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Context specificity in the assessment of psychosocial risk at work: an empirical study on Italian call centre workers

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Summary
Background: *Following EU requirements, in recent years standard procedures for the assessment of work-related stress have been developed in Italy. However, while such standardization has facilitated the spread and use of these procedures, it has brought a lack of specificity in risk assessment.* **Objectives:** *To exemplify a method for the assessment of work-related stress that was developed by the University of Milan to allow the definition of risk profiles tailored to the different organizational settings.* **Methods:** *We examined risk factors for work-related stress in call centre operators employed by two separate Italian companies. At an early stage of the assessment procedure, we conducted a wide series of consultation and training activities that allowed the identification of context-specific risk factors and homogeneous groups, which fuelled the preparation of both the "objective" and the "subjective" evaluation instruments.* **Results:** *Results obtained by means of the standardized "Effort-Reward Imbalance Questionnaire" and "Job Content Questionnaire", interpreted in the light of consultations with key organizational figures and individual interviews with employees, have allowed the detection of different risk profiles and priorities for intervention at both the group and the organizational levels.* **Conclusions:** *Findings demonstrated the existence of both common and specific risk factors in the two companies, which would have remained undetected with the exclusive use of standardized approaches.*

Riassunto
«Specificità di contenuto nella valutazione del rischio lavorativo psicosociale: studio empirico sui lavoratori italiani di call centre. **Introduzione:** *Seguendo modelli europei di buone prassi, in Italia sono stati proposte delle procedure standard di valutazione dello stress lavoro-correlato che hanno facilitato una loro diffusione ed applicazione a scapito, tuttavia, di una buona specificità.* **Obiettivi:** *Con questo studio ci si è proposti di esemplificare il metodo con cui l'Università degli Studi di Milano affronta la valutazione dei problemi "stress – lavoro correlato" al fine di offrire risposte mirate alle diverse esigenze di miglioramento.* **Metodi***: La procedura d'indagine di "operatori di call centre" di due diverse aziende ha previsto, fin dalle prime fasi dell'indagine, una consultazione allargata e*

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formazione per consentire una buona individuazione dei rischi, una selezione dei gruppi omogenei, la messa a punto degli strumenti "oggettivi" e soggettivi. **Risultati:** *I risultati delle scale standard "Effort Reward Imbalance" e "Job Content Questionnaire" interpretati alla luce delle consultazioni con le diverse parti per l'area call centre e delle interviste individuali hanno consentito di rilevare differenti priorità e gravità delle situazioni sia a livello di sistema organizzativo che di gruppo di lavoro.* **Conclusioni:** *I risultati dimostrano problemi comuni e specificità nelle due diverse aziende non rilevabili con le sole misure standardizzate.*

Introduction

The definition of "work related psychosocial risk" refers to the specificity of some aspects of the design and management of work and its social and organisational contexts as a cause of psychological or physical harm; this definition points at the interaction between a concrete and actual risk and the worker's perception to be overwhelmed because unable to cope with it.

As determined by the European Framework Agreement on work Related Stress of October 8, 2004 and, in Italy, the Legislative Decree 81/08, the intervention activities have to be tailored to the problems as they originate in the specific organizational context; furthermore the required culture on occupational prevention and the shared responsibility in preventive measures ask stakeholders to be concerned with the risks and needs specific of their organisation.

The EU-OSHA (8) emphasizes the use of interventions at organizational level as the way of choice of improving working conditions and tackling problems such as work stress. Considering the complexity of such interventions, the PRIMA EF Consortium, as part of the World Health Organization's Healthy Workplaces Framework, has provided policy makers, employers, trade unions, experts and employees with a comprehensive best practice framework for psychosocial risk management on homogeneous groups of workers (12).

The Italian Workers' Compensation Authority (INAIL), formerly the Italian National Institute for Occupational Safety and Prevention (ISPESL), has transferred to Italy the PRIMA EF examples of best practices: procedures and tools (indicators, checklist, questionnaires, focus groups and semi-structured interviews) for assessing and managing work-related stress in different occupational sectors. The preliminary steps reckon on checklists; only if adverse psychosocial conditions are found and a subsequent intervention fails in improving working conditions, a subjective assessment is carried out. An INAIL web platform, still in progress, was implemented to support companies (11).

