The role of occupational stress in the association between emotional labor and burnout in nurses: A cross-sectional study

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Full Title: **The role of occupational stress in the association between emotional labor and burnout in nurses: A cross-sectional study**

Running title: Occupational Stress as Mediator between Emotional Labor and Burnout

Abstract

Aim: To test a model to evaluate the influence of emotional labor on burnout and the mediating role of work-related stress reported by nurses.

Background: Nurses are particularly exposed to work-related stress caused by their relationships with their patients. Even if the emotional involvement can cause work-related stress for professionals, nurses recognized this as a fundamental part of the caring relationship and has been proved to be therapeutic for patients. The effects of emotional labor contribute to generate stress and, a prolonged exposure, to the development of burnout syndrome, with repercussions on nurses' health, quality of life and patients' quality of care.

Methods: A multicentre correlational study was conducted on a sample of 207 nurses from different clinical areas in three hospitals in Italy. A self-report questionnaire was used to measure levels of emotional labor, burnout and work-related stress.

Results: High levels of emotional labor and work-related stress increase burnout syndrome in nurses. Work-related stress mediates the relationship between emotional labor and burnout. The Oncology ward is identified as the major clinical area exposing nurses to emotional labor.

Conclusions: The results of this study highlight the mediating role of work-related stress in the relationship between emotional labor and burnout, offering a new field of intervention to interrupt this process.

INTRODUCTION

One of the problems affecting workers is a stressful work environment (Khamisa, Oldenburg, Peltzer, & Ilic, 2015). In healthcare organizations, a stressful work environment can have repercussions on workers' health (Shamian, Kerr, Laschinger, & Thomson, 2016) and on the quality of care offered to patients (Cortese, Gerbaudo, Manconi, & Violante, 2013; Kieft, de Brouwer, Francke, & Delnoij, 2014; World Health Organization, 1995). Managers and occupational health physicians need to understand, measure and manage work-related stress to guarantee high levels of occupational well-being and health for workers (Zaghini et al., 2017), better organizational performance (Kuoppala, Lamminpää, Liira, & Vainio, 2008), but above all, patients' safety and quality of care (Baiocco, 2004).

The emotional involvement of healthcare professionals with patients exposes them to work-related stress. In fact, the organizational and emotional demands of work can cause work-related stress (Mughal, Ahmad, Gondal, Awan, & Chaudhry, 2010), which is defined as *"psychological strain leading to leading to job-related hardness, tension, anxiety, frustration and worry arising from work"* (Lambert, Minor, Wells, & Hogan, 2016; Misis, Kim, Cheeseman, Hogan, & Lambert, 2013). This emotional involvement is a fundamental part of the caring relationship, which has been proved to be highly therapeutic for patients (Bolton, 2000; Fry et al., 2013). In fact, health professionals must have not only technical skills, but also communicative and relational skills, which demand a strong emotional involvement on workers (Baiocco, 2004) and lead to increased levels of work-related stress (Lambert et al., 2016). UK statistics show that nurses are at greater risk of work-related stress than other professional groups (Health and Safety Executive), and emotional demands might play a key role in developing this condition (Bakker & Sanz-Vergel, 2013; McVicar, 2003). For this reason, nurses are considered a "risk category", because their stress, if it is not properly managed, can have negative implications for the well-being of health professionals, for the standards of health care services and for the quality of care (Caruso, Bigazzi, Tramontana, & Bonaventura, 2012; Gabassi, Cervai, Rozbowsky, Semeraro, & Gregori, 2002; Poghosyan, Clarke, Finlayson, & Aiken, 2010).

To reduce stress, managers could limit nurses' Emotional Labor (EL). EL refers to the management of emotions and emotional displays in interpersonal relationships occurring in the workplace (Badolamenti, Biagioli, Zaghini, Caruso, & Sili, 2018). EL may become the main source of strain and cause a reduction in nurses' health status (Maslach & Leiter, 2016), but it cannot be avoided. The short-term effects of emotional strain, in line with several studies (Teo, Pick, Newton, Yeung,

& Chang, 2013), can cause "stress" (Lazarus, 2006) and lead over time to burnout syndrome (Borgogni & Consiglio, 2005; Demerouti, Bakker, Nachreiner, & Ebbinghaus, 2002). Burnout refers to the emotional depletion and loss of motivation that result from prolonged exposure to chronic emotional and interpersonal stressors on the job (Leiter, Maslach, & Frame, 2015). Burnout can have repercussions on nurses' health (Wu et al., 2012) and Quality of Life (Wu et al., 2010), but above all it affects patients' safety and quality of care (Farnese et al., 2019).

