



Research Article

Interpersonal strain at work: A new burnout facet relevant for the health of hospital staff



Chiara Consiglio*

Sapienza, University of Rome, Italy

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ABSTRACT

Interpersonal strain was recently proposed as a new dimension related to burnout corresponding to the disengagement reaction in work relationships (Borgogni, Consiglio, Alessandri, & Schaufeli, 2012). The study, framed within the Conservation of Resources Model, investigates the potential mediating role of interpersonal strain (along with exhaustion and cynicism) between emotional dissonance and health symptoms among hospital staff. Structural equation modeling on 347 hospital professionals (56% nurses, 16% physicians and 28% other staff) revealed that interpersonal strain is strongly associated with emotional dissonance and health symptoms and that emotional dissonance is indirectly associated with health symptoms through interpersonal strain and exhaustion, but not through cynicism.

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1. Introduction

Work-related stress and well being of health care professionals are relevant concerns for occupational psychologists, considering that in Europe this sector employs about 10% of the entire workforce (EU-OSHA¹). Within this context, burnout still represents a relevant occupational hazard capable of leading hospital staff to ill health (Shirom & Melamed, 2005). Burnout was originally conceptualized as a specific stress syndrome among health care professionals resulting from emotionally charged interactions with patients (Maslach, 1982). Hence, burnout mainly represented a crisis in the caregiver–recipient relationship, since “. . . working with other people (. . .) was at the heart of the burnout phenomenon” (Maslach, 1993, p. 23). Later on, when burnout become generalized to all kinds of occupations, it was redefined as being a general crisis in the relationship with one’s own work, and depersonalization, which was its prototypical interpersonal component (Salanova et al., 2005), was replaced by a more general and nonsocial dimension, namely cynicism. At the same time, in this new conceptualization, burnout could be generated by a number of social and non social work stressors (Maslach, Schaufeli, & Leiter, 2001). Consequently, even in the health care setting burnout

research gradually changed its focus and primarily emphasized the role played by job-related stressors (such as workload, time pressure, role conflict or lack of autonomy and feedback) as compared to the traditional patient-related stressors (Schaufeli & Enzmann, 1998). Hence, the unique social feature of burnout, both referred to its definition and its antecedents vanished over time.

The concept and measure of interpersonal strain at work (ISW) (Borgogni, Consiglio, Alessandri, & Schaufeli, 2012) was recently introduced in order to recapture the original interpersonal nature of the burnout syndrome. Interpersonal strain corresponds to the feeling of discomfort and disengagement in the relationships with people at work resulting from exceeding social and emotional pressures, not restricted to the recipient/caregiver relationship. Differently from the depersonalization, interpersonal strain represents the social strain reaction associated to all different work relationships, which are potentially able to generate a disengagement reaction at work (Schaufeli, 2006), such as colleagues, supervisor or clients. Moreover interpersonal strain includes the negative, distant, and callous attitude toward other people, but not its most extreme aspect, namely the dehumanized attitude, that was often criticized because of the negative reactions they generated among the respondents (Kristensen, Borritz, Villadsen, & Christensen, 2005). Previous studies in different organizational contexts demonstrated that interpersonal strain is a separate but interrelated factor associated with MBI exhaustion and cynicism and the good psychometric properties of its measure, the Interpersonal Strain at Work (ISW) scale (Borgogni et al., 2012). Furthermore, ISW (together with burnout dimensions) has been associated with job demands, job resources and absences behaviors

* Correspondence to: Department of Psychology, Sapienza, University of Rome, Via dei Marsi 78, 00185 Rome, Italy. Tel.: +39 06 49917723.

E-mail address: chiara.consiglio@uniroma1.it

¹ Source: European Agency for Safety and Health at Work, <http://osha.europa.eu/en/sector/healthcare>.

among call center operators (Consiglio, Borgogni, Alessandri, & Schaufeli, 2013). However, as yet very little is known on the relationship of ISW with stressors and outcomes in the health care setting.

Among possible stressors, hospital staff is particularly exposed to interpersonal and emotional demands, that often imply the exposure to suffering, grief and death (Cox & Griffiths, 1996). These social interactions with patients, families but also colleagues require to hospital workers to exert, not only mental and physical effort, but also emotional effort. In fact, hospital work needs to subtly regulate the emotions elicited, to manage conflicting feelings and to conform to specific rules of emotional display (Hochschild, 1983). Among emotional stressors, emotional dissonance, corresponding to the experienced contrast between the authentic emotion felt and the emotion displayed in accordance with the job requirements, is considered the most stressful aspect for service professionals (Zapf, 2002).

The present study applies the Conservation of Resources Model, COR Model (Hobfoll, 1989) to examine the relationship between emotional dissonance, burnout, interpersonal strain and health symptoms among hospital staff. The COR model assumes that “people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources” (Hobfoll, 1989, p. 516). Typically loss or threat of loss occurs when facing work demands (*i.e.* emotional dissonance) which in the long run lead to psychological strain (Hobfoll, 1989). Moreover, in order to reduce their level of stress by minimizing losses and protecting valuable resources, employees may develop a detached attitude toward other people (interpersonal strain). Therefore, the first aim of the present study is to explore the relationship between emotional dissonance and interpersonal strain, along with the two core MBI dimensions (exhaustion and cynicism). The second aim, in line with the mediation model of burnout (Leiter & Maslach, 2005), in which burnout is assumed to mediate the impact of job demands on outcomes, is to examine the role of interpersonal strain, exhaustion and cynicism, in mediating the relationship between emotional dissonance and health symptoms.

