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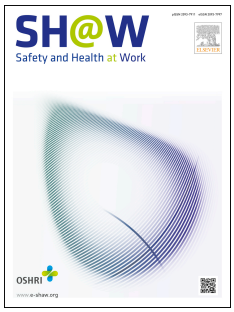

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ABSTRACT

Purpose. The present study aim at investigating whether and how a) job demands and job resources are associated to work-to-private-life interference (WLI) b) job resources moderate the relationship between job demands and WLI.

Method. Data were collected by a self-report questionnaire in three hospitals in Italy. The sample consisted of 889 health-care workers.

Findings. All job demands (i.e., quantitative demands, patient disproportionate expectations and verbal aggression) and job resources (i.e. job autonomy, support from superior and colleagues, fairness and organizational support) with the exception of skill discretion, were related to WLI. The effect of quantitative demands on WLI were moderated by support from superior, fairness and organizational support moderate the effect of all job demands considered. Support from colleagues only moderated verbal aggression. Job autonomy did not buffer any job demands.

Conclusion. The present study suggests that the work context has a central importance in relationship to experience of WLI among health-care workers. The results indicated that intervention in the work context, may help to contain WLI. Such interventions would be especially aimed at improving the social climate within the unit and quality of the organizational process.

Keywords. health-care workers, Italy, job demands, job resources, work-to-private-life interference.

INTRODUCTION

For workers in the health-care sector, work interference with private life has been particularly recognized as a critical issue. Grzywacz et al.[1], in a representative sample of 1,538 nurses, found that 91.8% experienced at least episodic work-to- private-life interference and that about half reported chronic exposure. Reasons for this can be attributed to a number of factors. Health-care professions are stressful and the high job demands to which these workers are subjected may lead to both time-based and strain-based work interference with private life [2,3]. In particular, the shortage of resources that the health sector is experiencing, and, in addition, the increased proportion of elderly in the population, has caused more quantitative demands on workers, both in terms of hectic pace and of the average of hours worked [4]. Most workers in the health-care sector also work irregular hours and on night shifts [5]. Moreover, the constant involvement in highly emotional, demanding relationships with care-recipients as well as the increased numbers of episodes of client-initiated violence [6], especially of verbal type, can cause negative feeling that arise in the workplace to spill over into the private domain [7].

Despite the considerable amount of study focused on the relationship between and work-to-private-life interference, there are few studies, especially in the health-care sector, aimed at investigating whether any resources, especially of the work domain, are capable of moderate this relationship. The present study is intended to go in this direction by investigating whether and how a) respectively job demands and job resources are associated to work-to-private-life interference b) job resources moderate the relationship between job demands and work-life interference.

Theoretical background

Negative-work-to-life interference (WLI) can be defined as a process in which a worker's functioning (behavior) in the private domain is influenced by load reactions that have build up in the work domain [8]. Work-to-private-life interference is a form of strain particularly caused by work-related stressors [8]. According to the Effort-Recovery (E-R) model [9], job demands require a mobilization of energy

by the workers. As a result, when job demands are too high, negative load reactions can arise and spillover into the private domain. According to E-R model [9], this may due to the fact that the recovery is not adequate from a quantitative and a qualitative point of view, therefore, workers will not have the opportunity to reacquire the energy lost. Although daily work usually involves loads that are not necessarily harmful, conditions of chronic job demands may make the loads excessive, causing WLI.

However, work environments offer many resources that may sustain the workers to cope with job demands, increasing the likelihood of successfully accomplishing the job and limiting the consumption of energy and, as a consequences of that, the negative spillover from work to home.

The ideas that job demands may lead to develop WLI and that job resources may act to reduce work interference with private life by buffering the detrimental effects of job demands are drawn from two principles of the job demands-resource model [10,11].The first, the *health impairment hypothesis*, assumes that chronic job demands deplete worker mental and physical resources, leading to a decreased worker well-being. The second, the *buffering assumption*, assumes that job resources buffer the impact of job demands on worker health and well-being. This second principle is also consistent with one of the basic principles of the Conservation of Resources theory (COR, [12]), which states that those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain; conversely, those with fewer resources are more vulnerable to resource loss and less capable of resource gain.

According to the JD-R model [10,11], job demands refer to those physical, psychosocial, or organizational aspects of the job that require sustained physical and/or mental effort and are, therefore, associated with certain physiological and/or psychological costs [10,11]. On the other hand, job resources refer to those physical, psychological, social, and organizational aspects that help achieve work goals and reduce job demands and the associated physiological and psychological costs [10,11].

Job demands and WLI

Most studies that highlighted a strong and positive relationship between job demands and WLI in the health-care sector focused on quantitative demands [13,14]. Few studies analyzed the relationship between the negative interaction with recipients and WLI [7,15]. Nevertheless, it is plausible that the exposure to disproportionate expectations as well as verbal aggression from patients lead to the development of negative feeling in the worker (e.g., in terms of arousal activation, irritation and fatigue) that can also overwhelm the private life domain.

According to Dormann and Zapf [16], disproportionate expectations refers to patients' or relatives' attitudes and behaviors demanding what is considered unreasonable and unacceptable from the service providers' points of view. Verbal aggression can be defined as a form of direct psychological aggression, such as yelling at the service provider or making sarcastic or offensive remarks [16,17].

Health-care workers are required to deal with a variety of job demands, but especially of quantitative and social natures. The present study takes these demands into account. Quantitative demands refer to work overload or work pressure or how fast workers are required to carry out their jobs. Social demands mostly refer to the negative interaction with patients and their relatives, and can include aggressive behavior [17] or disproportionate expectations[16], from care-recipients.

Direct and buffering effect of job resources on WLI

As regards job resources, the present study took into consideration two characteristics of the task level, i.e., skill discretion and job autonomy, two of the social level, i.e., support from superiors and from colleagues, and two of the organizational level, i.e., fairness and organizational support.

Job control is considered an essential resource for dealing with job demands at the task level. According to Karasek [18], job control refers to the extent to which workers are capable of controlling their tasks and general work activities. More specifically, job control is subdivided into two major aspects: skill discretion and decision authority. Skill discretion refers to a person's opportunity to use specific job skills in the work process. By contrast, decision authority refers to the extent to which a person is autonomous in task-related decisions, such as timing and method control. According to E-R [9] and COR [12], having decision latitude on the organization of one's own job or about the method to fulfill the job requirement may reduce WLI. There is empirical evidence both for [8] and against

[14] the direct association between WLI and, respectively, skill discretion and job autonomy. On the other hand, no studies have been focused on the role of job control in moderating the relationship between job demands and WLI.