Emotional labor, work-related stress and burnout are related constructs that influence each other (Choi, Mohammad, & Kim, 2019), in the health professions (Badolamenti et al., 2018) as well as others. Despite the extensive literature on these factors, there are no studies that have investigated how these three constructs are linked to each other in a single comprehensive model. It would be useful to investigate if there is a direct or indirect effect of mediation by work-related stress on the relationship between emotional labor and burnout in nurses (Yom, Son, Lee, & Kim, 2017). In fact, given that EL is a proper and unavoidable strain for nurses, if higher levels of EL are associated with higher stress, stress could be a possible target for interventions aimed at improving nurses' working well-being.

Therefore, the main aim of this study is to test a model (Figure 1) to evaluate the influence of emotional labor on burnout and the mediating role of work-related stress.
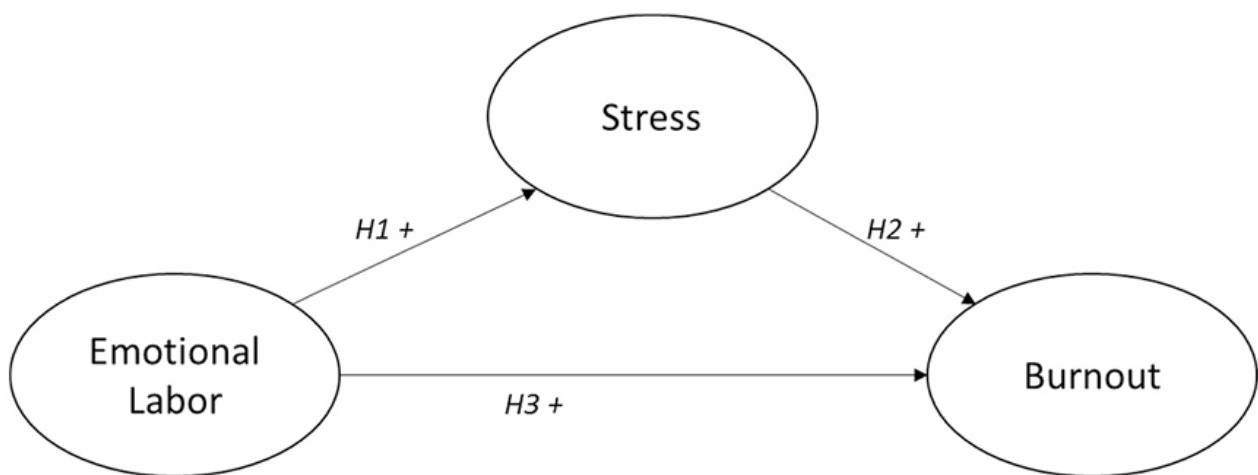

Figure 1. Variable Model to evaluate in the study.

In particular, the following hypotheses were posited:

H1) There is a positive relationship between nurses' emotional labor and work-related stress;

H2) As nurses' work-related stress increases, their burnout levels increase;

H3) As nurses' emotional labor increases, their burnout levels increase;

H4) Work-related stress mediates the relationship between emotional labor and burnout in nurses.

Method

Design and ethical considerations

A descriptive, cross-sectional, multicentre correlational study was conducted on a sample of nurses in three major hospitals and universities in Italy. The ethics committee of the hospital where the study was conducted approved the study, which followed the principles of the Declaration of Helsinki developed in Brazil by the World Medical Association (2013). Nurses' participation was voluntary. Consent to participate was assumed by the return of the questionnaires.

Sampling

A sample of nurses working in several wards (Onco-Haematology, General Surgery and General Medicine) and outpatient units (Onco-Haematology), necessary to verify the hypothesized relationships were enrolled in the study (Pruzek & Boomsma, 1984). Potential participants were nurses dedicated to the direct care of patients; coordinating nurses; nurses regardless of employment contract. Executives nurses were excluded from the study. Each nurse was asked to complete anonymously a questionnaire, and each participant was assured of the confidentiality of the data collected. At the time of the study, the questionnaire was distributed, and participants were told how to fill it in; they had on average one week for completing and returning it. Special collection boxes were made available in each workplace for the return of the completed questionnaire.

Instruments

For the data collection a self-report questionnaire was used, consisting of scales already validated in Italian.