A previous article of Conway et al. (2) criticizes the INAIL-ISPESL approach because it overlooks the central role of individual cognitive/affective mechanisms in stress reactions (7). In fact, the general models adopted to identify and quantify work-related stress sources, are insufficient (6), in absence of a preliminary phase devoted to identify the specific risk through the different stakeholders and employees participation

In practice, Italy has already done many steps in the recognition, implementation and dissemination of the law; notwithstanding this effort, many attempts to observe the standards have failed because:

- the companies have encountered difficulties to implement risk assessment and preventive actions in a world of work that changes continuously and that is characterized by a recessive economy (outsourcing, unification, restructuration, downsizing, rationalization, delocalization);
- since the beginning, not all managers found adequate aids and supports in setting up a procedure to update prevention measures systematically. Sometimes, stakeholders had the possibility to apply the procedure, but could not engender a different culture on prevention and move from conflicts to a collaborative climate;
- not all were able to integrate health and safety procedures at work with other activities and functions of the company,

- mainly, many employers were afraid of losing confidentiality and control of the assessed outcomes, and tried to avoid possible abuse and misuse like complaints of risks and non-fulfilment.

Even, in the national literature, some papers, focused on intervention implementations, evidence intervention design and implementation negligence, especially in studying specificity. Report of these assessments shows that only check lists and questionnaires have been used, and results do not have a detailed qualitative analysis able to explain the underlying meaning and the specificity of certain results. In these case the intervention activities risk to be not tailored at the problems and cannot include interventions apt to meet the requirements of specific individual employees. This failure may dramatically discourage and counteracts successive investments in the preventive actions and workers' satisfaction, trust and participation.

This article report the procedural choices and the methods of the Department of Occupational Health of the University of Milan to develop a context-dependent assessment at the organizational level as a thorough diagnostic process. An example on two different call centres is given to demonstrate the different impact of different contexts on an homogeneous group of call centre operators.

Procedure

The stress burden to be expected in the call centre tasks was firstly investigated through a mindful literature review.

The literature describes the operators of call centre as workers affected by low discretion (ordinary tasks, low job variability and consequent limited need to use cognitive resources and decision-making), high pressure in processing much information in short time and emotional loads due to possible emotional dissonance and/or supervisor's surveillance style (external monitoring) (4, 15). Especially in-bound activities have shown to impair mental health and work ability (3). In general, call centre routine activities are supported only by external motivation (part-time jobs, retributions, entrance in working world). Thus they should be considered temporary works for young people.

Communication and Information

Preliminary actions involved a number of training sessions on stress nature and consequences on health and wellbeing, prevention strategies and the participation in specific risk evaluation procedures. The training program was addressed to Corporate managers, Security Managers, Health and Safety representatives, Occupational Health physicians. These sessions were carried out by occupational psychologists at the call centres headquarters as well as in video conference.

Workplace Survey

A survey on the organizations was conducted by means of direct interviews and documentary analysis of the companies data (for example: communication system, training/adjournment, human resources management, sickness, accidents, absenteeism, turnover, etc…) with the aims to deepen the knowledge of the structures, their organization and job tasks, to identify the work-related stress characteristics in homogeneous groups, to support the survey planning and to guarantee the best congruence between measures (questionnaire and interviews) and the real working situation.

The procedure settled to develop the program aimed at assessing and managing work-related stress in the two call centres resulted from a number of meetings with the main figures of Top Management, Human Resources, Health and Safety Officers, Workers Representatives and the Occupational Physician as well as the representatives of the various organisational functions both of Headquarters and peripheral branches, either directly or by videoconference. Contents of these meetings were the main features of work related stress, the procedure and the different paths of the process and the search of the entire group agreement on the project objectives. Strengthening the degree of sharing in the solution/finding process was another important goal. In fact, these meetings aimed at ensuring the top management commitment and

permanent support in the different phases of the project as well. An important side effect is an expected future continuous commitment in institutionalized prevention and wellbeing. Detailed description of operational procedures of workers subjective perception survey was given in these meetings which also led to establish a steering committee responsible to start, coordinate and support the various phases of the project.

Selection and/or development of instruments to evaluate workers subjective perception was carried out by means of a series of environment inspections and interviews in some of the locations included in the study. Interviews were carried out with call centre operators, supervisors, duty managers and staff personnel of the Customer Care area to analyse in detail tasks and work procedures, activities organization (timetable, shift rotation, breaks, staff management, performance monitoring) and potential risks for the wellbeing of workers employed in these work sectors. Call centre operators were observed in their activities in order to highlight possible critical situation and this has also given the opportunity to learn the language specificity and terminology of the Customer Care personnel thus adapting the interview terms to the real context under examination.

The subjective assessment was based on the Job Demand – Resources theoretical model (1). Job demands refer to those aspects of a job that require sustained physical and or psychological effort and are associated with physiological and psychological costs, while the construct of "job resources" refers to the aspects of a job related to achieving work goal, to reduce job demand and to promote personal growth, learning and development. In table 1 the items here adopted are shown split in "Job demand" and "Resources domains".

