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## RESEARCH ARTICLE

# The Impact of Workaholism on Nurses' Burnout and Disillusion

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### Abstract:

#### Background:

The literature has shown that workaholism acts at the root of burnout, but research regarding these constructs in the nursing profession is scant. Similarly, little attention has been paid to the impact of workaholism on disillusion, which is a dimension of burnout linked to professional vocation.

#### Objectives:

Contribute to the ongoing research on the relationship between workaholism and burnout among nurses. Moreover, this study considers disillusion as a dimension to be considered when investigating the relationship between workaholism and burnout, since nursing entails professional vocation.

#### Method:

The study followed a cross-sectional design. 614 nurses of six hospitals in South Italy have compiled two Self-report questionnaires: the Dutch Utrecht WorkAholism Scale (workaholism - Italian version) and the Link Burnout Questionnaire (burnout). Part of the group of subjects was diagnosed with both syndromes or considered at risk of developing them. The impact of workaholism on burnout was examined using Structural Equation Models for each variable.

#### Results:

More than 26% of the nurses are affected by burnout whereas 21% are workaholics. Working excessively proved to be a good predictor of both psychophysical exhaustion and disillusion.

#### Conclusions:

Nurses are at risk of workaholism and burnout. The study shows that workaholism is a predictor of nurses' burnout, in particular working excessively (a dimension of workaholism) affects their psychophysical well-being and professional vocation.

**Keywords:** Burnout, Workaholism, Disillusion, Nursing, Professional vocation, Emotional labour.

## 1. INTRODUCTION

### 1.1. The Burnout Syndrome

Burnout is one of the most studied work-related types of stress in the recent decades, particularly within healthcare. Its preliminary definitions focused on the relational aspects, especially within the so-called 'helping professions'. According to Edelhoch and Brodsky [1] and Pines, Aronson, and Kafry [2], burnout is a process that leads workers to lose energy, vocational drive and work engagement. Consequently, they start to develop low self-esteem, resulting in

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poorer work satisfaction and performance.

Maslach [3] describes burnout as a three-dimensional construct characterised by exhaustion (*i.e.* the depletion or draining of mental resources), cynicism (*i.e.* indifference or a distant attitude towards one's job), and lack of professional efficacy. Burnout is seen as a response to the chronic emotional effort that working excessively requires, especially when dealing with people in need.

Over the last decade, some research has concentrated on burnout as a syndrome that particularly affects service providers [4]. Lately, this syndrome was considered as part of the Job Demands-Resources (JD-R) model that measures work-related stress [5 - 7]. According to this model, organizations are characterised by work demands (*e.g.* time pressure, inadequate work environment, workload) and job resources (*e.g.* control over people's work, engagement, organizational support). Burnout stems from excessive job-related demands (which lead to exhaustion) and inadequate job resources (which lead to work disengagement) [8, 9].

Some recent research has reconsidered the importance of the relationships between help and burnout. People in need are often subject to discomfort and suffering; these factors are likely to affect their service provider and lead him or her to emotional exhaustion. The situation complicates further and can lead to burnout when service providers work excessively and struggle to cater to their patients' needs [3, 10 - 12]. Moreover, Santinello and Negrisolo [13] proposed reconsidering the importance of the vocational factor in relation to burnout. They revised the three dimensions of burnout proposed by Maslach [3, 14] and added the construct of disillusion. This dimension had already been included in the models designed by Edelwich *et al.* [1] and Pines *et al.* [2]. All these scholars have pointed out that disillusion linked to burnout means developing a sense of weariness that leads to the complete destruction of any ideals relating to professional vocation.

## 1.2. Burnout and Nursing

Nursing is a profession particularly at risk of burnout. Some scholars have demonstrated that nurses' burnout can be found in many different healthcare environments; others have focused on those factors that can help predict this syndrome [15 - 19].

One of the most important factors that puts nurses at risk of burnout is the patient-caregiver relationship. This relationship entails emotional involvement, which caregivers must be able to handle in order to tackle various possible situations, including their patients' suffering, fears, aggressiveness or lack of respect for their work [20, 21]. Some recent research has highlighted the impact that job demands (*e.g.* treatments, patient care) have on burnout [20, 22, 23].

