 2020) [79,80], the prevention of burnout syndrome observed among medical professionals and the resulting improvement in the efficiency of public hospitals may contribute to an improvement in the economic well-being of the general population.

Author Contributions: Conceptualization, G.M., F.P., S.Z. and E.C.; Formal analysis, G.M., F.P., S.Z. and E.C.; Investigation, S.Z.; Resources, G.M.; Data curation, F.P. and E.C.; Writing—original draft, G.M., F.P., S.Z. and E.C.; Writing—review & editing, G.M., S.Z., M.G.V., S.M., A.S. and E.C.; Supervision, S.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data sharing is not applicable.

Conflicts of Interest: The authors declare no conflicts of interest.

References

- Tomislav, K. The Concept of Sustainable Development: From its Beginning to the Contemporary Issues. *Zagreb Int. Rev. Econ. Bus.* **2018**, *21*, 67–94. [CrossRef]
- Manioudis, M.; Meramveliotakis, G. Broad strokes towards a grand theory in the analysis of sustainable development: A return to the classical political economy. *New Political Econ.* **2022**, *27*, 866–878. [CrossRef]
- Burksiene, V.; Dvorak, J.; Burbulyte-Tsiskarishvili, G. Sustainability and sustainability marketing in competing for the title of European Capital of Culture. *Organization* **2018**, *51*, 66–78. [CrossRef]
- International Labour Organization. *Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All*; International Labour Organization: Geneva, Switzerland, 2015.
- Patel, V.; Saxena, S.; Lund, C.; Thornicroft, G.; Baingana, F.; Bolton, P.; Chisholm, D.; Collins, P.Y.; Cooper, J.L.; Eaton, J.; et al. The Lancet Commission on global mental health and sustainable development [published correction appears in *Lancet*. *Lancet* **2018**, *392*, 1553–1598. [CrossRef] [PubMed]
- Asi, Y.M.; Williams, C. The role of digital health in making progress toward Sustainable Development Goal (SDG) 3 in conflict-affected populations. *Int. J. Med. Inf.* **2018**, *114*, 114–120. [CrossRef] [PubMed]
- Available online: <https://www.anaao.it/content.php?cont=31794> (accessed on 21 March 2024).
- Available online: <https://www.anaao.it/content.php?cont=35046> (accessed on 21 March 2024).
- De Vries, N.; Lavreysen, O.; Boone, A.; Bouman, J.; Szemik, S.; Baranski, K.; Godderis, L.; De Winter, P. Retaining Healthcare Workers: A Systematic Review of Strategies for Sustaining Power in the Workplace. *Healthcare* **2023**, *11*, 1887. [CrossRef] [PubMed]
- Shanafelt, T.D.; Boone, S.; Tan, L.; Dyrbye, L.N.; Sotile, W.; Satele, D.; West, C.P.; Sloan, J.; Oreskovich, M.R. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch. Intern. Med.* **2012**, *172*, 1377–1385. [CrossRef] [PubMed]
- Cannizzaro, E.; Cirrincione, L.; Malta, G.; Fruscione, S.; Mucci, N.; Martines, F.; Plescia, F. The Influence of the COVID-19 Pandemic Emergency on Alcohol Use: A Focus on a Cohort of Sicilian Workers. *Int. J. Environ. Res. Public Health* **2023**, *20*, 4613. [CrossRef] [PubMed]
- Available online: <https://www.anaao.it/content.php?cont=31117> (accessed on 21 March 2024).
- Cherniss, C. *Professional Burnout in Human Service Organizations*; Praeger: New York, NY, USA, 1980.
- Freudenberger, H. *Burnout: The High Cost of Achievement*; Anchor Press: New York, NY, USA, 1980.
- Maslach, C.; Leiter, P.L. *The Truth about Burnout*; Jossey Bass: San Francisco, CA, USA, 1997.
- Available online: <https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases> (accessed on 21 March 2024).