Karasek and Theorell [19] defined social support at work as "overall levels of helpful social interaction available on the job from co-workers and supervisors" (p. 69). Both kinds of support have been found negatively associated with WLI [20-23]. In particular, several studies have highlighted the key role of support from supervisors in reducing the negative spillover from work to private domain. Among these, Yildirim and Aycan [24] also tested the moderating effect of support from supervisors between job demands and work-family conflict, finding no support for this hypothesis.

At the organizational level, fairness and organizational support have been considered central dimensions concerning the topic of employee well-being. Fairness can be defined as the extent to which the organization has consistent and equitable rules for all employees. Organizational support refers to the degree to which the organization values worker's contributions and the extent it cares about worker's wellbeing [25]. Several studies highlight the negative association between WLI and support from the organization [20,26]. Some studies have also documented the negative relationship between fairness and WLI as well as the mediating role of WLI between these two organizational resources and workers' health such as emotional exhaustion and job satisfaction [27,28]. In contrast, no studies have investigated the role of these two resources in moderating the relationship between job demand and WLI.

METHOD

Data Collection & Participants

Data were collected during a multi-center intervention-research conducted in three hospitals in Northwestern Italy in 2013 by means of a self-reported questionnaire. Each hospital administrations evaluated, endorsed, and authorized the research, allowing researchers to use the data for scientific purposes. Upon approval, department chiefs and nurses coordinators from each ward were asked for authorization to administer the questionnaire to the nurses. The questionnaires were distributed during

work hours in each ward by some members of the research group of the Department of Psychology (University of Turin). The cover sheet clearly explained the research aim, the voluntary nature of participation, the anonymity of the data and the elaboration of the findings. After questionnaire completion, respondents were asked to close the questionnaire in an envelope and to mail it in a box set by the research group in each ward. Participants volunteered for the research and were not asked to sign consent forms because the return of the questionnaire implied the consent.

The research conforms to the provisions of the Declaration of Helsinki in 1964 (and following updates) and all ethical guidelines were followed as required for conducting human research, including adherence to the legal requirements of the study country (Italy).

1248 (Hospital 1: 48%; Hospital 2: 22%; Hospital 3: 30%) questionnaires were distributed and 948 (Hospital 1: 49%; Hospital 2: 23%; Hospital 3: 28%) returned to the research group. After data cleaning, the dataset consisted of 889 health care workers (Hospital 1: 48%; Hospital 2: 21%; Hospital 3: 31%) employed in emergency (42.10%) and medical (57.90%) units. 23.3% are physicians, 76.7% nurses. The average job seniority in the health-care sector was 14.34 years (sd=9.19) and ranged from 1 month to 39 years. More than the half of them (57%) work on the night shift.

The majority were women (73.7%, n=655) with an age ranging from 21 to 62 years (m=39.18, sd=9.28). 38.6% were married or lived with partner. 43.3% had a child under 16 and 18.6% had care duties toward elderly parents.

Socio-demographic and profession data are reported in Table 1.

Measures

The data were obtained by a self-reported questionnaire including two sections. The first was dedicated to collecting socio-demographic and professional data. The second section included scales aimed at measuring job demands, job resources, and WLI.

Job demands. With reference to job patient-related demands, two subscales adapted from the questionnaire Customer-Related Social Stressors (CSS [16]) were included. The first called "disproportionate patient expectations" contains 8 items (e.g., "Our patients' demands are often exorbitant") whereas the second "patient verbal aggression" contains 4 items (e.g., "Patients get angry at us even over minor matters"). To measure quantitative demands, a sub-scale of the Job Content Questionnaire (JCQ [29]) was employed including 5 items (e.g., "I am asked to do an excessive amount of work").

Job resources. As regards job resources, three categories of factors were considered which referred respectively to the job content, the social, and the organizational level. At the job content level, three sub-scales were included. Skill discretion (5 items, α=.61, e.g., "My job requires that I learn new things") and job autonomy (3 items, α =.82, e.g., "My job allows me to make a lot of decisions on my own") were drawn from JCQ [29]. To measure social resources, two sub-scales of the JCQ [29] were employed. They investigate support from superiors (5 items, e.g., "My supervisor is helpful in getting the job done") and from colleagues (6 items, e.g., "People I work with are helpful in getting the job done"). Three organizational resources were included in the questionnaire. Fairness from the Organizational Checkup System (OCS [30]) comprises 6 items (e.g., "In my organization, job resources are equally distributed"). Organizational support is a scale included in a recent revision of the JCQ [29,31] containing 4 items (e.g., "My organization really cares about my well-being").

Negative work-to-private-life interference (WLI). WLI was measured by scale from the Survey Work Home Interaction NijmeGen (SWING [8]) that contained 8 items (e.g., "I'm irritable at home because my work is demanding").

Responses on all above mentioned sub-scales were given on a four-point Likert scale with a range between 1 ("strongly disagree") and 4 ("strongly agree"). As shown in Table 2, all scales reported a satisfactory internal consistency since Cronbach's alpha (α) values were never lower than .66.

Control variables. The literature recognizes gender, age, job seniority, and marital status and type of

occupation as potential confounders for WLI [32,33]. In addition, some studies in the work-life-balance field highlighted that, especially in the case of women, home demands such as parental care or childcare may favor this form of negative spillover [13,32]. Finally, several studies carried out in the health sector suggested that also night shift [5] and type of unit (i.e., emergency vs. medicine [34]) may affect worker well-being. Therefore, in the present study, all the above mentioned variables were taken into account as potential confounders.

Data analyses

All the analyses were performed using SPSS 21.

The relationship between control variables and WLI were explored by means of the analyses of variance (ANOVA). In view of that, continuous variables were dichotomized using the mean as the cut-off. (i.e., age and job seniority).

Associations between variables under study were examined by calculating Pearson *r*, for each pair of scales.