In the past, several scholars have underlined the importance of aspects such as professional vocation and expectations in relation to the possible development or contrast of this syndrome. Some of the most commonly shared vocational drivers among nurses that can be found in the literature are: being able to help others, contributing to improving society, empathy towards other people's suffering, having the chance to do job that is useful for others, having other nurses in their family or other people they look to as an example [24 - 26]. Yet, the literature regarding disillusion in the healthcare professions is scant (but see Bellieni *et al.* [27] and Ruggieri *et al.* [28]) and almost non-existent as far as nursing is concerned [29].

## 1.3. Workaholism

In the last few decades, the literature related to work addiction has increased significantly [30, 31]. Workaholism as a term was first introduced by Oates in the 1970s to describe a constant need to work. The most common traits that are most frequently linked to workaholism are: neuroticism, conscientiousness, narcissism and perfectionism [32, 33]. Workaholism is closely intertwined with the social, cultural and economic changes developed in the last few decades, which affect several aspects of people's work, such as temporary and flexible contracts, workload and working hours, the degree of control over one's work, social status and feeling professionally underestimated, having to meet direct superiors' requests and expectations [34]. Several definitions of work addiction exist along with models to describe it [32]. Recently, some researchers have attempted to integrate different approaches to the study of workaholism and to identify its main features [30]. Schaufeli, *et al.* [35] define workaholism as the tendency to work excessively and compulsively. This definition clearly describes the central features of workaholism, including working excessively hard (which relates to the individual's behaviour) and working compulsively (which relates to the individual's cognitive sphere). Workaholism is diagnosed when both traits can be significantly detected in a person [36].

#### 1.4. Workaholism and Nursing

Some relevant literature reports that nursing is one among the professions at risk of work addiction [37]. A research conducted by Burke *et al.* [38] used an *ad hoc* measuring scale to study workaholism in a sample of 496 Norwegian nurses. They demonstrated that workaholism may affect well-being at work, when associated with specific personality traits and certain work features. They also showed that a strong drive to work can lead to a lower level of work satisfaction.

Kubota *et al.* [39] carried out a study on 312 Japanese hospital nurses; they focused on the relationship between workaholism and a series of sleep disorders reported on a checklist. They found that nurses with the highest scores for workaholism tended to work excessively and compulsively, and reported having trouble sleeping, feeling tired at work, and having difficulties to wake up, as well as showing signs of fatigue in the morning.

Van Beek *et al.* [31] conducted a study on a sample of Chinese healthcare professionals, which mainly comprised nurses (n = 544). They sought to better understand the relationship between the motivational factors postulated by Deci and Ryan's Self-Determination Theory [40] and the outcomes of their research in terms of well-being/unease at work, including workaholism. Deci and Ryan proposed a major distinction between intrinsic and extrinsic motivation. Van Beek *et al.* [31] demonstrated that workaholism is positively associated with high levels of introjected regulation (a dimension of extrinsic motivation), which implies the adoption of external standards of self-esteem and social acceptance without necessarily identifying with such standards. Moreover, workaholism is negatively affected by intrinsic motivation. Nonnis *et al.* [41] recently conducted a study on 485 Italian nurses to find that 18% of them were workaholics and almost 30% were at risk of becoming work addicts.

#### 1.5. Workaholism and Burnout

The last few decades have witnessed a swift increase in research on workaholism and burnout, which has also focused on different aspects of their relationship. The relationship between these two dimensions is complex and multifaceted. For instance, Andreassen *et al.* [42] carried out a study on a sample of Norwegian bankers (n = 235) and found an existing correlation between the dimensions of workaholism and burnout. The same results were gathered by Schaufeli *et al.* [36] who completed a cross-cultural research project using a sample of Japanese and Dutch workers (respectively n = 3.311 and n = 7.594). Guglielmi *et al.* [43], in a study conducted on a sample of Italian public school headmasters (n = 224) found that some of the job demands they are subject to (work-family conflict and inequity) contribute to mediating between workaholism and burnout.