Table 1 - Common factors assessed in the two call centres

	Work demands	Work rewards
Semi-structured Interviews	Low occupational position Seniority at work Low quality of physical environment Low quality of equipments Repetitiveness or excessive variability Factors of time pressure Mental load Emotional load Emotional dissonance Difficult relationship with users Performance monitoring evaluation interference among tasks Role conflict Rotating Shift Horizontal rotation activities Work family conflict	Motivation Adequate resources Appreciation of efforts from supervision Support from colleagues Support from superiors Flexibility of working hours Facility for taking breaks Sufficient training Decision Making Opportunity for promotion Opportunity for learning new skills
Standardized Questionnaires	Job Demand (Karasek, 1998): *Job Skill* *Job Authority* Effort (Siegrist & Peter, 1996): *Effort* *Effort-Reward Imbalance* *Security*	Job Control/Support (Karasek, 1998): *Job control* *Supervisor support* *Coworker support* Reward (Siegrist & Peter, 1996): *Esteem,* *Promotion/salary,*

Sample Selection

The total subject participation was fixed at 30% of the total population. Thus, 35% of subjects in each main function was selected in each branch by means of the stratified casual sampling method, with a proportional allocation according to the real population distribution in work location, gender, age, length of service, qualification, full time or part time, work schedule. It must be observed that the congruence level between the total population and the sample which was finally examined resulted from a compromise between economical and time evaluations and the number of direct interviews to be carried out. This congruence has been guaranteed by the high quality of the interviews information obtained, the stratifying methodology utilised allowing reliability with a homogeneous limited number of subject situations and the high participation rate.

Methods

Before the subjective assessment phase, communication to call centre operators was given by company email on goal and operational procedures of the project "Organizational Wellbeing". Thus, together with the previous meetings on formation/information above described, managers, personnel officers and representatives and supervisors became a valid reference for those individual who needed clarifications on the project procedures. The selected subjects received this communication together with time and place of the survey meeting. Assurance of anonymity and use of data merely for the declared purpose were given.

This study section of about one hour for each subject was carried out in three moments consisting in a structured interview of 10-15 minutes, a self-administered questionnaire (20-25 minutes) and a conclusive semi structured interview on work conditions of 15-20 minutes. This locked procedure in time and place has allowed a total understanding of the study goals and methods avoiding the eventuality of incomplete or misunderstood questionnaires.

Instruments

The semi structured interviews permit to deepen the individual conditions of work and their impact on subjects'wellbeing (self-assessment on a scale 0-10). The main *instruments adopted to measure strain*, were the Siegrist's Effort Reward Imbalance Questionnaire (ERI) and the Karasek's Job Content Questionnaire (JCQ). The ERI questionnaire is based on social exchange theory (13) and defines job stress as a consequence of putting forth high effort while receiving low reward in term of money, esteem, job security and career opportunities. A third construct "overcommitment" can increase job stress through interaction with the imbalance between effort and reward (14). The Karasek's model (5) considers high job stress as the result of high job demands and low job control which reflect the scarce level of skill discretion and decision authority. Social support, as a buffer against job strain at work, from both supervisors and co-workers has been added by the author. Together, these questionnaires ensure to assess different aspects of psychosocial work environments. Job stress variables here included are Job Demands (five items), Job Control (nine items), and Social Support (eight items) of JCQ, they use a 4 point Likert scale (1=strongly agree to a 4=strongly disagree). The ERI questionnaire uses a 6 items scale for "effort" and 11 for "reward" (0=no stressful experience, 4= very distressed). ERI ratio is calculated by dividing effort by reward multiplied by 0.5455 to correct for the item number difference in the two scale.

Statistical data analysis

Analysis of variance was applied to compare mean scores of the two independent group, controlling by sex and age. All tests were two-tailed significance level of 0.01. The free answers to the semi-structured interviews were aggregated on the basis of their meaning and jointed on their underlying constructs (topics), then a mean score of their impact on stress was calculated for any topics.

Results

The study sample included a total number of 781 call centre operators selected with stratified sampling strategy. They represent the homogeneous group of the Technical Assistants working in the Customer Care area: 133 from the company A and 648 from the company B. The participation rate was very high in both companies (>90%). In call centre A, an ex municipal institution, operators had mainly in-bound activities with occasional daily rotation in out-bound and back-office, while in company B they were only in-bound.

The descriptive statistics (table 2) show a prevalence of females and a higher percentage of married workers particularly in company B. In accordance with this kind of employment, the educational level resulted low in both companies, but worse in company B. On the average, the operators of both call centres were relatively young (table 3), however the years of tenure in the call centre B were significantly higher. The majority of the operators of the two companies had a contract "part time", a rotating day-shift and the possibility to obtain a "mother" shift.