To examine the main effect of various job demands and job resources, as well as their interaction effects on WLI, moderated hierarchical regression analyses were employed. All possible combinations of job demands and job resources were tested. For each moderated hierarchical regression, predictor variables were entered within three successive steps. In the first step, demographic (i.e., gender, age, marital status, age of the youngest child and duties towards elderly parents) and professional (i.e., occupation and unit type, job seniority, and shift) variables were entered as control variables. In the second step, standardized index of job demands (e.g., quantitative demands) and job resource (e.g., skill discretion) were entered. In the third step, the interaction term, that is the product between the job demands and job resources, was entered. In cases in which the interaction term showed significant value, the simple slope procedure recommended by Aiken and West [35] was adopted to further examine the pattern of the relationship.

The risk of multicollinearity between independent variables was controlled by standardizing all indexes. Analyses indicated that there were no signs of multicollinearity in any of the model carried out. For each independent variable, the tolerance index (1/VIF) was never lower than .90 (cut-off <.20 [36]).

FINDINGS

Preliminary analyses

According to ANOVA, gender, age, marital status, having a child aged less than 16, job seniority and the type of ward did not predict any difference on WLI score. On the other hand, physicians were more prone to experience WLI than nurses ($F=12.40$, $p=.00$; $m_{physicians}=16.38$, $m_{nurses}=15.11$). Workers who take care of elderly relatives ($F=18.27$, $p=.00$, $m_{elderly}=16.77$ $m_{no\_elderly}=15.09$) showed significantly higher scores on the WLI subscale when compared to those who did not. Likewise, night shift workers showed significantly higher scores when compared to workers who did not work nights ($F=7.07$, $p=.008$; $m_{nightshift}=15.76$, $m_{no\_nightshift}=14.94$).

Table 2 reports correlations among subscales. Looking at the correlations among job demands and job resources, the strongest was between disproportionate expectations and verbal aggression (r=.76), followed by support from organization and fairness (r=.60). Correlation between patient disproportionate expectations and skill discretion was not significant. As regards the correlations involving WLI, the strongest was with quantitative demands (r=.49), whereas the weakest was with skill discretion, which was not found to be significant. Based on this result, skill discretion was excluded from the subsequent analyses.

Moderated regression analyses

Table 3, 4 and 5 show the results of the moderated hierarchical regressions.

Table 3 presents models in which quantitative demands was entered as an independent variable. In each model reported, a different job resource was considered. At the third step, all the models reported significant R^2 and showed a variance explained ranged from 32% (model 3 JR: support from

colleagues) to 35% (model 4 JR: fairness). Concerning control variables, results indicated that age, marital status, children, job seniority, and the type of unit were not significantly associated with the outcome in any of the model considered. Females were found significantly more exposed to WLI than men only in the third model (Model 3 JR: support from colleagues). All models indicated that physicians, night shift workers, and workers that take care of elderly parents are more prone to experience WLI. Quantitative demands were found to be significant in all models and its β coefficients ranged from .34 (model 1: JR: support from organization) to .45 (model 4: JR: job autonomy). All the resources considered, showed a significant and direct effect on WLI. The smallest β coefficient was found for fairness (.13) and the biggest for support from colleagues (.24). The interaction effect between quantitative demands and job resources was found to be significant in models 2, 4 and 5, indicating that support from supervisors (β=-.07), fairness (β=-.11), and organizational support (β=-.11) moderated the effect of quantitative demands on WLI. Figures 1-3 report the representation of the significant interactions. The lowest value of WLI was reported by workers that perceive low level of quantitative demands and high level of fairness and organizational support. On the contrary, the highest levels of WLI were reported among those who had high quantitative demands and job resources.

Slope test analyses were performed in order to further examine the direction of the effect of the job resources in the relationship between quantitative demands and WLI, in those cases in which the interaction term was found to be significant. In all these cases, the simple slope analysis showed that when the job resources were high (+1 standard deviation, SD), quantitative demands were positively and significantly related to WLI. However, when the job resources were low (–1 SD), the relationship was stronger. In particular, for support from superior, the slope at +1 DS showed a β of 1.74 (t=7.52, p=.00), whereas at –1 DS, the β value reached 2.36 (t=11.02, p=.00). Similarly, the association between quantitative demands and WLI was weaker when fairness was high (β=1.52, t=16.57, p=.00), rather than when fairness was low (β=2.52, t=35.69, p=.00). Finally, regarding organizational support, the value of β at –1 SD was equal to 2.41 (t=11.66, p=.00), whereas at +1 SD, β was equal to 1.43

(t=6.36, p=.00). Therefore, the slope tests further supported that these resources moderated the effect of quantitative demands in increasing WLI.

Table 4 shows the models in which disproportionate expectations was entered as independent variable together with each job resource. Overall, the lowest R^2 was reported by model 5 (JR: support from organization) with .23, whereas the highest was reported by model 4 (JR: fairness) with .28. Within control variables, type of profession, night shift, providing care to elderly parents showed significant values in all models considered. Gender was found to be significant in two of the seven models tested (Model 1 and 3), indicating that females are more prone than males to experience WLI. Disproportionate expectations was significant in all models considered and β coefficients ranged from .34 to .39. All resources were also found to be significantly associated to the outcome ($-.17 \geq \beta \leq -.24$). At the third step, entering interaction term produced a significant incremental change of R^2 for support from superior (ΔR^2=.01), fairness (ΔR^2=.01) and organizational support (ΔR^2=.01).

In all these cases, the simple slope analysis showed that when the job resources were high (+1 standard deviation, SD), disproportionate expectations were positively and significantly related to WLI (see Figure 4-6). However, when the job resources were low (–1 SD), the relationship was stronger. Specifically, as regards support from superior, the slope at +1 DS showed a β of 1.39 (t=6.95, p=.00), whereas at –1 DS, the β value was equal to 1.93 (t=10.82, p=.00). Likewise, the association between disproportionate expectations and WLI was weaker when fairness was high (β=1.40, t=5.76, p=.00), rather than when fairness was low (β=2.13, t=9.86, p=.00). Finally, regarding organizational support, the value of β at –1 SD was equal to 1.98 (t=10.61, p=.00), whereas at +1 SD, β was equal to 1.10 (t=5.32, p=.00). Therefore, also in this case, the slope tests further supported that support from superior, fairness, and organizational support moderate the negative effect of disproportionate expectations on WLI.