Some other studies have also focused on other aspects of this relationship, including the dimensions that both constructs share. For instance, Schaufeli, Bakker, van der Heijden and Prins's study of a sample of Dutch junior doctors (n = 2.115), demonstrated that role conflict mediated between workaholism, burnout and well-being [44]. Taris *et al.* [33] conducted a study on a sample of Dutch managers (n = 199) revealing that workaholism contributes to amplify perfectionism, which can increase the risk of burnout.

In addition, Nie and Sun [45] have demonstrated how burnout can mediate the relationship between workaholism and depression in a sample of Chinese university teachers (n = 412).

Some other studies have demonstrated that workaholism can be a strong predictor of burnout. For instance, in Clark *et al.*'s review of the existing literature on this phenomenon [30], they confirmed the relationship between these two dimensions. For their part, Hamidizadeh *et al.* [46] examined a sample of Iranian university lecturers (n = 77) and found that workaholism can be successfully used to predict all three of Maslach's dimensions of burnout [3]. Also, Molino *et al.* [47] examined a sample of Italian workers (n = 617) and found that workaholism is a good predictor of exhaustion, which is one of the three dimensions of burnout. Finally, Inanen *et al.* [48] completed a longitudinal analysis of a sample of highly educated Finnish employees (n = 292) and found that some of these employees displayed a profile that links cynicism and exhaustion (burnout dimensions) to workaholism.

#### 1.6. The Impact of Workaholism on Nurses' Burnout

Workaholism may act as a root cause of burnout. Nonetheless, the relationship between workaholism and burnout in nursing was only briefly discussed. Moreover, other aspects such as the patient-caregiver relationship [20, 21] and the vocational dimension that this profession entails [24 - 26] deserve attention. Therefore, we suggest that the two dimensions of workaholism (Working Excessively and Working Compulsively [35, 36]) have an impact on all the dimensions that pertain to burnout, that is complaints of psychophysical exhaustion, relational deterioration,

professional inefficacy, and disillusion [13, 49].

## 2. THE PRESENT STUDY

### 2.1. Aims and Hypotheses

The objective of this study is twofold. On the one hand, it seeks to provide an exhaustive picture of well-being and unease in relation to burnout and workaholism among the nurses under scrutiny.

On the other hand, and most importantly, it aims to verify to what extent workaholism may be responsible for nurses' burnout.

In particular, we would to verify the following hypotheses:

- *Hypothesis 1* – according to Schaufeli *et al.*'s model [35, 36], Working Compulsively is a dimension of workaholism that can directly and positively affect burnout and its dimensions, which are Psychophysical Exhaustion, Relational Deterioration, Professional Inefficacy, Disillusion (cf. the model to determine these dimensions proposed in Santinello *et al.* [13, 49]);
- *Hypothesis 2* - Working Excessively is a dimension of workaholism that can directly and positively affect all the dimensions of burnout mentioned above.

Despite often being referred to in the literature (as mentioned earlier; but cf. also Edelwich *et al.* [1], and Pines *et al.* [2]), empirical research is currently scant on Disillusion. Hence, this study concentrates particularly on this dimension of burnout.

### 2.2. Study Design

This is a cross-sectional and correlational study. Data collection was carried out via self-reporting procedures using one research protocol that was administered on paper consisting of two questionnaires and a form to elicit socio-biographical details. The data were collected by the researchers while the nurses were on duty. All participants were asked to fill in the two questionnaires and socio-biographic form in a single compilation session. All protocols were collected from April to September 2017. Some participants completed the questionnaire in the researcher's presence. In other cases, the researcher explained to the nurses how to complete the questionnaires and collected them at a later stage. All participants were ensured anonymity and privacy (under the Italian Personal Data Protection Code). A total of 643 questionnaires were distributed and 614 were returned (redemption 95.48%).