- Maslach, C.; Leiter, M.P. Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry* **2016**, *15*, 103–111. [CrossRef] [PubMed]
- Dulko, D.; Zangaro, G.A. Comparison of Factors Associated with Physician and Nurse Burnout. *Nurs. Clin. N. Am.* **2022**, *57*, 53–66. [CrossRef]
- Alkhamees, A.A.; Aljohani, M.S.; Kalani, S.; Ali, A.M.; Almatham, F.; Alwabili, A.; Alsughier, N.A.; Rutledge, T. Physician’s Burnout during the COVID-19 Pandemic: A Systematic Review and Meta-Analysis. *Int. J. Environ. Res. Public Health* **2023**, *20*, 4598. [CrossRef] [PubMed]
- Dulko, D.; Kohal, B.J. How Do We Reduce Burnout in Nursing? *Nurs. Clin. N. Am.* **2022**, *57*, 101–114. [CrossRef] [PubMed]
- Schaufeli, W.; Enzmann, D.; Girault, N. Measurement of burnout: A review. In *Professional Burnout: Recent Developments in Theory and Research*; Schaufeli, W., Maslach, C., Marek, T., Eds.; Taylor & Francis: Philadelphia, PA, USA, 1993; pp. 199–215.
- Clarke, S.P.; Sloane, D.M.; Aiken, L.H. Effects of hospital staffing and organizational climate on needlestick injuries to nurses. *Am. J. Public Health* **2002**, *92*, 1115–1119. [CrossRef] [PubMed]
- Glasberg, A.L.; Eriksson, S.; Norberg, A. Burnout and stress of conscience among healthcare personnel. *Adv. Nurs.* **2007**, *57*, 392–403. [CrossRef] [PubMed]
- Coco, D.L.; Cupidi, C.; Mattaliano, A.; Baiamonte, V.; Realmuto, S.; Cannizzaro, E. REM sleep behavior disorder in a patient with frontotemporal dementia. *Neurol. Sci.* **2011**, *33*, 371–373. [CrossRef] [PubMed]
- Cirrincione, L.; Plescia, F.; Malta, G.; Campagna, M.; Lecca, L.I.; Skerjanc, A.; Carena, E.; Baylon, V.; Theodoridou, K.; Fruscione, S.; et al. Evaluation of Correlation between Sleep and Psychiatric Disorders in a Population of Night Shift Workers: A Pilot Study. *Int. J. Environ. Res. Public Health* **2023**, *20*, 3756. [CrossRef] [PubMed]
- Leiter, M.P.; Day, A.; Oore, D.G.; Laschinger, H.K.S. Getting better and staying better: Assessing civility, incivility, distress, and job attitudes one year after a civility intervention. *J. Occup. Health Psychol.* **2012**, *17*, 425–434. [CrossRef] [PubMed]

27. Marin, M.F.; Lord, C.; Andrews, J.; Juster, R.-P.; Sindi, S.; Arseneault-Lapierre, G.; Fiocco, A.J.; Lupien, S.J. Chronic stress, cognitive functioning and mental health. *Neurobiol. Learn. Mem.* **2011**, *96*, 583–595. [[CrossRef](#)]
28. Leiter, M.; Maslach, C. Areas of worklife: A structured approach to organizational predictors of job burnout. In *Research in Occupational Stress and Wellbeing*; Perrewé, P., Ganster, D.C., Eds.; Elsevier: Oxford, UK, 2003; pp. 91–134. [[CrossRef](#)]
29. Laschinger, H.K.; Finegan, J.; Shamian, J.; Wilk, P. A Longitudinal Analysis of the Impact of Structural and Psychological Empowerment on Job Satisfaction of Nurses. In Proceedings of the Academy of Management Annual Meeting, Denver, CO, USA, 11 September 2002.
30. Laschinger, H.K.; Finegan, J.; Shamian, J.; Wilk, P. Workplace empowerment as a predictor of nurse burnout in restructured healthcare settings. *Longwoods Rev.* **2003**, *1*, 2–11.
31. Kanter, R.M. *Men and Women of the Corporation*; Basic Books: New York, NY, USA, 1977.
32. Halbesleben, J.R.B.; Rathert, C.; Williams, E.S. Emotional exhaustion and medication administration work-arounds: The moderating role of nurse satisfaction with medication administration. *Health Care Manag. Rev.* **2013**, *38*, 95–104. [[CrossRef](#)] [[PubMed](#)]
33. Almost, J.; Laschinger, H.K. Workplace empowerment, collaborative work relationships, and job strain in nurse practitioners. *J. Am. Acad. Nurse Pr.* **2002**, *14*, 408–420. [[CrossRef](#)] [[PubMed](#)]
34. Maslach, C.; Schaufeli, W.B.; Leiter, M.P. Job burnout. *Annu. Rev. Psychol.* **2001**, *52*, 397–422. [[CrossRef](#)] [[PubMed](#)]
35. Available online: https://extranet.who.int/kobe_centre/sites/default/files/pdf/WHO%20Guidance_Research%20Methods_Health-EDRM_6.4.pdf (accessed on 21 March 2024).