Table 5 shows the results of moderated hierarchical regressions in which verbal aggression was entered as job demand. At the third step, all models showed significant R^2 (ranging from 18% to 27% of the variance explained). Within control variables, type of profession and night shift were significant

predictors of WLI. Moreover, both verbal aggression and all the resources considered were found directly associated with the outcome. The interaction term was found to be significant in 4 of the models carried out. According to the results (see also Figure 7-10), support from superiors (β=-.14), support from colleagues (β=-.08), fairness (β=-.10), and organizational support (β=-.11) buffered the detrimental effect of verbal aggression on WLI.

Slope test indicated that for support from superiors, the association between verbal aggression and WLI was significant in both conditions; however, it was weaker in conditions at +1 SD (β=.78, t=3.22, p=.001) rather than at –1 SD (β=1.92, t=9.76, p=.00). Similar results were obtained for support from colleagues (–1 SD: β=1.58, t=7.57, p=.00; +1 SD: β=.97, t=3.67, p=.00), fairness (–1 SD: β=1.80, t=8.31, p=.00; +1 SD: β=.15, t=.71, p=.47) and organizational support (–1 SD: β=1.69, t=8.28, p=.00; +1 SD: β=.79, t=3.11, p=.00). These results support, the moderating role of all these job resources, in the relationship between verbal aggression and WLI.

DISCUSSION

The paper has as a main aim to investigate whether any job resources of the task (i.e., skill discretion and job autonomy), social (i.e., support from superior and colleagues), and organizational (i.e., organizational support and fairness) levels buffer the effect of job demands, thus contributing in lessening WLI.

WLI was found strongly associated with all three demands taken into account in the present study (i.e., quantitative demands, disproportionate expectation from patients and verbal aggression from patients). These results confirmed the previous literature that suggests that job demands contribute to WLI by depleting the resources needed for participation in non-work activities [2,8].

As regards job resources, the present study confirmed that they contribute to reduce WLI. The sole exception was skill discretion that, according to the Pearson correlation, did not show a significant relationship with WLI. Among the job resources considered, the strongest predictors were support from organization and from superiors (both reach an *r* value equal to -.30). These results are consistent

with those from previous studies [37]. For example, Voydanoff [3] found, in a sample of salaried workers, that significant associations of WLI with autonomy and possibilities for learning disappear after controlling for support from supervisors and supportive organizational culture.

Concerning the buffering hypothesis, at the task level, only the effect of job autonomy was tested since skill discretion was not significantly correlated with WLI. However, according to the results, autonomy did not moderate the feelings of WLI due to any demands considered. As suggested by Geurst et al. [38], the control on the working time would buffer the adverse effect of high demands on WLI, rather than the control on the task.

At the social level, support from colleagues moderated only the effect of verbal aggression from patients but not of quantitative demands and disproportionate patient expectations. On the other hand, support from supervisors moderated all three demands considered. In general, these results suggest that a positive social climate in the unit helps to protect workers from negative spillover from work domain to private domain. Superiors may moderate the load of the job demands by being sensitive to the workers' needs related to family obligation and by encouraging them to use work-family policies included in the workers' contract and/or available in the organization. Indeed, in most units of the Italian hospitals, it is the supervisor who is responsible for approving such things as work shift scheduling and annual leave. Concerning social stressors, in particular when aggressive behavior occurs, both supervisors and colleagues may make it possible to avoid the spillover of the negative feeling into the private domain by providing both instrumental (i.e., by helping the workers to manage the relationship with patient/relatives) and affective (i.e., by giving affective support and by not blaming the workers for what happen with patients) support.

Finally, the present study indicates that organizational factors have a key role in moderating the relationship between job demands and WLI. Indeed, all combinations tested at this level were significant. Concerning the moderating effect of both organizational resources on patient related stressors, an explanation could be that fair and supportive procedures that help the workers when they are victims of aggressive behaviors, may contain the WLI. On the side of quantitative demands, it is possible to suppose, as an explanation of the buffering effect of organizational support, that supportive

organizational context also gives workers the opportunity to use instruments to avoid the potential negative consequences on WLI due to quantitative demands, for example, making it easier for the workers to take a day off to recover.

The buffer effect of justice is more difficult to interpret. An explanation could be that in a fair organization there is the likelihood that the expectation of the workers to receive the right reward for the effort would be satisfied, and thus the negative consequences on the home domain due to high quantitative demands would be moderated. This is consistent with previous study that found that when the exchange is symmetric, although in presence of high demands, negative load reactions among workers may be reduced [39].

The relevance of the present study was to assess the moderating effect of some job resources in the relationship between job demands and WLI. Whereas there are some studies that focus on the direct effect of job demands and job resources on WLI, very rare are those that test the interactive effect, especially considering a great number of job demands and job resources. Moreover, besides the classic job demands such as quantitative demands, this study took into account costumer-related social stressors that represent an emerging and central issue for health-care workers and was very rarely explored in association with WLI.

The present study suggests that the work context has a central importance in relationship to experience of WLI among health-care workers. Moreover, the results indicated that, in addition to specific policies on work-family issues, intervention in the work context, may also help to contain WLI. Such interventions would be especially aimed at improving the social climate within the unit and quality of the organizational process [40].

The present study is not without limitations. One concern is that a non-randomized sampling procedure was used. Even if the sample is quite large, it can limit the generalizability of the results.

Another important limitation is its cross-sectional design. It is assumed that job demands and skill discretion are antecedents of burnout, but the opposite could also be true. For example, elevated rates of WLI could lead workers to develop negative attitudes towards jobs, workplace contexts, and

organizations. In order to test both directions of the relationship, longitudinal study design should be employed.

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Tables

Table 1. Socio-demographical and professional data .

	Health-care workers (n=889)	
	n	%
Gender		
Female	655	73.7
Male	228	25.6
Age		
≤39	399	44.9
>40	490	55.1
Marital status		
Married /living with partner	343	38.6
Unmarried/Diveced/Widowed	539	60.6
Kids under 16		
yes	380	43.3
no	497	56.7
Ederly parents needing care		
yes	165	18.6
no	670	75.4
Profession		
Physicians	207	23.3
Nurses	770	76.7
Night shift		
Yes	507	57
No	382	43
Ward		
Emergency	436	49
Medicine	453	51
Years in the health sector		
≤15	511	57.5
>16	378	42.5

Table 2. Internal consistency, descriptive statistics and correlations of the subscales used in the study.