For the measurement of burnout two dimensions were used, Emotional Exhaustion (5 items; Cronbach alpha $\alpha = 0.90$) and Cynicism (5 items; Cronbach alpha $\alpha = 0.90$) of the Maslach Burnout Inventory - General Survey (MBI GS) (Maslach, Jackson, & Leiter, 1996; Schaufeli & Leiter, 1996), and 5 items of the Interpersonal Strain at Work scale (ISW; $\alpha = 0.89$) (Borgogni, Consiglio, Alessandri, & Schaufeli, 2011; Consiglio, 2014). The scale asks the participants, using a 7-step

Likert scale (from 0 = "Never" to 6 = "Every day"), how often they experience the different experiences quoted in the items (e.g. "I feel emotionally worn out by my job", "I just want to do my job without being bothered", "Ultimately in my work I care little about what happens to others").

The Emotional Labor Scale (Badolamenti et al., 2018), is composed of three dimensions, surface acting (4 items; α = 0.82), restraint (4 items; α = 0.74) and compliance (3 items; α = 0.70) and was used for the emotional labor measurement. Participants are asked through a Likert five-step response scale (from 1 "Never" to 5 "Always") how often they experience the situations reported in the items (e.g. "I refrain from expressing my real feelings", "I strive to actually experience the emotions that need to be manifested to others", "I concentrate on really feeling the emotions that are expected to show").

For the measurement of work-related stress, 7 dimensions of the Health and Safety Executive scale (HSE) were used (Marcatto, D'Errico, Di Blas, & Ferrante, 2011), evaluated on a 5-point Likert-type response scale with (from 1 "Never" to 5 "Always). We used 9 items of the "Demand" dimension (α = 0.85; e.g. "I have to work very hard"), 6 items of the "Control" dimension (α = 0.80; "I can decide when to take a break"), 4 items of the "Support from Colleagues" dimension (α = 0.81; e.g. "Colleagues are available to listen to my work problems"), 4 items of the "Support from Superiors" dimension (α = 0.92; e.g. "My boss encourages me in my work"), 4 items of the "Relations" dimension (α = 0.81; "Work relations are tense and difficult"), 5 items of the "role" dimension (α = 0.82; "I know how my job should be done") and 3 items of the "Change" dimension (α = 0.62; "Staff are always consulted on job-related changes").

Finally, socio-demographic information was collected through a series of ad hoc questions, to identify specific characteristics of the participants in the study (age, sex, marital status, professional qualification, clinical area of work, years working in current organization, hours worked per day, hours of overtime worked per week, time off from work).

Statistical analysis

The socio-demographic and working characteristics of the participants were analysed with descriptive statistics. The reliability of each dimension of each single scale used was verified with the Cronbach coefficient. The Pearson coefficient (r) was used for the correlations between the study variables. To test the hypotheses of the study, a structural equation model (SEM) was developed with indicators of the dimensions of each construct. A robust estimator (Maximum Likelihood with robust standard errors, MLr) was used to correct the distortions produced by the

partial non-normality of the distribution. The suitability of the model was evaluated considering the following fit indices as good: Chi square (X^2) (not significant), RMSEA (<.06), CFI (>.90), TLI (>.90) and SRMR (<.08) (Hu & Bentler, 1999; Muthén & Muthén, 2012). The mediating role of work-related stress between EL and burnout was examined by assessing the total effect, the direct effect and the indirect effect through work-related stress. One-way analysis (ANOVA) with Tukey's post-hoc was used to check for any differences between the construct averages with respect to the clinical setting. The structural equation model was implemented with MPlus® Ver 7.1 while descriptive analyses, correlations and ANOVA were performed using the SPSS Ver 22® statistical package.

Results

Sample characteristics

With a response rate of 82.8%, the sample consisted of 207 nurses who provided direct assistance with shifts in 24 hours. The participants were mainly female (70%; N = 145) with an average age of 42.6 years (SD = 9.50). Most of the participants (N = 111; 53.6%) had a degree in Nursing and were married (N = 102; 49.3%). 45.9% of the participants were employed in the medical area (N = 95), 33.8% were employed in the surgical area (N = 70), 20.3% worked in onco-haematological hospitalized units and in oncology outpatients (N = 42). On average the participating nurses worked 7.54 hours a day (SD = 0.60) and performed almost 2 hours (2.15) of overtime per week (SD = 3.40). They had worked in their current organizational context on average for 11.31 years (SD = 9.62; range = 0- 42).