### 2.3. Participants

This research was carried out on a group of 614 Italian nurses, working in 6 hospitals in Sardinia (Southern Italy). The group of subjects represents a convenience sample of nurses based on their availability (consequently, this group of subjects cannot be considered as representative of all nursing professionals); they all took part in this study on a voluntary basis. 174 nurses were men (28.3%) while 440 were women (71.7%). 155 nurses (25.2%) had work experience that ranged from 0-10 years, 219 (35.7%) from 11 to 20 years, while the remaining 240 (39.1%) had 21 years of experience or more. The nurses of this group of subjects work in a wide range of wards but most of them are employed in the following wards: Paediatrics (115, 18.7%), Oncology (93, 15.1%), General Medicine (89, 14.4%), Psychiatrics (51, 8.3%), Obstetrics (34, 5.5%), Neurology (33, 5.3%), Emergency (32, 5.2%) and Radiotherapy (28, 4.5%).

### 2.4. Instruments

The Italian version of the Dutch Workaholism Scale (DUWAS, Balducci *et al.* [50]; Nonnis *et al.* [41]) was used to measure workaholism. It comprises 10 items on a 4-point scale ranging from 1 = (*Almost*) *never* to 4 = (*Almost*) *always*; the questionnaire is divided into two 5-item scales: Working Excessively (WE,  $\alpha = .82$ ; e.g. "I spend more time working than on socializing with friends, on hobbies, or on leisure activities") and Working Compulsively (WC,  $\alpha = .82$ ; e.g. "I feel guilty when I take time off work").

Individuals scoring high on both WE and WC are considered workaholics. Conversely, a combination of high WE and low WC identifies hard workers whereas a combination of low WE and high WC characterizes compulsive workers. Finally, individuals who are low on both WE and WC are relaxed workers [35, 36, 41].

Burnout was assessed with the Link Burnout Questionnaire (LBQ, Santinello [49]). It includes 24 items (in Italian language) divided into 4 subscales (6 items for each dimension): Psychophysical Exhaustion ( $\alpha = .77$ , e.g. "I feel physically drained because of my work"); Relational Deterioration ( $\alpha = .79$ , e.g. "I have the feeling that most of my patients do not follow my instructions"); Professional Inefficacy ( $\alpha = .78$ , e.g. "I feel that my skills are not sufficiently adequate to deal with unexpected circumstances"); Disillusion ( $\alpha = .85$ , e.g. "I think that if I could do it all over again, I'd choose another job"). All items were placed on a 6-point frequency scale ranging from 1 = *never* to 6 = *always*.

## 2.5. Data Analysis

Each participant's scores for the DUWAS scales were calculated considering the total average of the answers to all items. The participants were grouped together into two groups (with low and high scores) in relation to the baseline score that was set at 2.5 workers [35, 36, 41]. As for the LBQ scales, each participant's final score was calculated by adding the scores of all items. Values equal or over 4.5 were considered as good indicators that the participant was at risk of burnout [49].

In order to assess the relationship between the DUWAS and LBQ scales, we fitted a structural equation model for observed variables. At first, we considered a full-fledged model that included both the DUWAS dimensions as predictors of the LBQ dimensions. Subsequently, we deleted those parameters that did not prove to be strong predictors of the LBQ dimensions. Moreover, we discarded all those relations between the DUWAS and the LBQ scales that could lead to drop in the Bayesian Information Criterion (BIC; see Burnham *et al.* [51, 52], and Vrieze [53] for further details). Put more simply, one relation was deleted, and its parameter assigned a null value. This procedure continued until deleting all those values led to an increase in the BIC, which reflected a worsening trend in the variables analysed.

The BIC can only be interpreted in terms of comparison between two alternative models. We therefore reported a  $\Delta$ BIC for each comparison, which was obtained once the BIC of the model under scrutiny was subtracted from the BIC of the reference model.  $\Delta$ BIC values  $< 0$  show that the data can better fit the model used here.

Once the model was deemed adequate, we examined the most influential cases. Those participants that displayed a high generalised Cook's distance in comparison to others were removed and the model was revised once again. This allowed for the further application of the model to a sub-group comprising participants who scored high in both workaholism (rough value  $> 2.5$  on all DUWAS scales) and burnout (rough value  $> 4.5$  in all LBQ scales).

The analysis was carried out using version 3.2.2 of the R software [54], along with version 0.5-22 of *lavaan* [55] that helped to revise the model and *influence.SEM* [56], which was used to examine the most significant cases using Cook's distance [57, 58]. Cook's distance is a measure of influence for a data point, allowing single observations to be identified that have a significant influence on the results of a model. After identifying the model, we calculated Cook's distance for each participant by using the generalized version of the index for the multivariate case [59]. For each subject, we calculated Cook's measure and observed the distribution of the values, looking for potentially significant cases.