	α	M(sd)	Min-max	1	2	3	4	5	6	7	8	9	10
1.Quantitative demands	.70(5)	14.35(2.6)	6-20	1									
2. Disproportionate patients expectations	.91(8)	19.14(5.01)	8-32	.37**	1								
3. Patients verbal aggression	.92(4)	7.43(2.9)	4-16	.28**	.76**	1							
4.Decision authority	.69(3)	8.25(1.7)	3-12	-.14**	-.11**	-.13**	1						
5. Skill discretion	.66(6)	18.61(2.6)	7-23	-.16**	-.01	-.08*	.40**	1					
6. Support from supervisor	.82(5)	14.16(3.0)	5-20	-.20**	-.12**	-.12**	.35**	.17**	1				
7. Support from colleagues	.82(6)	18.57(2.9)	7-24	-.15**	-.17**	-.24**	.29**	.24**	.37**	1			
8. Fairness	.69(6)	14.38(3.1)	6-23	-.25**	-.16**	-.16**	.29**	.13**	.40**	.34**	1		
9. Support from organization	.79(4)	10.14(2.4)	4-16	-.25**	-.21**	-.19**	.42**	.16**	.50**	.30**	.60**	1	
10. Negative work to life interference	.88(8)	15.41(4.5)	8-32	.49**	.41**	.35**	-.22**	-.02	-.25**	-.30**	-.25**	-.30**	1

Note: * p <. 05 **p< .001

Table 3. Moderated hierarchical regressions to measure main and interaction effects of quantitative demand and job resources on work to private life interference among health-care workers.

		M1_JR Job autonomy		*M2_JR Support from superior*		*M3_JR Support from colleagues*		*M4_JR Fairness*		*M5_JR Organizational support*	
Step		*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*
1	Gender (1=female)	.05	1.51	.046	1.29	.07*	2.09*	.06	1.71	.044	1.23
	Age (1= >40)	-.03	-.83	-.021	-.50	-.03	-.65	-.04	-1.04	-.03	-.65
	Married (1)	.00	.084	.014	.35	.01	.16	.00	.04	-.02	-.41
	Child < 16 (1)	.05	1.12	.031	.74	.04	1.01	.04	.94	.04	1.07
	Elderly parents (1)	.09**	2.60**	-.08*	2.35*	.07*	2.22*	.10*	2.94*	.08*	2.27*
	Profession (1=physicians)	.12**	3.24**	.12**	3.09**	.15***	4.10***	.14**	3.42**	.13**	3.38**
	Type of unit (1=emergency)	-.01	-.38	-.02	-.655	-.045	-1.275	-.046	-1.239	-.03	-.90
	Year health sector (1=>15)	-.00	-.07	-.02	-.62	.01	.24	-.02	-.49	-.02	-.57
	Night shift (1=yes)	.13**	3.50**	.15***	3.98***	.16***	4. 22***	.16***	4.16***	.16***	4.11***
2	Quantitative demand	.45***	12.73***	.45***	12.35***	.36***	11.26***	.433***	11.63***	.34***	10.40***
	Job resource	-.19***	-5.6***	-.18***	-5.06***	-.24***	-7.65***	-.14***	-3.78***	-.23***	-7.18***
3	Quantitative demands X Job resource	-.036	-1.06	-.07*	-2.09*	-.03	-1.04	-.11**	-3.09**	-.11**	-3.37**
2vs1	ΔR^2	.269***		.265***		.34***		.24***		.25***	
3vs2	ΔR^2	.001		.005*		.001		.01**		.01**	
	R^2	.332***		.331***		.354***		.325***		.33***	

Note: *.05 ≤ p ≥ . 011; ** .01 ≤ p ≥ 0.001 ; ***=.00

Table 4. Moderated hierarchical regressions to measure main and interaction effects of disproportionate patient expectations and job resources on work to private life interference among health-care workers.

		M1_JR Job autonomy		*M2_JR Support from superior*		*M3_JR Support from colleagues*		*M4_JR Fairness*		*M5_JR Organizational support*	
Step		*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*
1	Gender (1=female)	.07*	2.18*	.063	1.89*	.08*	2.37*	.07	1.74	.06	1.74
	Age (1=>40)	-.03	-.81	-.01	-.15	-.02	-.49	-.04	-1.06	-.02	-.52
	Married (1)	-.00	-.09	.01	.26	-.00	-.05	.02	.44	-.01	-.31
	Child < 16 (1)	.05	1.21	.02	.40	.03	.66	.04	.87	.02	.48
	Elderly parents (1)	.10*	3.17*	.08**	2.64**	.08*	2.60*	.09**	2.54**	.08**	2.73**
	Profession (1=physicians)	.16***	4.65***	.16***	4.66***	.18***	5.03***	.15***	3.89***	.17***	4.73***
	Type of unit (1=emergency)	.07*	2.16*	.05	1.59	.05	1.57	.05	1.35	.05	1.50
	Year health sector (1=>15)	.02	.54	.00	.038	.022	.596	-.011	-.267	.01	.17
	Night shift (1=yes)	.05	1.47	.07*	2.03*	.07*	1.99*	.10**	2.55**	.08	2.35
2	Dispr. Exp.	.39***	12.16***	.37***	11.49***	.36***	11.26***	.38***	10.26***	.34***	10.40***
	Job resource	-.22***	-6.97***	-.23***	-7.14***	-.24***	-7.65***	-.16***	-4.56***	-.23***	-7.18***
3	Dipr. Exp. X Job resource	-.05	-1.61	-.07*	-2.23*	-.033	-1.05	-.09**	-2.45**	-.11**	-3.37**
2vs1	ΔR^2	.22***		.22***		.21***		.21***		.18***	
3vs2	ΔR^2	.00		.01*		.00		.01**		.01**	
	R^2	.27***		.27***		.27***		.28***		.23***	

Note: *.05 ≤ p ≥ . 011; ** .01 ≤ p ≥ 0.001 ; ***=.00

Table 5. Moderated hierarchical regressions to measure main and interaction effects of patients verbal aggressions and job resources on work to private life interference among health-care workers.