Table 1. Socio-demographic and working characteristics of sample

	N	*%*	*M*	*SD*
Age			44.31	7.94
Gender				
Male	26	23.2		
Female	86	76.8		
Civil state				
Single	42	41.1		
Separated/divorced	12	10.7		
Married	54	48.2		
Professional Qualification				
Regional Diploma	23	20.5		
University Diploma	32	28.6		
Degree	57	50.9		
Clinical area of work	36	32.1		
Medical	34	30.4		
Surgical	42	37.5		

Oncological

	M	SD
Years working in current organization	10.94	8.16
Hours worked per day	7.54	.60
Hours of overtime worked per week	2.49	4.23
Time off from work		
Personal sickness	1.45	2.74
Children's sickness	.72	2.10
Holidays	5.48	7.39
Professional development	1.51	2.09

Notes: M = mean, SD= standard deviation

Scores and correlations between the variables in the study

In general, considering the average scores, nurses in our sample reported average levels of emotional labor (M = 2.64), high levels of stress (M = 2.71) and average levels of burnout (M = 2.04). The correlations between the variables under study are reported in Table 2. Overall, the variables studied were well correlated. For emotional labor, a positive correlation with stress (r = .37; p < .001) was verified, with burnout (r = .46; p <.001), with the years worked in the current organization (r = .16; p < .01). This indicates that the higher the levels of emotional labor the higher the levels of stress and burnout, and that nurses who had been working for several years in the current organization reported greater emotional commitment. Regarding stress, significant correlations were verified with burnout (r = .63; p < .001), indicating that the higher the stress levels, the higher the burnout levels.

Table 2 also shows the reliability of each scale, calculated through Cronbach's Alpha, which was adequate.

Table 2: Correlation between variables

	Mean (DS)	α	Gender	Age	Years current organization	Years of Employment	EL	Stress
Emotional_Labor	2.69 (.71)	.88	-.16	**.23**[*]	**.35**[**]	**.19**[*]		
Stress	2.73 (.38)	.84	-.10	.06	.16	.13	**.37**[**]	
Burnout	2.13 (1.13)	.95	-.12	.12	.18	.17	**.47**[**]	**.58**[**]

*Key: ** p < 0.001; * p = 0.01; α = Cronbach's Alpha. EL = Emotional Labor*

Structural Equation Model

The structural equation model verified the hypothesized relationships, with the following fit indices: χ^2 (N = 207, GdL = 62) = 289.591 p <0.001; RMSEA = .133 (90% I.C. = .118 -.149) p (RMSEA <0.05) < .001; CFI = .782; TLI = .726; and SRMR = 0.082. As shown in Fig. 2, in line with the hypothesis (H1), the EL explains the nurses' work-related stress (β = .53; p < .001) which in turn explains (H2) the burnout (β = .61; p < .001). Furthermore, EL was associated with higher burnout levels, as hypothesized (H3). Moreover, work-related stress (H4) partially mediated (Total Effect β = .58 p = <.001; Indirect effect β = .32; p < .001; Direct effect β = .27; p = .002) the relationship between EL and burnout (β = .61; p < .001). This indicates that nurses with a higher EL level are more at risk of developing burnout because of higher levels of work-related stress.
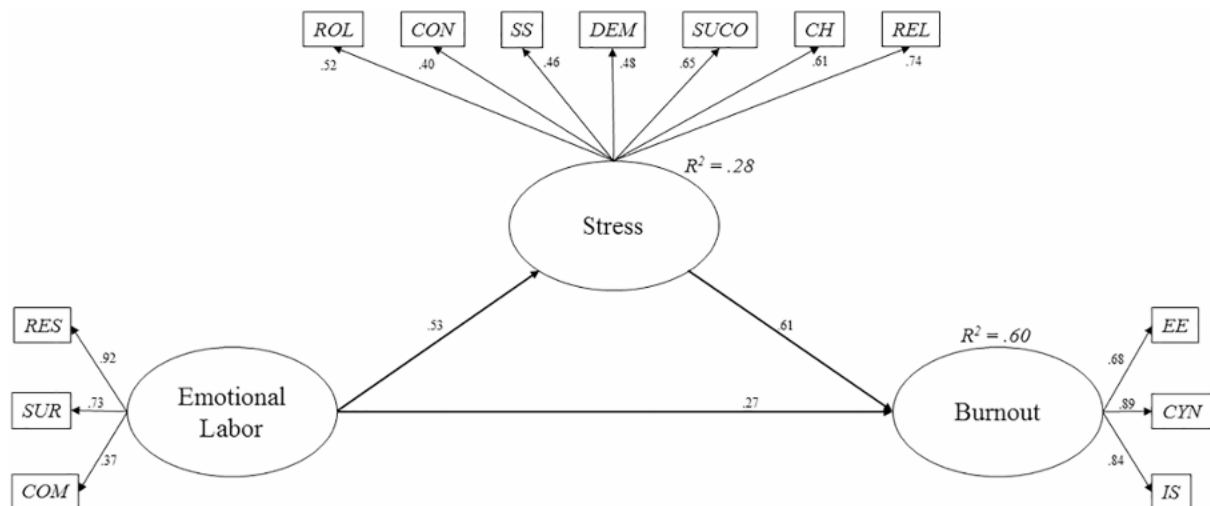