1.1. Emotional dissonance and burnout in the hospital settings

The management of emotions can be considered a crucial component of health care work. Health care professionals are expected to control their emotions and to adequately express them during the interactions with patients, families and colleagues. Research attested that in human service occupations emotional demands are at least as important as task related demands (de Jonge, Mulder, & Nijhuis, 1999; van Vegchel, de Jonge, Soderfeldt, Dormann, & Schaufeli, 2004).

Emotional dissonance refers to the discrepancy between the emotion felt and the emotion displayed, consistent with what is required and appropriate in the work context (Hochschild, 1983; Zapf, 2002). Hospital staff interacting with patients is often expected to display a prescribed positive emotion (for instance, by switching sadness or irritation into an empathizing and compassionate attitude), or to suppress positive or negative emotions (for instance, by being neutral when announcing negative news to patients and family) (Bakker & Heuven, 2006). In service professions, emotional dissonance has been considered an indicator to cover unpleasant and stressful interactions (Zapf & Holz, 2006), in which the person cannot directly express the negative emotion felt (such as anger, suspicion, or guilt). Whereas, some authors have claimed that emotional dissonance is part of the individual emotion management strategy (Brotheridge & Grandey, 2002), it has been commonly studied as an emotional demand (Bakker & Heuven, 2006). In fact, the employee actively tries to change (faking, switching or suppressing) his/her authentic emotions in order

to conform to the feelings he/she is expected to express, following organizational display rules. The regulation of emotions requires psychological effort and self-control strength, which is a limited resource. Therefore, emotional dissonance is able to threaten and actually produce an energy/resource loss (Hobfoll, 1989) representing a relevant source of psychological strain among service professionals (Brotheridge & Grandey, 2002; Bono & Vey, 2005; Dormann & Zapf, 2004). Research has also directly associated the suppression of emotions with a variety of health consequences, such as psychosomatic complaints and cardiovascular system activation (Gross, 1998).

Previous studies have attested a link between emotional dissonance and burnout across a number of service professions (Bakker & Heuven, 2006; Dormann & Zapf, 2004; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). In the present study, corroborating previous research findings we assume that the activation of an extra effort to face emotional dissonance, will lead hospital staff to experience burnout (namely exhaustion and cynicism). Moreover, in line with the COR theory (Hobfoll, 1989), we posit that the effort of changing or suppressing the authentic emotion felt during work interactions may also foster hospital staff to preserve their emotional resources by developing a disengagement reaction toward other people at work (namely interpersonal strain). Hence, we will test the following hypothesis:

Hypothesis 1. Emotional dissonance is positively related to exhaustion, cynicism and interpersonal strain.

1.2. Burnout and health symptoms

Burnout phenomenon and negative health consequences are commonly associated in the literature. Earlier reviews attested that burnout precipitates the negative effects in terms of mental health, such as anxiety, irritation and depression (Bakker et al., 2000; Maslach et al., 2001). Also physical health complaints, referred to the subjective experience of symptoms, such as headache, tiredness, gastrointestinal and sleep disturbances, have been widely cited as a consequence of the burnout syndrome (e.g. Leiter, 2005; Schaufeli & Enzmann, 1998; Shirom, Melamed, Toker, Berliner, & Shapira, 2005). Since chronic stress is likely to lead to increased sympathetic activity, burnout may have negative effects on the immune system and increase the incidence of infections (De Vente, Olf, Van Amsterdam, Kamphuis, & Emmelkamp, 2003; Honkonena et al., 2006). Moreover, burnout may increase the risk of cardiovascular diseases and musculoskeletal disorders (Honkonena et al., 2006; Melamed, Shirom, Toker, Berliner, & Shapira, 2006).

Despite burnout research benefits of the use of clinical evaluation of illness, self-reported measures of health symptoms are highly predictive of physician-confirmed illness (Cohen, Tyrrell, & Smith, 1993), hence they have been extensively used to assess ill-health (Cohen et al., 2002; Leiter, 2005; Weekes, MacLean, & Berger, 2005).

Less frequently researchers have investigated the differential role played by burnout dimensions in predicting health impairment. Undoubtedly, there is a strong and stable connection between exhaustion and negative health symptoms (Leiter, 2005; Maslach et al., 2001; Peterson et al., 2007). Although the link between cynicism and health deterioration seems less consistent, some studies found evidence of this relationship (Honkonena et al., 2006).

In the present study we posit that the strategy to emotionally and cognitively withdraw from work relationships (interpersonal strain), which apparently seems to protect from negative social interactions, may be maladaptive when positive relationships on the job are of essential importance for performance (as is the case of hospital workers). Thus, the feelings of being exhausted,

disengaged from work and emotionally detached from other people, by contributing to deplete the individual energetic and psychological resources, will be all related to hospital staff perceived health. Thus, we will test the following hypothesis:

Hypothesis 2. Exhaustion, cynicism and interpersonal strain are positively related to health symptoms.