## 2.6. Ethical Issues

Consent to carry out this survey was granted by the hospital board of directors. The project did not focus on any sensitive topics and was carried out via self-evaluation procedures for adults. Moreover, it ensured all participants anonymity and privacy and the data were examined as aggregated information. Therefore, the hospital board of directors deemed it was not necessary to ask for further permission from their Ethics Committee.

## 3. RESULTS

### 3.1. Workaholism and Burnout Among Nurses

Results show that 26.55% of the nurses in the group of subjects are at severe risk of burnout or already clearly suffering from it. More than 21% are workaholics while 50% display general well-being. The remainder (approximately 30%) is at risk of becoming a workaholic since they score high on one of the two dimensions of this syndrome (Table 1).

**Table 1. Participants' distribution according to the DUWAS scales. The values below 2.5 are considered to be low scores while values over 2.5 are considered high [29, 30].**

		Working Excessively		
		Low	High	Total
Working Compulsively	Low	307 (50.0%)	95 (15.5%)	402 (65.5%)
	High	81 (13.2%)	131 (21.3%)	212 (34.5%)
	Total	388 (63.2%)	226 (36.8%)	614 (100.0%)

The *t* test shows that the score for both the LBQ and DUWAS scales are not gender-related or connected to work experience ( $p > 0.05$ ). The polyserial correlation between work experience and the scores retrieved for both the LQB and DUWAS scales are very low, ranging from -0.07 and 0.10.

Table 2 shows the Pearson's correlations indexes along with the variance-covariance matrix regarding the four LBQ scales and the two DUWAS scales.

**Table 2. Correlation matrix (upper part of the diagonal) and variance-covariance matrix among the variables used to build the model. Mean and standard deviations of each variable are reported at the bottom of the table.**

	Psychophysical Exhaustion	Relational Deterioration	Professional Inefficacy	Disillusion	Working Compulsively	Working Excessively
Psychophysical Exhaustion	4.18	0.53	0.45	0.66	0.16	0.26
Relational Deterioration	1.95	3.21	0.45	0.57	0.08	0.20
Professional Inefficacy	1.52	1.30	2.66	0.54	0.04	0.15
Disillusion	2.65	2.00	1.73	3.85	0.03	0.19
Working Compulsively	1.01	0.44	0.22	0.19	10.06	0.55
Working Excessively	1.64	1.06	0.72	1.12	5.26	9.21
<i>Mean</i>	5.06	5.97	4.04	4.93	11.20	11.59
<i>S.D.</i>	2.04	1.79	1.63	1.96	3.17	3.03

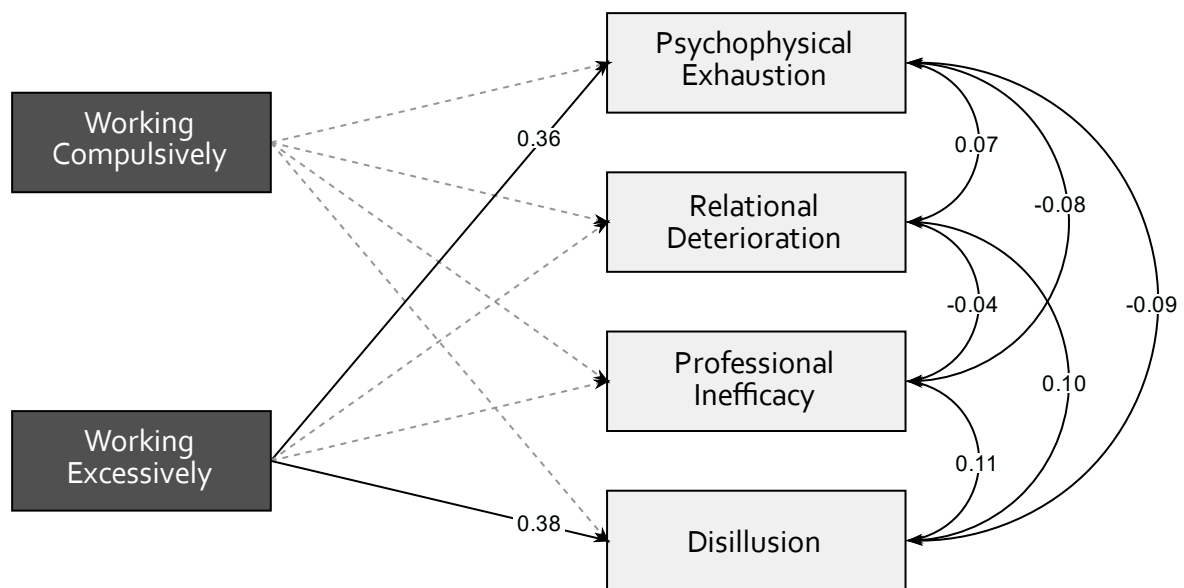
### 3.2. The Impact of Workaholism on Burnout Among Nurses