36. Maslach, C.; Jackson, S.E.; Leiter, M.P. *Maslach Burnout Inventory Manual*, 3rd ed.; Consulting Psychologists Press: Palo Alto, CA, USA, 1996.
37. Dyrbye, L.N.; West, C.P.; Shanafelt, T.D. Defining burnout as a dichotomous variable. *J. Gen. Intern. Med.* **2009**, *24*, 440. [[CrossRef](#)] [[PubMed](#)]
38. Soares, J.P.; Lopes, R.H.; Mendonça, P.B.d.S.; Silva, C.R.D.V.; Rodrigues, C.C.F.M.; de Castro, J.L. Use of the Maslach Burnout Inventory among Public Health Care Professionals: Scoping Review. *JMIR Ment. Health* **2023**, *10*, e44195. [[CrossRef](#)] [[PubMed](#)]
39. Laschinger, H.K.S.; Finegan, J.; Shamian, J.; Wilk, P. Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's model. *J. Nurs. Adm.* **2001**, *31*, 260–272. [[CrossRef](#)] [[PubMed](#)]
40. Kouvonen, A.; Toppinen-Tanner, S.; Huuhtanen, M.K.P.; Kalimo, R. Job characteristics and burnout among aging professionals in information and communications technology. *Psychol. Rep.* **2005**, *97*, 505–514. [[CrossRef](#)] [[PubMed](#)]
41. Awa, W.L.; Plaumann, M.; Walter, U. Burnout prevention: A review of intervention programs. *Patient Educ. Couns.* **2010**, *78*, 184–190. [[CrossRef](#)] [[PubMed](#)]
42. de Lange, A.H.; Taris, T.W.; Kompier, M.A.J.; Houtman, I.L.D.; Bongers, P.M. 'The very best of the millennium': Longitudinal research and the demand-control-(support) model. *J. Occup. Health Psychol.* **2003**, *8*, 282–305. [[CrossRef](#)] [[PubMed](#)]
43. Leiter, P.M.; Maslach, C. *Preventing Burnout and Building Engagement Team Member's Workbook*; Jossey Bass, Inc.: San Francisco, CA, USA, 2000.
44. Shortell, S.M.; Rousseau, D.M.; Gillies, R.R.; Devers, K.J.M.; Simons, T.L.B. Organizational assessment in intensive care units (ICUs): Construct development, reliability, and validity of the ICU nurse-physician questionnaire. *Med. Care* **1991**, *29*, 709–726. [[CrossRef](#)]
45. Deci, E.L.; Ryan, R.M. *Intrinsic Motivation and Self-Determination in Human Behavior*; Platinum Press: New York, NY, USA, 1985. [[CrossRef](#)]
46. Canu, I.G.; Marca, S.C.; Dell'Oro, F.; Balázs, Á.; Bergamaschi, E.; Besse, C.; Bianchi, R.; Bislimovska, J.; Bjelajac, A.K.; Bugge, M.; et al. Harmonized definition of occupational burnout: A systematic review, semantic analysis, and Delphi consensus in 29 countries. *Scand. J. Work. Environ. Health* **2021**, *47*, 95–107. [[CrossRef](#)] [[PubMed](#)]
47. Wickramasinghe, N.D.; Dissanayake, D.S.; Abeywardena, G.S. Clinical validity and diagnostic accuracy of the Maslach Burnout Inventory-Student Survey in Sri Lanka. *Health Qual Life Outcomes* **2018**, *16*, 220. [[CrossRef](#)] [[PubMed](#)]
48. Brenninkmeijer, V.; VanYperen, N. How to conduct research on burnout: Advantages and disadvantages of a unidimensional approach in burnout research. *Occup. Environ. Med.* **2003**, *60*, i16–i20. [[CrossRef](#)] [[PubMed](#)]
49. Roelofs, J.; Verbraak, M.; Keijsers, G.P.J.; de Bruin, M.B.N.; Schmidt, A.J.M. Psychometric properties of a Dutch version of the Maslach Burnout Inventory-General Survey (MBI-GS) in individuals with and without clinical burnout. *Stress Health* **2005**, *21*, 17–25. [[CrossRef](#)]
50. Bujang, M.A.; Omar, E.D.; Baharum, N.A. A Review on Sample Size Determination for Cronbach's Alpha Test: A Simple Guide for Researchers. *Malays. J. Med. Sci.* **2018**, *25*, 85–99. [[CrossRef](#)]
51. Hu, L.T.; Bentler, P.M. Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychol. Methods* **1998**, *3*, 424–453. [[CrossRef](#)]
52. Kline, R.B. *Principles and Practice of Structural Equation Modelling*, 2nd ed.; The Guilford Press: New York, NY, USA, 2005.