		M1_JR Job autonomy		*M2_JR Support from superior*		*M3_JR Support from colleagues*		*M4_JR fairness*		*M5_JR Organizational support*	
Step		*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*	*β*	*t*
1	Gender (1=female)	.05*	1.46*	.05	1.40	.08*	1.98*	.05*	1.48*	.04	1.01
	Age (1=>40)	-.03	-.64	-.00	-.08	-.01	-.14	-.04	-.91	-.01	-.35
	Married (1)	.01	.17	.01	.21	.01	.15	.00	.11	-.01	-.28
	Child < 16 (1)	.02	.35	.00	.032	.01	.24	.01	.27	.00	.02
	Elderly parents (1)	.11*	3.05*	.09**	2.63**	.10**	2.82**	.11**	3.12**	.10**	2.76**
	Profession (1=physicians)	.17***	4.33***	.17***	4.44***	.19***	4.82***	.17***	4.21***	.17***	4.41***
	Type of unit (1=emergency)	.04	.96	.04	.98	.01	.25	.01	.23	.01	.32
	Year health sector (1=>15)	-.02	-.58	-.05	-1.26	-.02	-.53	-.04	-.94	-.05	-1.28
	Night shift (1=yes)	.08	1.84	.11**	2.71**	.10**	2.51**	.11**	2.52**	.11*	2.60*
2	Verbal aggression	.32***	8.51***	.29***	7.91***	.27***	7.09***	.29***	7.59***	.26***	6.95***
	Job resource	-.25***	-6.75***	-.26***	-7.11***	-.24***	-6.38***	-.19***	-5.07***	-.25***	-6.86***
3	Verbal aggression X Job resource	-.04	-1.17	-.15***	- 4.08***	-.08*	-2.237*	-.10**	-2.59**	-.11**	-3.02**
2vs1	ΔR^2	.18***		19***		.13***		.16***		.21***	
3vs2	ΔR^2	.00		.02*		.01*		.01**		.01**	
	R^2	.24***		.27***		.18***		.23***		.27***	

Note: *.05 ≤ p ≥ . 011; ** .01 ≤ p ≥ 0.001 ; ***=.00

FIGURES

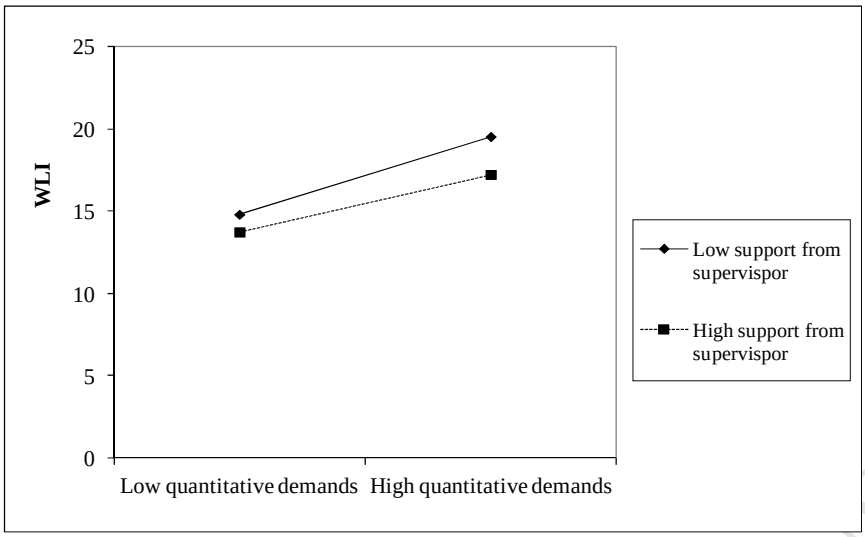

Figure 1. Interaction effect between quantitative demands and support from supervisor on work-to-private-life interference (WLI).

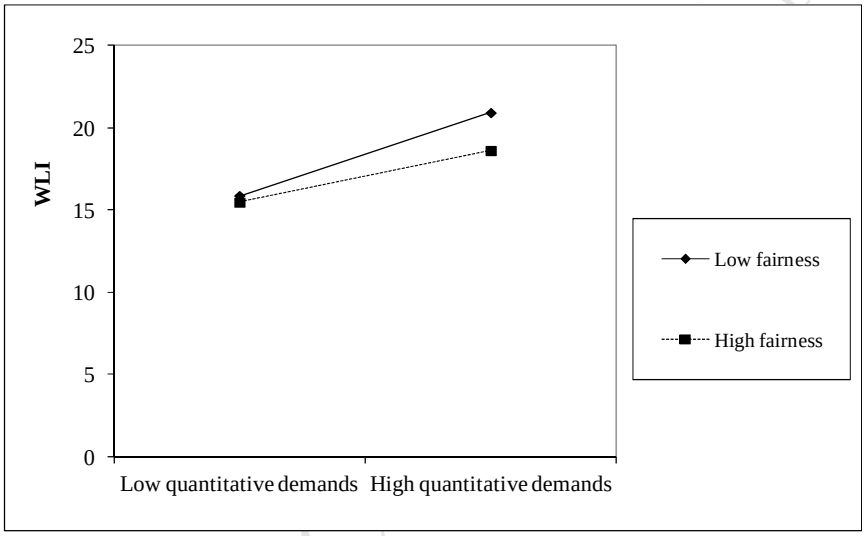

Figure 2. Interaction effect between quantitative demands and fairness on work-to-private-life interference (WLI).

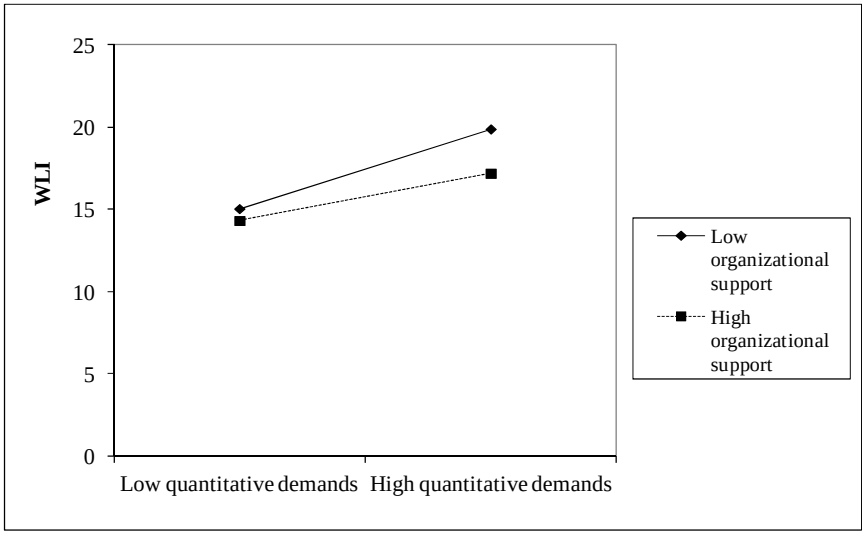

Figure 3. Interaction effect between quantitative demands and organizational support on work-to-private-life interference (WLI).