Figure 2. Results of Structural Equation Model

ANOVA for clinical setting

From data analysis, we have been able to verify that the stress levels were different in relation to the clinical working area. Overall, nurses in the medical area reported less stress (M = 2.61; SD = .48), a difference that becomes significant (p = .025) if compared with what was reported by nurses working in the Oncological area (M = 2.84; SD = .30).

For burnout, although overall nurses in all clinical areas reported average levels of burnout a significant difference emerged between the nurses working in the oncology area and those in the medical and surgical areas. Furthermore, as shown in Table 3, oncology nurses (M = 2.80; SD = .98) reported on average that they were emotionally more affected (p < .001) than nurses in the medical area (M = 1.78; SD = 1.06) and surgical area (M = 1.91; SD = .96).

8

Discussion

This study was conducted in order to understand, through a mediation model, the role of work-related stress in the relationship between emotional labor and burnout. From data analysis, we were able to verify that high levels of emotional labor and work-related stress increase burnout syndrome in nurses and work-related stress mediated the relationship between emotional labor and burnout. This finding is consistent with other studies (Badolamenti et al., 2018; Yom et al., 2017; Zaghini et al., 2017). In fact, the nursing profession, like all the other "helping professions", is strongly affected by work-related stress (Neill, 2011) and workers have extreme probability of experiencing burnout syndrome (Balducci, Avanzi, & Fraccaroli, 2014). In particular, many studies have shown that emotional demands (Lazarus, 2006), relational demands, (Rodrigues & Chaves, 2008) and high workloads (Deklava, Circenis, & Millere, 2014) are important determinant of work-related stress (Bakker & Demerouti, 2007). With regards to years of employment in current organization, we have been able to verify that nurses who working than more time referred more EL. Unsurprisingly, these results are in line with literature, according to which working activity carried out from more time stressed healthcare professionals and contributed directly to burnout syndrome (Khamisa, Peltzer, Ilic, & Oldenburg, 2016)

Furthermore, we verified the hypotheses formulated about the relationships between the investigated variables. In fact, EL explained the variability of work-related stress (H1) and burnout in nurses (H3), a result that corresponds with the literature. In fact, nurses, belonging to one of the helping professions, are subjected daily to significant emotional demands from patients and their families, who, finding themselves in a difficult and painful situation, rely on healthcare professionals for comfort and support (Ericksons, 2015). All this requires nurses, often, to suppress their emotions and respond primarily to the patients' needs. This can cause nurses to incur chronic distress which, over time, results in burnout syndrome (Kim & Han, 2017). Furthermore, according

9

to the results of our study, the relationship between EL and burnout is partially mediated by work-related stress (H4). This result, which proves to be the real added value of our study, means that nurses not only suffer from burnout because they report high levels of EL during their professional work, but also because this contributes directly to their stress. This result is an innovative element and one which is verified for the first time in a comprehensive model. This offers an important element of reflection and potential intervention to all those who, in various capacities, deal with the welfare and health of workers. In fact, while it is complicate, it is not possible to act on EL, which is an intrinsic and inalienable part in daily nursing activities, it is possible and necessary to act to reduce work-related stress, in order to avoid EL becoming burnout.