Several studies have investigated the mediating role of internal burnout experience between the impact of external stressors and health related outcomes (Leiter & Maslach, 2005; Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009). Consistent with this line of research, we assume that it is through the burnout experience of being exhausted and disengaged toward the work that emotional dissonance is related to the health of hospital workers. Furthermore, we posit that this relationship is also mediated by the experience of being disengaged from other people at work. The rationale underpinning this assumption is that the inner experience of being estranged from other people and alienated from other feelings in crucial work relationship (interpersonal strain) will operate as a dysfunctional coping strategy between the requirement to suppress or fake the authentic emotion (emotional dissonance) and the ill-health of hospital professionals. Hence, we will test the following hypothesis:

Hypothesis 3. Exhaustion, cynicism and interpersonal strain mediate the relationship between emotional dissonance and health symptoms.

2. Methods

2.1. Participants and procedures

The participants were 347 hospital staff of a large Italian Hospital (69.4% of those involved), working in 8 different wards: 6 were internal medicine wards (45%), and the other two were general outpatient (25%) and first aid (30%). Each participant received a presentation letter that briefly described the project and individually filled out an anonymous paper-and-pencil questionnaire, during regular working hours. Participants (64% females) were aged from 18 to 25 years old (3%), over 55 years (8%), with the modal age group being from 36 to 45 years (33%). About 57% of the sample were professional nurses, 16% were physicians, 6% were other hospital staff (physiotherapists, obstetricians and healthcare assistants), whereas, 21% did not indicate their professional role. About 19% of the sample had until 3 years of organizational tenure, 34% had between 4 and 10 years, while 47% had over 10 years of tenure.

2.2. Measures

Exhaustion and cynicism were both assessed with the Italian Version of Maslach Burnout Inventory – General Survey (MBI-GS) (Borgogni, Galati, Petitta, & Schweitzer, 2005; Schaufeli, Leiter, Maslach, & Jackson, 1996). Consistent with previous research (Leiter & Schaufeli, 1996), one item of the Cynicism scale (“I just want to do my work and not be bothered”) was excluded from the analysis. Cronbach’s α coefficients were .88 for Exhaustion and .84 for Cynicism.

Interpersonal strain was measured with the ISW scale, by means of six items (Borgogni et al., 2012), aimed at measuring the mental and emotional distancing from other people at work. Items were formulated so as to apply to all work contexts and to all work interactions, such as “At work I find myself to be insensitive to other people’s problems” or “At work, I feel more comfortable keeping my distance from other people” rated on a 7-point frequency scale (ranging from 0 = “never” to 6 = “daily”). Cronbach’s α coefficient for this scale was .86.

Emotional dissonance was assessed by 3 items that followed Zapf and Holz (2006) conceptualization and measure, tailored to health care professionals. Participants were asked how often it occurs on the job that they have to show emotions that do not correspond to their feelings or to suppress their authentic emotions, such as “At work it happens that I have to show a positive emotion when I feel bothered” rated on a 7-point scale ranging from 0 (never) to 6 (always). Cronbach’s α coefficient for this scale was .72.

Health symptoms were measured by 9 items assessing the frequency of the following health disturbances: headache, trouble sleeping, extreme fatigue, lack of appetite, difficulties to concentrate, gastro-intestinal disturbances, dizziness, shortness of breath, difficulties to relax. These symptoms were extracted from existing self-rated health scales (e.g. Kessler et al., 2004) because recurrently associated in the literature with chronic stress and burnout (see Honkonena et al., 2006; Leiter, 2005). Participants were asked to indicate how often they had experienced each of these symptoms in the last six months on a 6-point scale ranging from “never” (0) to “daily” (6). A Confirmatory Factor Analysis (CFA) was performed on the 9 items. The one-factor model fitted well the data ($\chi^2(27) = 50.323$, $p < .005$, TLI = .958, CFI = .968, RMSEA = .051, SRMR = .034.), with loadings ranging from .51 to .82. Cronbach’s α coefficient for this scale was .86.

2.3. Statistical analysis

Structural equation modeling (SEM) was carried out on raw data using Mplus (Muthén & Muthén, 2006).

As a preliminary step of the analysis, a Confirmatory Factor Analysis (CFA) restricted to burnout scales was performed to support the construct validity of the proposed three-dimensional burnout measure (exhaustion, cynicism and interpersonal strain).

A measurement model was tested to determine whether the observed variables served as adequate indicators of the latent variables. These analyses aimed to support the construct validity of the measures. Then, a full model was tested to examine the hypothesized model.