53. McHugh, M.L. Multiple comparison analysis testing in ANOVA. *Biochem. Med.* **2011**, *21*, 203–209. [[CrossRef](#)] [[PubMed](#)]
54. Schober, P.; Boer, C.; Schwarte, L.A. Correlation Coefficients: Appropriate Use and Interpretation. *Anesth. Analg.* **2018**, *126*, 1763–1768. [[CrossRef](#)] [[PubMed](#)]
55. Hayes, A.F.; Rockwood, N.J. Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behav. Res. Ther.* **2017**, *98*, 39–57. [[CrossRef](#)] [[PubMed](#)]
56. Aiken, L.S.; West, S.G. *Multiple Regression: Testing and Interpreting Interactions*; Sage: London, UK, 1991.

57. MacKinnon, D.P.; Lockwood, C.M.; Williams, J. Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivar. Behav. Res.* **2004**, *39*, 99–128. [CrossRef] [PubMed]
58. Bridgeman, P.J.; Bridgeman, M.B.; Barone, J. Burnout syndrome among healthcare professionals. *Am. J. Health Pharm.* **2018**, *75*, 147–152. [CrossRef] [PubMed]
59. Available online: <https://www.ilfattoquotidiano.it/2023/10/27/in-sicilia-i-medici-fuggono-dagli-ospedali-pubblici-verso-le-cliniche-private-la-protesta-di-sindaci-e-pazienti-sanita-al-collasso/7335286/> (accessed on 21 March 2024).
60. Olszowka, M.; Held, C.; Hadziosmanovic, N.; Denchev, S.; Manolis, A.; Wallentin, L.; White, H.D.; Stewart, R.A.H.; Hagström, E.; STABILITY Investigators. Excessive daytime sleepiness, morning tiredness and major adverse cardiovascular events in patients with chronic coronary syndrome. *J. Int. Med.* **2021**, *290*, 392–403. [CrossRef]
61. Malta, G.; Fruscione, S.; Albano, G.D.; Zummo, L.; Zerbo, S.; Coco, D.L. Shift work and altered sleep: A complex and joint interaction between neurological and occupational medicine. *Euromediterr. Biomed. J.* **2023**. [CrossRef]
62. Dinibutun, S.R. Factors Affecting Burnout and Job Satisfaction of Physicians at Public and Private Hospitals: A Comparative Analysis. *J. Healthc. Leadersh.* **2023**, *15*, 387–401. [CrossRef]
63. Razai, M.S.; Kooner, P.; Majeed, A. Strategies and Interventions to Improve Healthcare Professionals' Well-Being and Reduce Burnout. *J. Prim. Care Community Health* **2023**, *14*, 21501319231178641. [CrossRef] [PubMed]
64. Itchhaporia, D. Game Theory, Health Care, and Economics. *J. Am. Coll. Cardiol.* **2022**, *79*, 1542–1543. [CrossRef] [PubMed]
65. de Lima Garcia, C.; de Abreu, L.C.; Ramos, J.L.S.; de Castro, C.F.D.; Smiderle, F.R.N.; dos Santos, J.A.; Bezerra, I.M.P. Influence of Burnout on Patient Safety: Systematic Review and Meta-Analysis. *Medicina* **2019**, *55*, 553. [CrossRef] [PubMed]
66. Burton, J.; World Health Organization. *WHO Healthy Workplace Framework and Model: Background and Supporting Literature and Practices*; World Health Organization: Geneva, Switzerland, 2010.