Finally, from the analyses conducted on the clinical working areas of our sample, we found that nurses working in oncology area reported, on average, greater stress and burnout than those who were working in the other areas. This finding is consistent with other studies (Maslach & Leiter, 2016). We expected that nurses reporting more stress and burnout worked in the same area. In fact, the effects of stress developed as reactions to specific work requirements perceived as threatening, exceed the healthcare providers' resources, contributing directly to stress (Lazarus, 2006; Teo, Pick, Newton, Yeung, & Chang, 2013). In fact, repeated and prolonged exposure to stress leads to the development of burnout syndrome (Demerouti, Bakker, Nachreiner, & Ebbinghaus, 2002), therefore burnout, constitutes the final phase of a reaction process of stress (Borgogni & Consiglio, 2005; Demerouti et al., 2002). Moreover, is not a surprise that oncology nurses reported higher levels of burnout and stress than those working in the medical area (Gómez-Urquiza et al., 2016). In fact, nurses in the oncology area are more in contact with suffering and death than colleagues in other areas. In addition, they must deal with untreatable diseases, which can make them feel a sense of powerlessness and poor self-efficacy (Wahlberg, Nirenberg, & Capezuti, 2016).

Limitations

Despite their importance and significance, the results of our study must be considered in the light of certain limitations. First, the sample size limits the reliability of our findings and reduces external validity, thereby its implications cannot be extended to the entire nursing population. Second, although the associations between variables in the model were all significant, the relatively low fit indices of our model reflect a low fit of our data to the model and constitute a weakness of our study. Third, studying the relationship between emotional labor, work related stress and burnout, we cannot rule out overlap between the variables, specially between stress and burnout, so further researches which address the problem of common method variance are encouraged. Moreover, the

questionnaire administered to the participants did not include scales for the measurement of constructs opposite to those investigated, such as job satisfaction, positive emotions, and quality of life, therefore further studies should expand the questionnaire to verify and validate our findings. Finally, the cross-sectional design of the study does not allow to verify the causal relationships between the variables considered, so further researches with a longitudinal design would better verify these associations.

CONCLUSIONS

Reasons for nurses to develop burnout syndrome include emotional labor, which is an important part of their profession, but which leads them to develop work-related stress. Burnout can have a strong impact on healthcare professionals, on their patients and on the quality of care (Caruso, Tramontana, & Bigazzi, 2011). It is not possible to eliminate emotional labor as a way of reducing stress and consequently burnout syndrome in nurses. However, the results of our study offer new points of view to the scientific community and suggest new approaches to intervention to interrupt the process that, starting from emotional labor, leads nurses to develop burnout syndrome, through the mediation of stress. It is possible to intervene in nurses' work-related stress through management, counselling, sharing, training and information programs for professionals, programs that reduce nurses' stress levels and consequently reduce the risk of burnout syndrome. For all those involved in managing the organizational processes of healthcare organizations, managers and occupational health physicians, the results of our study are very important. In fact, they enable those involved to understand more deeply the new relationships between the variables investigated, they offer new opportunities for intervention in nurses' emotional health and consequently on their performance, which would translate into greater quality of care and safety for patients.

References

Badolamenti, S., Biagioli, V., Zaghini, F., Caruso, R., & Sili, A. (2018). Development and validation of Emotional Labour in Nursing Scale in Italy. *La Medicina Del Lavoro*, *109*(6), 444–458.

Baiocco, R. (2004). *Il rischio psicosociale nelle professioni di aiuto. La sindrome del burnout negli operatori sociali, medici, infermieri, psicologi e religiosi* (Erickson).

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309–328.

Bakker, A. B., & Sanz-Vergel, A. I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands. *Journal of Vocational Behavior*, *83*(3), 397–409.

Balducci, C., Avanzi, L., & Fraccaroli, F. (2014). Emotional demands as a risk factor for mental distress among nurses. *La Medicina Del Lavoro*, *105*(2), 100–108.

Bolton, S. C. (2000). Who cares? Offering emotion work as a "gift" in the nursing labour process. *Journal of Advanced Nursing*, *32*(3), 580–586. h

Borgogni, L., & Consiglio, C. (2005). Job burnout: evoluzione di un costrutto. *Giornale Italiano Di Psicologia*, *32*(1), 23–60.

Borgogni, L., Consiglio, C., Alessandri, G., & Schaufeli, W. B. (2011). "Don't throw the baby out with the bathwater!" Interpersonal strain at work and burnout. *European Journal of Work and Organizational Psychology*, (November 2012), 1–24.

Caruso, A., Bigazzi, V., Tramontana, A., & Bonaventura, S. (2012). Burnout and Psychological Training for Clinical Staff in Oncology. *Neuropathological Diseases*, *1*(2), 131–144.

Caruso, A., Tramontana, A., & Bigazzi, V. (2011). Burnout e formazione psicologica degli operatori sanitari in oncologia. *Noos*, *3*, 247–259.