For assessing the fit of the various models to the data the following criteria were employed: The χ^2 likelihood ratio statistic, the Root Mean Square Error of Approximation (RMSEA), the Tucker–Lewis Index (TLI), the Comparative Fit Index (CFI) and the Standardized Root Mean Square Residual (SRMR). To compare the fit of nested models, the delta chi-square ($\Delta\chi^2$) was calculated. We also used Akaike’s Information Index (AIC) for comparing the fit of alternative, non-nested models. The lower the AIC index, the better the goodness of fit. Given the non-normality of health symptoms, parameters were estimated with an appropriate method (MLR). Confidence limits for indirect effects were calculated on the basis of the product of two random variables from the program PRODCLIN2 (MacKinnon, Fritz, Williams, & Lockwood, 2007).

3. Results

3.1. Preliminary analysis

To corroborate the dimensionality and distinctiveness of interpersonal strain from the two established burnout dimensions (exhaustion and cynicism), a confirmatory factor analysis on the 15 items was performed. In particular, four alternative models were tested and compared:

- (1) *the three-correlated factors model*, which, as hypothesized, assumes that exhaustion, cynicism and interpersonal strain represent distinct and correlated constructs;

- (2) *the one-factor model*, in which all items from the three constructs load into a single factor, that implements the Harman's single factor test (Harman, 1967);
- (3) *the "broad cynicism model"* in which all interpersonal strain and cynicism items were forced to load on the same factor, in order to verify if interpersonal strain and cynicism would tap a single broad and extended mental distancing factor (Borgogni et al., 2012);
- (4) *the "broad exhaustion model"* in which all interpersonal strain items were forced to load together with the exhaustion items on the same factor.

As shown in Table 1, the hypothesized three factors model yielded a better fit compared to the two alternative models tested², suggesting that exhaustion, cynicism and interpersonal strain represent three distinct but related burnout dimensions.

Initial analysis revealed also that demographic and organizational variables (sex, age, tenure and professional role) were not substantially related to the study variables, with the exception of sex (with males coded as 1 and females coded as 2). In fact, females reported a higher level of self-rated health symptoms compared to males ($r = .19, p < .05$). However, the inclusion of sex in the structural equation model did not change significantly the results. Hence, this variable was omitted from further analysis. Table 2 shows means, standard deviations and correlations among all the variables.

3.2. Measurement model

Initially, we specified a five-factor model based on the assumption that emotional dissonance, burnout dimensions (exhaustion, cynicism and interpersonal strain) and health symptoms are five distinct constructs. All constructs were included in the model as latent variables defined by the items of the various scales. The confirmatory model relating the latent variables to the respective indicators satisfied multiple goodness of fit tests ($\chi^2(264) = 411.259, p < .000, TLI = .947, CFI = .939, RMSEA = .044, SRMR = .048$), with the exception of the chi-square significance, likely due to the large sample size (Bollen & Long, 1993). The factor loadings were all higher than .50 and significantly different from zero. All items significantly loaded on the hypothesized factor thus supporting the appropriateness of each item related to the hypothesized latent factor.

3.3. Hypothesized model

In this model, the hypothesized structural relationships among the variables were also specified in order to test the full model. The posited model fits well the data, $\chi^2(314) = 513.080 (p < .001)$, $CFI = .935, TLI = .927, RMSEA = .047, SRMR = .053$. Fig. 1 presents the parameter estimates of the model (M0). The coefficients of the paths from emotional dissonance and the three burnout dimensions were high and significant. In particular, the strongest relationship was with interpersonal strain ($\beta = .63$). Exhaustion and interpersonal strain were also significantly and positively related to health symptoms, whereas, cynicism was not. The model explained 47% of the variance in health symptoms, 40% of the variance in interpersonal strain, 31% of the variance in exhaustion and 22% of the variance in cynicism. The indirect effects of emotional dissonance on health symptoms through exhaustion $\beta = .15$ (95% CI from $-.05$ to $.49$) and through interpersonal strain $\beta = .19$ (95% CI from $.11$

to $.57$) were both significant, whereas the path through cynicism $\beta = .03$ (95% CI from $.16$ to $.23$) was not (Fig. 1).

3.4. Alternative models

In order to test if the mediation of burnout dimensions was full or partial, according to the literature that directly relates emotional dissonance to physical health (Gross, 1998), an additional direct path from emotional dissonance to health symptoms was included in the model (M1). This direct path resulted non-significant, and its inclusion did not improve the fit of the model (see Table 3), which was also less parsimonious compared with the hypothesized model.

A second alternative model (M2) implemented a reverse model that assumes that emotional dissonance partially mediates the relationship between burnout and health symptoms. The basic reasoning supporting this model was that emotional dissonance could represent a coping strategy, instead of an emotional demand. This model presented worse fit indexes as compared with the hypothesized model (see Table 3). Moreover, the mediating role of emotional dissonance was not supported, because the two direct paths from interpersonal strain ($\beta = .36$) and exhaustion ($\beta = .35$) to health symptoms were significant, whereas, the path from emotional dissonance to health symptoms was non-significant.

A third alternative model (M3) explored if emotional dissonance could lead first to interpersonal strain and in turn to exhaustion and cynicism, and finally to ill-health. This model, according to the fact that burnout dimensions may develop at different stages, tested the idea that interpersonal strain could trigger the other burnout dimensions. Also this model showed a worse fit to the data (see Table 3).