67. Zoni, S.; Lucchini, R.G. European approaches to work-related stress: A critical review on risk evaluation. *Saf. Health Work* **2012**, *3*, 43–49. [CrossRef] [PubMed]
68. Bhui, K.; Dinos, S.; Galant-Miecznikowska, M.; De Jongh, B.; Stansfeld, S. Perceptions of work stress causes and effective interventions in employees working in public, private and non-governmental organisations: A qualitative study. *BJPsych Bull.* **2016**, *40*, 318–325. [CrossRef] [PubMed]
69. Gray, B.M.; Vandergrift, J.L.; Barnhart, B.J.; Reddy, S.G.; Chesluk, B.J.; Stevens, J.S.; Lipner, R.S.; Lynn, L.A.; Barnett, M.L.; Landon, B.E. Changes in Stress and Workplace Shortages Reported by U.S. Critical Care Physicians Treating Coronavirus Disease 2019 Patients. *Crit. Care Med.* **2021**, *49*, 1068–1082. [CrossRef] [PubMed]
70. Persechino, B.; Valenti, A.; Ronchetti, M.; Rondinone, B.M.; Di Tecco, C.; Vitali, S.; Iavicoli, S. Work-related stress risk assessment in Italy: A methodological proposal adapted to regulatory guidelines. *Saf. Health Work* **2013**, *4*, 95–99. [CrossRef] [PubMed]
71. Cohen, C.; Pignata, S.; Bezak, E.; Tie, M.; Childs, J. Workplace interventions to improve well-being and reduce burnout for nurses, physicians and allied healthcare professionals: A systematic review. *BMJ Open* **2023**, *13*, e071203. [CrossRef] [PubMed]
72. Corradini, I.; Marano, A.; Nardelli, E. Work-Related Stress Risk Assessment: A Methodological Analysis Based on Psychometric Principles of an Objective Tool. *SAGE Open* **2016**, *6*. [CrossRef]
73. Forman-Dolan, J.; Caggiano, C.; Anillo, I.; Kennedy, T.D. Burnout among Professionals Working in Corrections: A Two Stage Review. *Int. J. Environ. Res. Public Health* **2022**, *19*, 9954. [CrossRef] [PubMed]
74. McIntyre, D.; Kutzin, J. *Health Financing Country Diagnostics: A Foundation for National Strategy Development*; World Health Organization: Geneva, Switzerland, 2016.
75. Han, S.; Shanafelt, T.D.; Sinsky, C.A.; Awad, K.M.; Dyrbye, L.N.; Fiscus, L.C.; Trockel, M.; Goh, J. Estimating the Attributable Cost of Physician Burnout in the United States. *Ann. Intern. Med.* **2019**, *170*, 784–790. [CrossRef]
76. Hinton Walker, P.; Hubbard, H. Agency for Healthcare Research and Quality. Nursing and the Agency for Healthcare Research and Quality (AHRQ): An agenda. <https://doi.org/10.1067/mno.2003.128688a> *Nurs. Outlook.* **2003**, *51*, 3–4. [CrossRef]
77. Peter, K. Work-Related Stress among Health Professionals Working in Swiss Hospitals, Nursing Homes and Home Care Organisations: An Analysis of Stressors, Stress Reactions and Long-Term Consequences of Stress at Work among Swiss Health Professionals. Ph.D. Thesis, Maastricht University, Maastricht, The Netherlands, 2020. [CrossRef]
78. Adam, D.; Berschick, J.; Schiele, J.K.; Bogdanski, M.; Schröter, M.; Steinmetz, M.; Koch, A.K.; Sehoul, J.; Reschke, S.; Stritter, W.; et al. Interventions to reduce stress and prevent burnout in healthcare professionals supported by digital applications: A scoping review. *Front. Public Health* **2023**, *11*, 1231266. [CrossRef] [PubMed]
79. Azarnert, L.V. Child mortality, fertility and human capital accumulation. *J. Popul. Econ.* **2006**, *19*, 285–297. [CrossRef]
80. Azarnert, L.V. Health capital provision and human capital accumulation. *Oxf. Econ. Pap.* **2020**, *72*, 633–650. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.