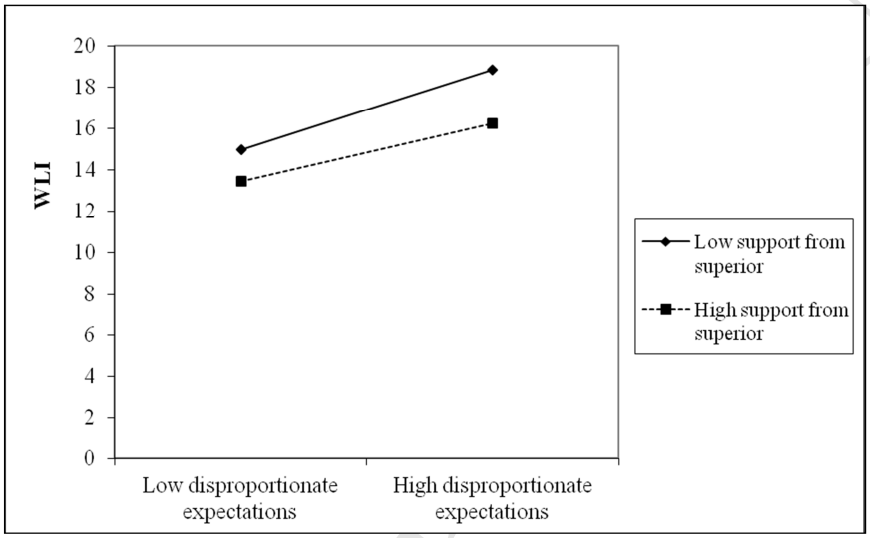

Figure 4. Interaction effect between disproportionate expectations and support from superior on work-to-private-life interference (WLI).

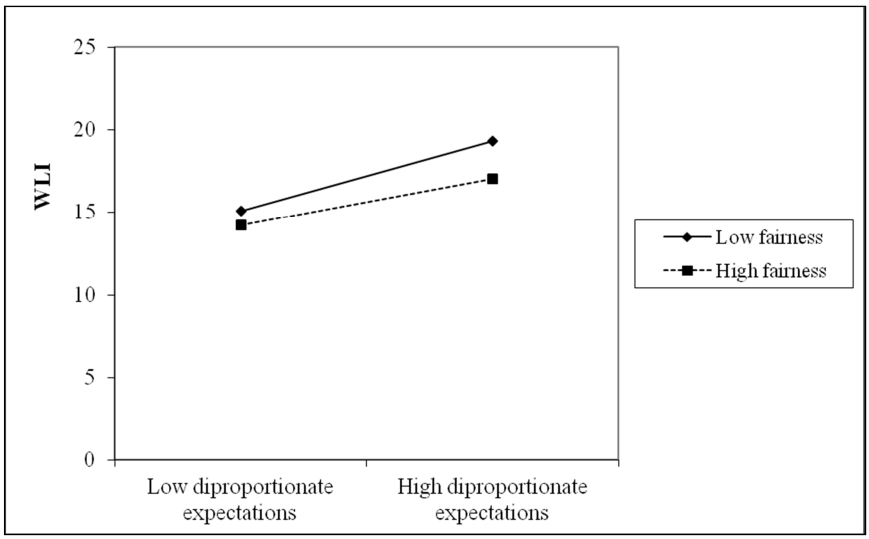

Figure 5. Interaction effect between disproportionate expectations and fairness on work-to-private-life interference (WLI).

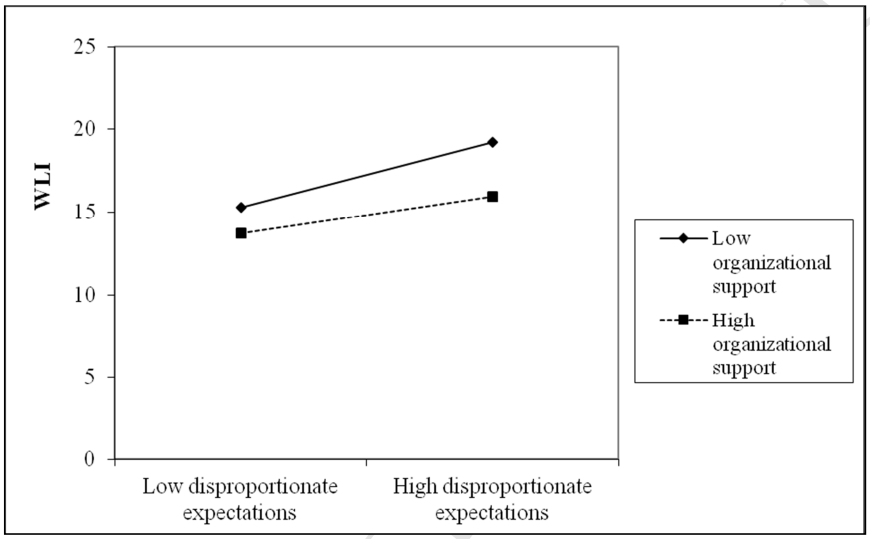

Figure 6. Interaction effect between disproportionate expectations and organizational support on work-to-private-life interference (WLI).