We fitted a structural equation model to help us to predict all four burnout dimensions in relation to the two dimensions of workaholism. This led us to remove the following relations from our analysis: WC and Psychophysical Exhaustion ( $\Delta BIC = -6.29$ ), WC and Relational deterioration ( $\Delta BIC = -4.91$ ) and WC and Professional Inefficacy ( $\Delta BIC = -5.22$ ). Interestingly, removing other relations leads to an increase in the BIC (Table 3). Therefore, we decided to keep them. This resulted in a model that could only have the WC and Disillusion relation along with the WE dimension and all four LBQ scales.

**Table 3. Difference between the standard BIC model and the its versions minus the  $\Delta BIC$  parameter. Score values for the adapted model are in percentiles.**

Exogenous variable	Endogenous variable	$\Delta BIC$	Estimated parameter	Bootstrap $Q_{2.5\%}$ , $Q_{97.5\%}$
Working Excessively	Psychophysical Exhaustion	44.92	0.28	0.21, 0.36
Working Excessively	Relational Deterioration	14.53	0.18	0.10, 0.26
Working Excessively	Professional Inefficacy	6.69	0.15	0.07, 0.23
Working Excessively	Disillusion	22.28	0.24	0.14, 0.32
Working Compulsively	Disillusion	2.28	-0.10	-0.16, -0.03

We calculated Cook's distance for each participant. Six subjects present a value outside the 99<sup>o</sup> percentile (Cook's distance = 0.27). Three of these participants displayed extreme values (two scored 0.63 while one scored 1.38). After removing these participants, the model was again revised (Fig. 1). Interestingly, removing these potentially influential cases did not lead to significant changes in the dataset.



**Fig. (1).** Path diagram of the model used for the whole group of subjects ( $n = 614$ ), including estimated parameters for standardised solution.

The amount of explained variance is small, with  $R^2$  values of 0.09 for Psychophysical Exhaustion, 0.04 for Relational deterioration, 0.03 for Professional Inefficacy and 0.04 for Disillusion. Moreover, the WE dimension can effectively predict all four dimensions of burnout. Conversely, the WC dimension can only predict Disillusion.

The correlation between WE and Relational Deterioration ( $r = 0.20$ ) and Professional Inefficacy ( $r = 0.15$ ) and the correlation between WC and Disillusion ( $r = 0.02$ ) are significantly low (Table 2). Therefore, it could be suggested that such correlations do exist, but they have a weak impact. It could also be that they appeared by chance. As for the relationship between WC and Disillusion, despite being significantly low, it is negative (Table 1 above), thus, contrary to our expectations. However, this result is consistent with the idea that those who work compulsively are also likely to have high expectations (and may have “illusions”) regarding the importance of their work, its results and related awards. Therefore, we used bootstrapping to further investigate these relations.

The model was refitted resampling the subjects with replacement for 1000 times (for a valuable introduction about resampling methods in psychology, see Wright *et al.* [60]). At the end of 1000 cycles, in order to identify the 95% range of estimations, for each parameter the percentiles 2.5<sup>th</sup> and 97.5<sup>th</sup> were calculated (Table 3).