4. Discussion

The central aim of this study was to investigate a new specific burnout dimension related to social interactions at work, namely interpersonal strain, and its relationships with emotional dissonance and health symptoms in a sample of hospital workers. In doing so, the role played by interpersonal strain was compared with the one played by the well-established core burnout facets, namely exhaustion and cynicism. A second aim was to explore the mediating role played by interpersonal strain, exhaustion and cynicism in the relationship between emotional dissonance and perceived health symptoms.

Results revealed that emotional dissonance is positively related with interpersonal strain, as well as, with exhaustion and cynicism, and that the strongest relationship is with interpersonal strain indeed. The requirement to suppress or fake the emotion felt in work interactions not only implies an effort that chronically becomes energy consuming (exhaustion) and demotivating (cynicism), but it seems to activate a negative and detached response to social interactions at work (interpersonal strain). This preliminary result is consistent with the idea, derived from the COR theory (Hobfoll, 1989), that interpersonal strain may represent a psychological strategy to protect individual resources threaten by emotional dissonance. The role of emotional dissonance as a key variable related to burnout among health-care professionals was also confirmed.

In turn, interpersonal strain is significantly associated with health complaints, similarly to exhaustion, but unlike cynicism. This finding reveals that interpersonal strain and cynicism, even if they could be considered similar constructs reflecting a "dis-engaged" reaction, from people and from work respectively, display differential relationships with health symptoms. Cynicism is not related to health symptoms, whereas, interpersonal strain

² In all models, the error terms of two items of cynicism were allowed to correlate, as they showed a high degree of overlap in their content. This significantly increased model fit. The items are "I doubt the significance of my work" and "I have become more cynical about whether my work contributes anything".

Table 1
Goodness fit indices for the hypothesized and alternative CFA models for Exhaustion, Cynicism and Interpersonal Strain.

	Model χ^2 (sig.)	df	CFI	TLI	RMSEA (90%CI)	SRMR
M0. Three-correlated factors model	236.053 ($p < .001$)	86	.942	.929	.075 [.064–.087]	.048
M1. One-factor model	725.551 ($p < .001$)	90	.755	.714	.151 [.141–.161]	.086
M2. Broad cynicism model	437.106 ($p < .001$)	88	.865	.840	.113 [.103–.124]	.065
M3. Broad exhaustion model	485.102 ($p < .001$)	88	.817	.817	.121 [.110–.131]	.075
	$\Delta\chi^2$	Δdf				
M1 vs. M0	489.498 ($p < .001$)	4				
M2 vs. M0	201.053 ($p < .001$)	2				
M3 vs. M0	249.049 ($p < .001$)	2				

Table 2
Means, standard deviations, Cronbach's α and correlations among the variables.

Variable	M	SD	1	2	3	4	5	6	7	8
1. Sex	–	–	–							
2. Age	–	–	–.178**	–						
3. Tenure	–	–	–.081	.665**	–					
4. Emotional dissonance	2.14	1.45	.116	–.086	–.008	.72				
5. Exhaustion	2.54	1.52	.002	.032	.164**	.470**	.88			
6. Cynicism	1.23	1.45	–.057	.108	.141*	.458**	.626**	.84		
7. Interpersonal strain	1.79	1.28	.035	–.053	–.070	.523**	.612**	.494**	.86	
8. Health symptoms	1.83	1.24	.189**	–.110	–.022	.380**	.412**	.463**	.516**	.86

Cronbach's α coefficients are presented along the diagonal.

* $p < .05$.

** $p < .01$.

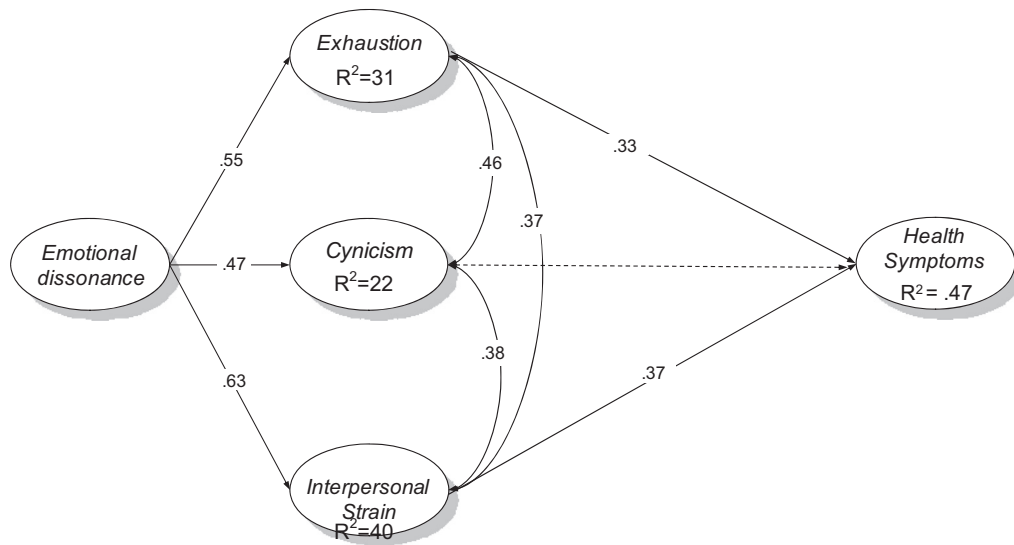


Fig. 1. Standardized Solution of the proposed model. All parameters are significant at the $p < .05$ level.