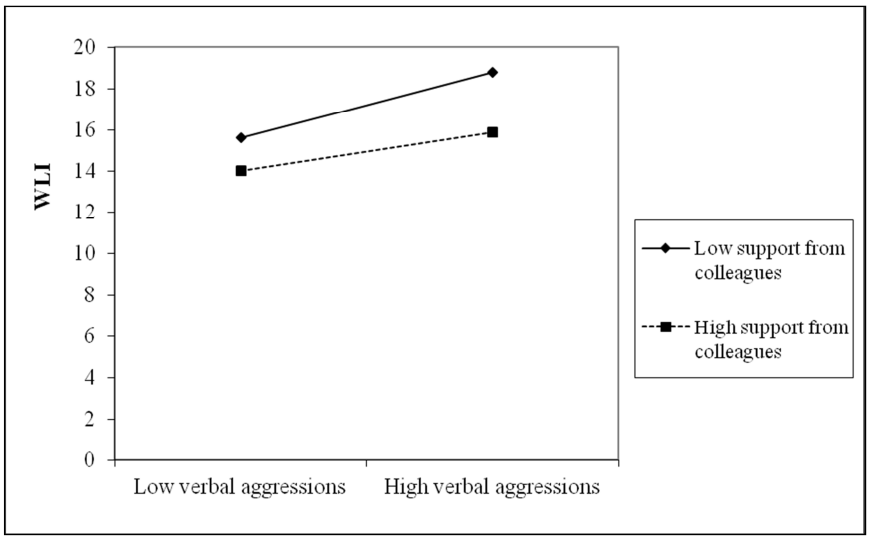

Figure 7. Interaction effect between verbal aggressions and support from colleagues on work-to-private-life interference (WLI).

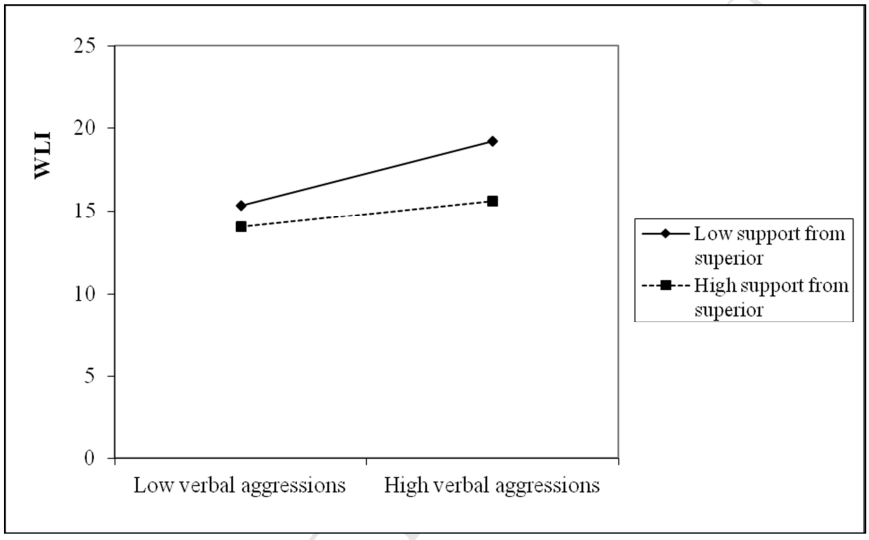

Figure 8. Interaction effect between verbal aggressions and support from superior on work-to-private-life interference (WLI).

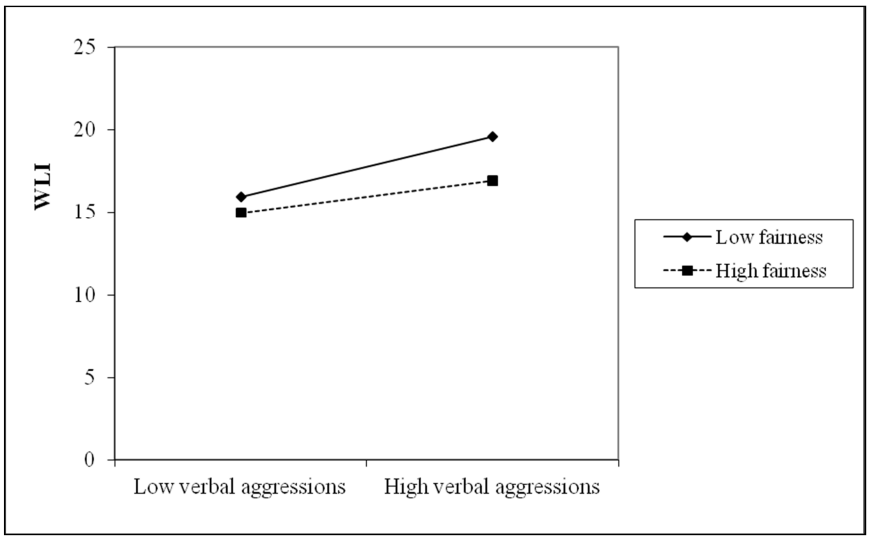

Figure 9. Interaction effect between verbal aggressions and fairness on work-to-private-life interference (WLI).

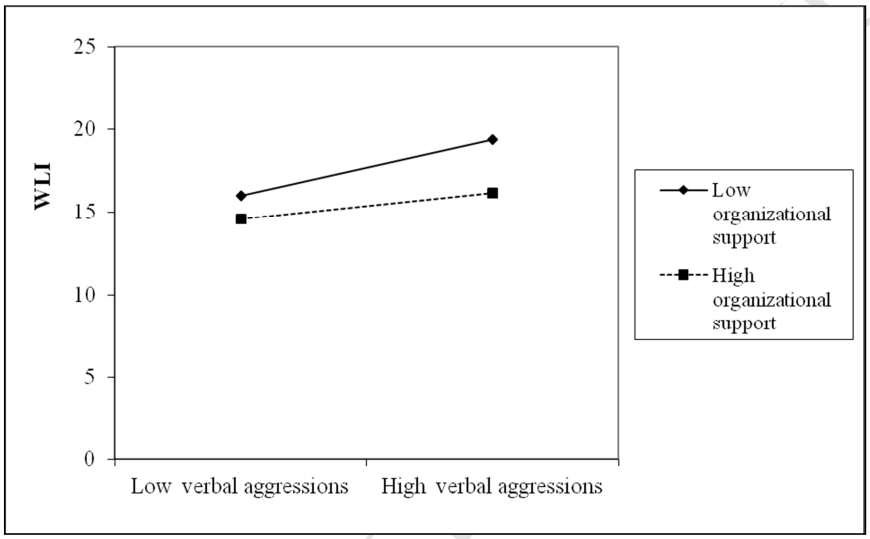

Figure 10. Interaction effect between verbal aggressions and organizational support on work-to-private-life interference (WLI).