Choi, H.-M., Mohammad, A. A., & Kim, W. G. (2019). Understanding hotel frontline employees' emotional intelligence, emotional labor, job stress, coping strategies and burnout. *International Journal of Hospitality Management*, *82*, 199–208.

Consiglio, C. (2014). Interpersonal strain at work: A new burnout facet relevant for the health of hospital staff. *Burnout Research*, *1*(2), 69–75.

Cortese, C. G., Gerbaudo, L., Manconi, M. P., & Violante, B. (2013). L'identificazione dei fattori di rischio stress lavoro-correlato in un'Azienda Sanitaria Ospedaliera: Un approccio quali-quantitativo. *Medicina Del Lavoro*, *104*(2), 141–157.

Deklava, L., Circenis, K., & Millere, I. (2014). Stress Coping Mechanisms and Professional Burnout among Latvian Nurses. *Procedia - Social and Behavioral Sciences*, *159*, 261–267.

Demerouti, E., Bakker, A., Nachreiner, F., & Ebbinghaus, M. (2002). From mental strain to burnout. *European Journal of Work and Organizational Psychology*, *11*(4), 423–441.

Ericksons, M. E. (2015). *The Client-Nurse Relationship: A Helping Relationship.* (Communication in Nursing-E-Book, ed.).

Farnese, M. L., Zaghini, F., Caruso, R., Fida, R., Romagnoli, M., & Sili, A. (2019). Managing care errors in the wards: The contribution of authentic leadership and error management culture. *Leadership and Organization Development Journal*, *40*(1), 17–30.

Fry, M., MacGregor, C., Ruperto, K., Jarrett, K., Wheeler, J., Fong, J., & Fetchet, W. (2013). Nursing praxis, compassionate caring and interpersonal relations: An observational study. *Australasian Emergency Nursing Journal*, *16*(2), 37–44.

Gabassi, P. G., Cervai, S., Rozbowsky, P., Semeraro, A., & Gregori, D. (2002). Burnout syndrome in the helping professions. *Psychological Reports*, *90*(1), 309–314.

Gómez-Urquiza, J. L., Aneas-López, A. B., De La Fuente-Solana, E. I., Albendín-García, L., Díaz-Rodríguez, L., & Cañadas-De La Fuente, G. A. (2016). Prevalence, risk factors, and levels of burnout among oncology nurses: A systematic review. *Oncology Nursing Forum*, *43*(3), E104–E120.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55.

Khamisa, N., Oldenburg, B., Peltzer, K., & Ilic, D. (2015). Work Related Stress, Burnout, Job Satisfaction and General Health of Nurses. *International Journal of Environmental Research and Public Health*, *12*(1), 652–666.

Khamisa, N., Peltzer, K., Ilic, D., & Oldenburg, B. (2016). Work related stress, burnout, job satisfaction and general health of nurses: A follow-up study. *International Journal of Nursing Practice*, *22*(6), 538–545.

Kieft, R. A., de Brouwer, B. B. J. M., Francke, A. L., & Delnoij, D. M. J. (2014). How nurses and their work environment affect patient experiences of the quality of care: a qualitative study. *BMC Health Services Research*, *14*(1), 249.

Kim, S.-E., & Han, J.-Y. (2017). Clinical Nurses' Job Stress, Emotional labor, Nursing Performance, and Burnout in Comprehensive Nursing Care Service Wards and General Wards. *Journal of Korean Academy of Nursing Administration*, *23*(3), 336.

Kuoppala, J., Lamminpää, A., Liira, J., & Vainio, H. (2008). Leadership, Job Well-Being, and Health Effects—A Systematic Review and a Meta-Analysis. *Journal of Occupational and Environmental Medicine*, *50*(8), 904–915.

Lambert, E. G., Minor, K. I., Wells, J. B., & Hogan, N. L. (2016). Social support's relationship to correctional staff job stress, job involvement, job satisfaction, and organizational commitment. *The Social Science Journal*, *53*, 22–32.

Lazarus, R. (2006). *Stress and Emotion: A New Synthesis* (Springer Publishing Company., ed.).

Leiter, M. P., Maslach, C., & Frame, K. (2015). Burnout Definition and Conceptualization: What Is Job Burnout? In Robin L. Cautin and Scott O. Lilienfeld (Ed.), *The Encyclopedia ofClinical Psychology.* (First Edit, pp. 1–7).