Table 3
Goodness fit indices for the hypothesized and the alternative full models.

	χ^2 (sig.)	df	CFI	TLI	RMSEA	SRMR	AIC
M0: Hypothesized model	513.080 ($p < .001$)	314	.935	.927	.047	.053	27035.022
M1: Partial mediation model	512.425 ($p < .001$)	313	.935	.927	.047	.053	27036.589
M2: Reverse model	561.769 ($p < .001$)	316	.919	.910	.052	.083	27096.553
M3: Burnout stages model	531.827 ($p < .001$)	317	.929	.922	.048	.061	27053.386

(together with the well-known exhaustion dimension) is strongly associated to perceived health deterioration.

Interpersonal strain and exhaustion fully mediate the relationship between emotional dissonance and health symptoms. Hence on the basis of our results, emotional dissonance is not directly associated with health complaints, but through the experience of being exhausted and disengaged in the relationships with

other people. This study corroborates the hypothesis of an energy depletion mechanism by which emotional dissonance deprives the individual of his/her physical and emotional resources, thus likely affecting his/her ill-health. Our results seem to suggest that another possible underlying mechanism by which emotional dissonance is related to health symptoms may concern to the deterioration of relationships.

On the other hand, cynicism seems not to play a relevant role for ill-health. A similar result was found by [Richardson, Burke, and Martinussen \(2006\)](#), in which the relationship between job demands and health complaints was not mediated by cynicism. A possible explanation refer to the health impairment and to the withdrawal hypotheses ([Schaufeli & Bakker, 2004](#); [Schaufeli et al., 2009](#)), by which negative health outcomes are primarily mediated by exhaustion whereas cynicism, being a strictly motivational dimension, is likely to be primarily associated to withdrawal and motivational outcomes (such as turnover, or counterproductive behaviors) ([Leiter & Maslach, 2009](#)).

All in all, on the basis of our results, it seems that adopting a detached attitude toward people at work is unlikely a protective attitude for hospital staff, but a maladaptive coping strategy and a risk factor for ill-health. Thus, interpersonal strain can be considered an additional dimension to study together with exhaustion in order to explore and protect staff well-being in the hospital setting.

Finally, in our study demographical and organizational characteristics are not systematically related to the variables considered and do not modify these relationships. Only gender difference seems to affect one of the study variables, namely self-reported health symptoms. This finding is consistent with the literature, and is likely related to differences in the processing of visceral and somatic sensations ([Pennebaker & Roberts, 1992](#); [Wool & Barsky, 1994](#)). Hence, this model seems to apply in the hospital setting independently from sex, age, tenure and professional role.

The study has at least four limitations. First of all, the cross-sectional nature of the data does not allow causal inference. Even if alternative models (M2 and M3), in which reverse and competing path of relationships were tested, fitted the data worse, the directions of the postulated relationships can be determined only theoretically. First of all, future longitudinal studies should carefully explore how emotional dissonance, interpersonal strain and health symptoms are related over time. Moreover, since burnout has been often depicted as a dynamic process in which the dimensions develop at different stages and influence each other, future studies could also explore if interpersonal strain may develop earlier than the other burnout dimensions. In fact, it is reasonable that interpersonal strain, as a dysfunctional coping strategy ([Golembiewski, Munzenrider, & Stevenson, 1986](#)) may have cross-lagged effects on exhaustion and cynicism: employees who develop a detach attitude in work relationships in order to lower the emotional impact of their work, may instead trigger demanding and negative behaviors from patients and colleagues ([Dormann & Zapf, 2004](#)), which in turn may increase their level of burnout.

The second limitation is related to the risk that correlations among the variables could be inflated by common method variance bias, due to the fact that all measures were collected from a single source. It is worth noting that burnout and emotional dissonance, being referred to inner feelings of strain and to the conflict between felt and displayed emotion are all, by definition, subjective aspects that only the person can report. Despite self-report measures of health are strong predictors of physician-confirmed illnesses ([Cohen et al., 2002](#)), future research would benefit from more objective measures of ill-health, such as clinical health examination by research physicians. Moreover, in the present study we explored only the role of emotional dissonance, being one of the most relevant emotional stressors in the hospital setting. However, a number of individual and work factors are potentially related to the development of a disengaged attitude toward work relationships. Future studies should examine a broader range of situational and social factors (such as organizational display rules, exceeding social requests or conflicts with patients, colleagues or supervisors) and individual factors (such as emotional and interpersonal self-efficacy) that could increase the risk or protect from burnout and interpersonal strain.

Finally, as this research was conducted on a single hospital located in Italy, future research should investigate the generalizability of the results in different organizations and cultural contexts.