Our analysis revealed that the limit of the parameter relating to the relation between WC and Disillusion is below -0.03, which is therefore very close to zero. Similarly, all the parameters regarding the relations between WE and Relational deterioration and Professional Inefficacy are quite low, but the variance range is less dramatic as its values are above 0.20. It can be therefore concluded that WE is not a strong predictor of burnout, thus making previous assumptions in this sense debatable. In contrast, all the other correlations appear to be more stable.

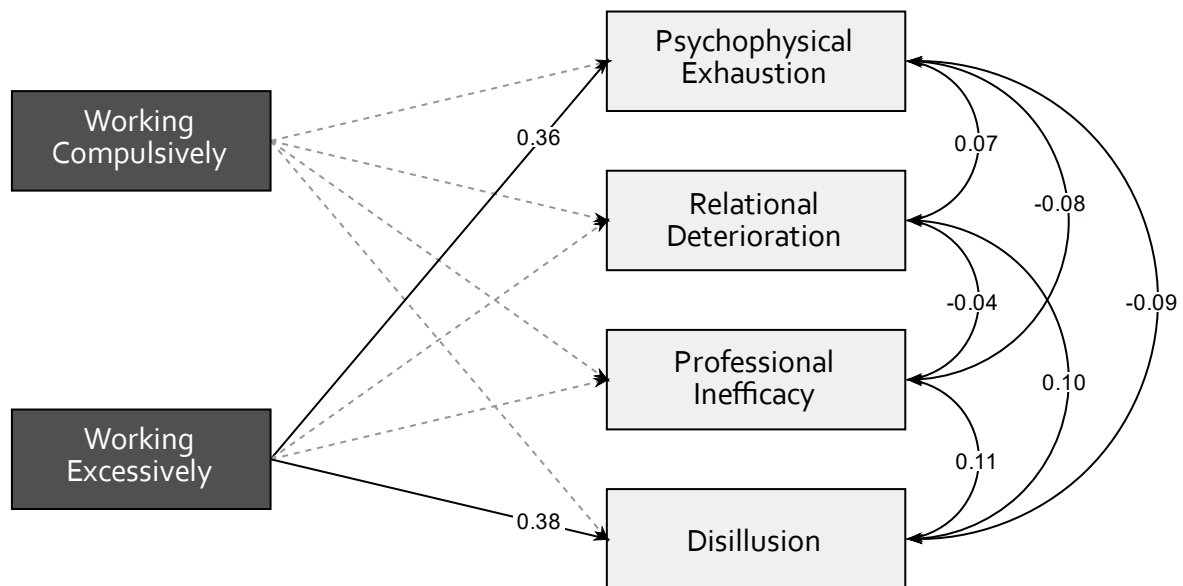
Therefore, we revised the model by considering only those participants that showed high levels of workaholism and burnout ( $n = 46$ ). This demonstrated that the model could fit better if we removed the relations between WE and Relational deterioration, WE and Professional Inefficacy and WC and Disillusion (respectively,  $\Delta BIC = -0.28$ ,  $\Delta BIC = -3.80$ ,  $\Delta BIC = -3.72$ ). Progressively removing such relations meant that we retained only WE and Psychophysical Exhaustion and WE and Disillusion (Fig. 2), whose standardised parameters are respectively 0.36 and 0.38, with  $R^2$  values equal to 0.13 for Psychophysical Exhaustion and 0.15 for Disillusion.

Considering only the participants that scored high in both constructs demonstrated that the WE dimension of workaholism may mainly influence the Psychophysical Exhaustion and Disillusion dimensions of burnout.

## 4. DISCUSSION

### 4.1. Workaholism and Burnout Within the Group of Subjects

This study confirms previous research on the existence of workaholism and burnout among nurses. As for our group of subjects, 21% of the participants suffer from severe workaholism while 26% display a high risk of burnout. Moreover, 7.5% show a tendency toward a lack of well-being. These are alarming data if we consider the fact that all these professionals provide highly organised, technical and specific services, which also include creating a positive patient-caregiver relationship within healthcare organizations. It was fully demonstrated that ensuring nurses' well-being at work is essential to ensure high quality healthcare services [20, 22, 38].