Marcatto, F., D'Errico, G., Di Blas, L., & Ferrante, D. (2011). La valutazione dello stress lavoro correlato: Adattamento italiano dell'HSE Management Standards Work-Related Stress Indicator Tool. *Giornale Italiano Di Medicina Del Lavoro Ed Ergonomia*, *33*(4), 403–408.

Maslach, C., Jackson, S., & Leiter, M. P. (1996). The Maslach Burnout Inventory Manual. *Evaluating Stress: A Book of Resources*, (3), 191–218.

Maslach, C., & Leiter, M. P. (2016). Burnout. *Stress: Concepts, Cognition, Emotion, and Behavior*, 351–357.

McVicar, A. (2003). Workplace stress in nursing: a literature review. *Journal of Advanced Nursing*, *44*(6), 633–642.

Misis, M., Kim, B., Cheeseman, K., Hogan, N. L., & Lambert, E. G. (2013). The impact of correctional officer perceptions of inmates on job stress. *SAGE Open*, *3*(2), 1–13.

Mughal, F., Ahmad, M., Gondal, A. M., Awan, T. M., & Chaudhry, I. G. (2010). Repercussions of stressors on employee work-life balance: Analysing the banking industry of Pakistan. *Journal for Global Business Advancement*, *3*(4), 325–347.

Muthén, L., & Muthén, B. (2012). Mplus user's guide (version 7.0). In Muthén & Muthén 1998-2012 (Ed.), *Mplus user's guide (seventh edition)*.

Neill, D. (2011). Nursing workload and the changing healthcare environment: a review of the literature. *Administrative Issue Journal*, *2*(1), 132–143.

Poghosyan, L., Clarke, S. P., Finlayson, M., & Aiken, L. H. (2010). Nurse burnout and quality of care: cross-National investigation in Six Countris. *Res Nurs Health*, *33*(4), 288–298.

Pruzek, R. M., & Boomsma, A. (1984). On the Robustness of LISREL (Maximum Likelihood Estimation) Against Small Sample Size and Non-normality. *Journal of the American Statistical Association*, *79*(386), 480.

Rodrigues, A. B., & Chaves, E. C. (2008). Stressing factors and coping strategies used by oncology nurses. *Revista Latino-Americana de Enfermagem*, *16*(1), 24–28.

Schaufeli, W., & Leiter, M. (1996). Maslach Burnout Inventory-General Survey (MBIGS). In

Maslach Burnout Inventory Manual.

Shamian, J., Kerr, M. S., Laschinger, H. K., & Thomson, D. (2016). A hospital-level analysis of the work environment and workforce health indicators for registered nurses in Ontario's acute-care hospitals. *The Canadian Journal of Nursing Research = Revue Canadienne de Recherche En Sciences Infirmières*, *33*(4), 35–50.

Teo, S. T. T., Pick, D., Newton, C. J., Yeung, M. E., & Chang, E. (2013). Organisational change stressors and nursing job satisfaction: The mediating effect of coping strategies. *Journal of Nursing Management*, *21*(6), 878–887.

Wahlberg, L., Nirenberg, A., & Capezuti, E. (2016). Distress and coping self-efficacy in inpatient oncology nurses. *Oncology Nursing Forum*, *43*(6), 738–746.

World Health Organization. (1995). *Global strategy on occupational health for all: the way to health at work, recommendation of the Second Meeting of the WHO Collaborating Centres in Occupational Health*. Beijing, China.

Wu, S., Li, H.-Y., Tian, J., Zhu, W., Li, J., & Eang, X.-R. (2010). Health-related quality of life and its main related factors among nurses in China. *Industrial Health*.

Wu, S., Li, H., Zhu, W., Lin, S., Chai, W., & Wang, X. (2012). Effect of Work Stressors, Personal Strain, and Coping Resources on Burnout in Chinese Medical Professionals: A Structural Equation Model. *Industrial Health*, *50*(4), 279–287.

Yom, Y., Son, H., Lee, H., & Kim, M. (2017). The Relationship between Physical Discomfort, Burnout, Depression, Social Supports and Emotional Labor of Clinical Nurses in Korea. *J Korean Clin Nurs Res.*, *23*(2), 222–235.

Zaghini, F., Biagioli, V., Caruso, R., Badolamenti, S., Fida, R., & Sili, A. (2017). Violare le norme organizzative e sociali nei luoghi di lavoro: studio correlazionale nel contesto infermieristico. *Medicina Del Lavoro*, *108*(2), 98–110.