Despite its limitations, the study emphasized the role of emotional and interpersonal aspects for staff well-being, which have been often neglected in the health care setting. Results indicate that the dissimulation of emotions is stressful for hospital workers, independently of their role, age, gender and tenure. Moreover, emotional dissonance is associated to ill-health, not only through the feeling of being exhausted, but also through the feeling of being interpersonally estranged.

Interpersonal strain (referred to the interactions with patients but also with colleagues and supervisor) likely represents a crucial dimension in protecting the well-being of hospital professionals.

In terms of practical implications, hospital management should consider how to improve the quality of interpersonal relationships at work and reduce the disengagement reactions toward other people, thus promoting staff well-being. Moreover, the dissimulation of emotion and the emotional detachment from work relationships may impede empathy, recognized as the key factor in the quality of the patient–physician and patient–nurse relationship ([Fredericks, Odiet, Miller, & Fredericks, 2006](#)). Improving emotional and interpersonal skills of hospital workers and their awareness of the potential impact of these dimensions could be important in order to protect their health and also to promote the quality of relationship between professionals and patients. Professional training programs could be addressed to help hospital staff to develop a “detach concern attitude”, as a state of balance between under-involvement and over-involvement in work relationships ([Dormann & Zapf, 2004](#)), which may contribute to prevent burnout and interpersonal strain in the hospital setting.

5. Conclusions

The study investigated the relationship between interpersonal strain (a new dimension related to burnout), emotional dissonance and health symptoms among a sample of hospital staff. Interpersonal strain, together with exhaustion (but not cynicism) mediated the relationship between emotional dissonance and health symptoms. Furthermore, this study corroborated the idea that interpersonal strain and cynicism represent distinct concepts which may have differential relationships with perceived health.

Conflict of interest

The author declares that there are no conflicts of interest.

References

- Bakker, A. B., & Heuven, E. (2006). Emotional dissonance, burnout, and in-role performance among nurses and police officers. *International Journal of Stress Management, 13*(4), 423–440.
- Bakker, A. B., Schaufeli, W. B., Demerouti, E., Janssen, P. P. M., Van der Hulst, R., & Brouwer, J. (2000). Using equity theory to examine the difference between burnout and depression. *Anxiety, Stress, & Coping, 13*, 247–268.
- Bollen, K. A., & Long, J. S. (1993). *Testing structural equation models*. Thousand Oaks, CA: Sage.
- Bono, J. E., & Vey, M. A. (2005). Toward understanding emotional management at work: A quantitative review of emotional labor research. In C. E. Hartel, & W. J. Zerbe (Eds.), *Emotions in organizational behavior* (pp. 213–233). Mahwah: Lawrence Erlbaum Associates.
- Borgogni, L., Consiglio, C., Alessandri, G., & Schaufeli, W. B. (2012). “Do not throw the baby out with the bathwater!” Interpersonal strain at work and burnout. *European Journal of Work and Organizational Psychology, 21*(6), 875–898.
- Borgogni, L., Galati, D., Petitta, L., & Centro Formazione Schweitzer, A. (2005). *(Organizational check up systems, manual) Questionario di Check-up Organizzativo, Manuale*. Firenze: Giunti OS.
- Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of “people work”. *Journal of Vocational Behavior, 60*, 17–39.