**Fig. (2).** Path diagram of the model used for those participants scoring high in workaholism and burnout ( $n = 46$ ), including estimated parameters for standardised solution.

### 4.2. The Impact of Workaholism on Burnout Among Nurses

As for the correlations among the constructs investigated here, it seems that workaholism can only partly predict nurses' burnout. Hypothesis 1, according to which working compulsively has an impact on all four dimensions of burnout, was not confirmed. Only the working excessively dimension of workaholism can effectively predict burnout, thus at least partially confirming Hypothesis 2. This is even more evident among those nurses that suffer from both syndromes, especially as far as Psychophysical Exhaustion and Disillusion are concerned.

Research on the lack of impact of Working Compulsively on the dimensions of burnout is sparse (with the exception of the weak and negative relationship with the Disillusion discussed above). Consequently, only explanatory reflections can be offered here. Working Compulsively is a cognitive dimension that obsessively and compulsively leads people to spend an excessive amount of time thinking about work [30, 32, 35]. However, it is not a behavioural pattern that makes people work hard and therefore feel physically or mentally exhausted. Conversely, burnout is a syndrome that affects those who choose to work excessively and continuously to the extent that they become increasingly stressed by it [8, 11]. This important conceptual difference that sets apart Working Compulsively from burnout and its dimensions may explain why all these phenomena do not relate. That said, further research is certainly needed to confirm this claim.

As for the impact of Working Excessively on Psychophysical Exhaustion, our findings appear to generally match the results obtained from previous studies [42], including those carried out in Italy [10, 47]. This is unsurprising since it is plausible to maintain that if a person works excessively, they are more than likely to eventually suffer from psychophysical exhaustion.



Finally, as far as the impact of Working Excessively on Disillusion is concerned, a sound comparison with previous empirical studies is not possible since they are extremely infrequent. Nonetheless, it seems safe to suggest that working excessively forces nurses to focus on the most contingent, urgent and practical issues connected with their work, preventing them from considering those that may have initially driven their vocation, *e.g.* helping people in need, doing a job that is useful for others, contributing to improve the society [24 - 26].

This study has some limitations. Firstly, the group of subjects was selected *ad hoc*, depending on the voluntary participation of a number of nurses, and was not based on systematic sampling. Therefore, this group of subjects cannot be considered representative of all nursing professionals. Secondly, study a group of nurses allowed us to have a firm control over possible professional, social and demographic factors. However, these factors do not allow the formulation of more general hypotheses by a broader working population. Also, the application of a *cross-sectional* and *self-report* methodology to collect the data may have affected the measurement quality of the dimensions underlying workaholism and burnout.

Future research may be based on larger and more representative samples of the nursing population working in hospitals. Researchers could focus on vocation and motivation as a driver for becoming nurses (and their relationship with Disillusion). It may be also worth investigating what psychophysical aspects (relating to Psychophysical Exhaustion) might be mostly affected and depleted by working excessively.

## CONCLUSION

This study confirms that workaholism and burnout cause a great deal of work-related unease among nurses. Moreover, our research corroborates the results of previous studies showing that an excessive workload can deplete nurses' psychological and physical resources [47]. More interestingly, the correlation between excessive workload and Disillusion is a new finding. Working excessively seems to make nurses feel disappointed and frustrated about the social value of their work and their role within society, thus destroying their vocational attitude to work [24, 25]. This aspect certainly deserves further research, since the literature in this sense is extremely limited.

In terms of application, this study contributes to stressing the importance that nurses be guaranteed an adequate and balanced workload. By doing so, it may be possible to prevent depleting their psychophysical energy, avoid exhaustion (or even the destruction) of their vocational drive, which initially made them choose such an important profession within the health system.

In conclusion, this study enhanced our understanding of the effects of workaholism on nurses' burnout. What is more, it helped to comprehend the effect of Working Excessively on Disillusion, especially considering that empirical research on the role that the latter plays in inducing burnout is currently extremely limited.

## SOURCES OF FUNDING

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## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

## HUMAN AND ANIMAL RIGHTS

No animals/humans were used for studies that are the basis of this review.

## CONSENT FOR PUBLICATION

Not applicable.

## CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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