- Cohen, S., Hamrick, N., Rodriguez, M. S., Feldman, P. J., Rabin, B. S., & Manuck, S. B. (2002). Reactivity and vulnerability to stress-associated risk for upper respiratory illness. *Psychosomatic Medicine*, 64, 302–310.
- Cohen, S. S., Tyrrell, D. A. J., & Smith, A. P. (1993). Negative life events, perceived stress, negative affect, and susceptibility to the common cold. *Journal of Personality and Social Psychology*, 64, 131–140.
- Consiglio, C., Borgogni, L., Alessandri, G., & Schaufeli, W. B. (2013). Does self efficacy matter for burnout and absenteeism? The mediating role of demands and resources at the individual and team levels. *Work & Stress*, 27(1), 22–42.
- Cox, T., & Griffiths, A. (1996). *Work-related stress in nursing: Controlling the risk to health. SafeWork: ILO action in the field of workplace stress*. International Labour Organisation Publication.
- de Jonge, J., Mulder, M. J. G. P., & Nijhuis, F. J. N. (1999). The incorporation of different demand concepts in the demand–control model: Effects on health care professionals. *Social Science and Medicine*, 48, 1149–1160.
- De Vente, W., Olf, M., Van Amsterdam, J. G. C., Kamphuis, J. H., & Emmelkamp, P. M. G. (2003). Physiological differences between burnout patients and healthy controls: Blood pressure, heart rate, and cortisol responses. *Occupational and Environmental Medicine*, 60(1), 154–161.
- Dormann, C., & Zapf, D. (2004). Customer related social stressors and burnout. *Journal of Occupational Health Psychology*, 9, 61–82.
- Fredericks, M., Odiet, J. A., Miller, M. I., & Fredericks, J. (2006). Toward a conceptual reexamination of the patient–physician relationship in the healthcare institution for the new millennium. *Journal of the National Medical Association*, 98(3), 378–385.
- Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Phases of burnout: Developments in concepts and applications*. New York: Praeger.
- Gross, J. J. (1998). Antecedent and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, 74, 224–237.
- Harman, H. H. (1967). *Modern factor analysis*. Chicago, IL: University of Chicago Press.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513–524.
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. Berkeley: University of California Press.
- Honkonena, T., Ahola, K., Pertovaara, M., Isometa, E., Kalimo, R., Nykyri, E., et al. (2006). The association between burnout and physical illness in the general population. Results from the Finnish Health 2000 Study. *Journal of Psychosomatic Research*, 61, 59–66.
- Kessler, R. C., Ames, M., Hymel, P. A., Loeppke, R., McKenas, D. K., Richling, D., et al. (2004). Using the WHO Health and Work Performance Questionnaire (HPQ) to evaluate the indirect workplace costs of illness. *Journal of Occupational and Environmental Medicine*, 46(Suppl. 6), 523–537.
- Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*, 19, 192–207.
- Leiter, M. P. (2005). Perception of risk: An organizational model of occupational risk, burnout, and physical symptoms. *Anxiety, Stress, & Coping*, 18(2), 131–144.
- Leiter, M. P., & Maslach, C. (2005). A mediation model of job burnout. In A. G. Antoniou, & C. L. Cooper (Eds.), *Research companion to organizational health psychology* (pp. 544–564). Cheltenham, UK: Edward Elgar.
- Leiter, M. P., & Maslach, C. (2009). Nurse turnover: The mediating role of burnout. *Journal of Nursing Management*, 17, 331–339.
- Leiter, M. P., & Schaufeli, W. B. (1996). Consistency of the burnout construct across occupations. *Anxiety, Stress, & Coping*, 9, 229–243.
- MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavioral Research Methods*, 39, 384–389.
- Maslach, C. (1982). *Burnout: The cost of caring*. New York: Prentice Hall.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 19–32). Washington, DC: Taylor & Francis.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397–422.
- Melamed, S., Shirom, A., Toker, S., Berliner, S., & Shapira, I. (2006). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological Bulletin*, 132(3), 327–353.
- Muthén, L. K., & Muthén, B. O. (2006). *Mplus user's guide*. Los Angeles: Muthén & Muthén.
- Pennebaker, J. W., & Roberts, T. A. (1992). Towards a his and hers theory of emotion: Gender differences in visceral perception. *Journal of Social and Clinical Psychology*, 11, 199–212.
- Peterson, U., Demerouti, E., Bergstrom, G., Samuelsson, M., Asberg, M., & Nygren, Å. (2007). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing*, 62(1), 84–95.
- Richardsen, A. M., Burke, R. J., & Martinussen, M. (2006). Work and health outcomes among police officers: The mediating role of police cynicism and engagement. *International Journal of Stress Management*, 13(4), 555–574.
- Salanova, M., Llorens, S., García-Renedo, M., Burriel, R., Bresò, E., & Schaufeli, W. B. (2005). Towards a four-dimensional model of burnout: A multigroup factor-analytic study including depersonalization and cynicism. *Educational and Psychological Measurement*, 65(5), 807–819.
- Schaufeli, W. B. (2006). The balance of give and take: Toward a social exchange model of burnout. *International Review of Social Psychology*, 19, 87–131.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25, 293–315.
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, 30, 893–917.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London, England: Taylor & Francis.
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). Maslach Burnout Inventory – General Survey (MBI-GS). In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *MBI manual* (3rd ed., pp. 19–25). Palo Alto, CA: Consulting Psychology Press.
- Shirom, A., & Melamed, S. (2005). Does burnout affect physical health? A review of the evidence. In A. G. Antoniou, & C. L. Cooper (Eds.), *Research companion to organizational health psychology* (pp. 599–622). Northampton, MA, USA: Edward Elgar Publishing.
- Shirom, A., Melamed, S., Toker, S., Berliner, S., & Shapira, I. (2005). Burnout, mental and physical health: A review of the evidence and a proposed explanatory model. *International Review of Industrial and Organizational Psychology*, 20, 269–309.
- van Vegchel, N., de Jonge, J., Soderfeldt, M., Dormann, C., & Schaufeli, W. B. (2004). Quantitative versus emotional demands among Swedish human service employees: Moderating effects of job control and social support. *International Journal of Stress Management*, 11(1), 21–40.
- Weekes, N. Y., MacLean, J., & Berger, D. E. (2005). Sex, stress, and health: Does stress predict health symptoms differently for the two sexes? *Stress & Health*, 21, 147–156.
- Wool, C. A., & Barsky, A. J. (1994). Do women somatize more than men? Gender differences in somatization. *Psychosomatics*, 35, 445–452.
- Zapf, D. (2002). Emotion work and psychological well-being. A review of the literature and some conceptual considerations. *Human Resource Management Review*, 12, 237–268.
- Zapf, D., & Holz, M. (2006). On the positive and negative effects of emotion work in organizations. *European Journal of Work & Organizational Psychology*, 15(1), 1–28.
- Zapf, D., Seifert, C., Schmutte, B., Mertini, H., & Holz, M. (2001). Emotion work and job stressors and their effects on burnout. *Psychology & Health*, 16(5), 527–545.