The number of operators of company B that reported a mismatch between their high effort and low occupational rewards was double in respect to company A (22.8% versus 11.3%). At the analysis of variance controlled by gender and age table 5), all the scales about work demand and the ERI scales of Reward resulted significantly worse in company B, while Support and Job Control were quite similar.

Table 3 - Descriptive analysis: percentage of the characteristics of the samples by companies

	Company A		Company B	
	Mean	S.D.	Mean	S.D.
AGE (yrs)	32.34	5.22	33.43	3.93
Years of tenure	3.95	1.57	7.97	2.12

Looking at the answers of the interviews and the scores on their relevance on stress, the reasons of high strain appear to depend mainly from Job Demand (figure 1).

Considering *Job pressure,* in company A the management of customers results particularly severe (47.3 %) and cause of fatigue (19.4%) especially due to the work organization (15.3 %). In company B, the alleged reasons regard the target to be reached (32.7 %), the cognitive complexity of the tasks (14.2 %) and the lack of time to complete them (22.0 %).

The *emotional demand*, mainly due to client arrogance, affects 54.4% of operators in company A and 35.8% of company B, but it rises to stressful levels only in the first company; the emotional dissonance is the prevalent reason in company B (35.8%).

The *quality of physical environment*, as a whole, results worse in company A (52.4 % versus 21.5%) as a consequence of the quality of the air (60.2% versus 64.6%), the distance of home from work

Table 2 - Descriptive analysis: characteristics of the samples by companies (Percentage)

	Company A n. 133		Company B n. 648		Total n. 781	
	n.	%	n.	%	n.	%
Female	78	(58.6)	517	(79.8)	595	(76.2)
Male	55	(41.4)	131	(20.2)	186	(23.8)
Single	78	(58.6)	225	(34.7)	303	(38.9)
Married/partnered	49	(36.8)	396	(61.1)	445	(57.1)
Divorced	6	(4.5)	25	(3.9)	31	(4.0)
Post secondary education	92	(69.2)	493	(76.2)	585	(75.0)
Academic education	41	(30.8)	154	(23.8)	195	(25.0)
Working Part-time	92	(69.2)	485	(74.8)	577	(73.87)
Day shift work	103	(77.4)	490	(75.6)	593	(75.92)
Mother's shift	7	(5.3)	117	(18.3)	124	(15.87)

Table 4 - Standardized Questionnaires: means, standard deviations and ANOVA by companies

Demands	Company A N=133		CompanyB N=648		
	Mean	S.D.	Mean	S.D.	*F*
ERI-Effort (min 5-max 25)	9.33	3.56	12.26	3.82	58.1***
Emotional demand (min 1-max 5)	3.01	0.62	3.33	0.57	25.8***
Job demand (min 12-max 48)	34.06	5.69	38.14	5.90	52.8***
Discomfort for monitoring performance (min 1-max 5)	2.52	0.88	2.97	0.59	46.6***
RESOURCES					
ERI-Reward (min 11-max 55)	42.31	9.24	38.86	9.35	14.67***
- *Esteem* (min 1- max 5)	4.11	0.92	3.85	0.91	8.46**
- *Promotion/salary* (min 1- max 5)	3.32	1.06	3.05	1.03	2.81*
- *Security* (min 1- max 5)	4.25	0.97	3.62	1.34	25.23***
Job control (min 24-max 96)	60.78	10.14	58.94	11.21	2.97
- *Job Skill* (min 12-max 48)	32.58	5.25	31.49	5.49	5.25*
- *Job Authority* (min 12-max 48)	28.20	6.93	27.45	7.33	0.82*
Social support (min 8-max 32)	22.78	3.46	22.38	3.14	2.56
- *Supervisor support* (min 4-max 16)	11.07	2.69	10.80	2.39	1.91
- *Coworker support* (min 4-max 16)	11.71	1.63	11.58	1.53	1.25

*** = p <.001, ** p <.01, *= p <.05

place (42.7% versus 57.7%), noise (46.3% versus 28.3%), headphone comfort (42.6% versus 36.0%) and slow and/or poor software (37.9% versus 38.8%)

Interference among different task are frequent among operators of company A (54.7% versus 9.9 %) but with low impact on strain.

As well as Job Demand also Resources prove to be unsatisfactory. In both companies the *career prospect* appears null. The operators are fully aware of this difficulty (83.3% in company A, versus 90.5%) nevertheless it does not represent a disturbing awareness. On the contrary, some opportunities of rewards like monitoring of performances, opportunity for learning new skills with area rotation or training, time flexibility and pause are frequently considered unsatisfactory and sometimes causes of unhappiness.

The daily monitoring of performance is cause of re-

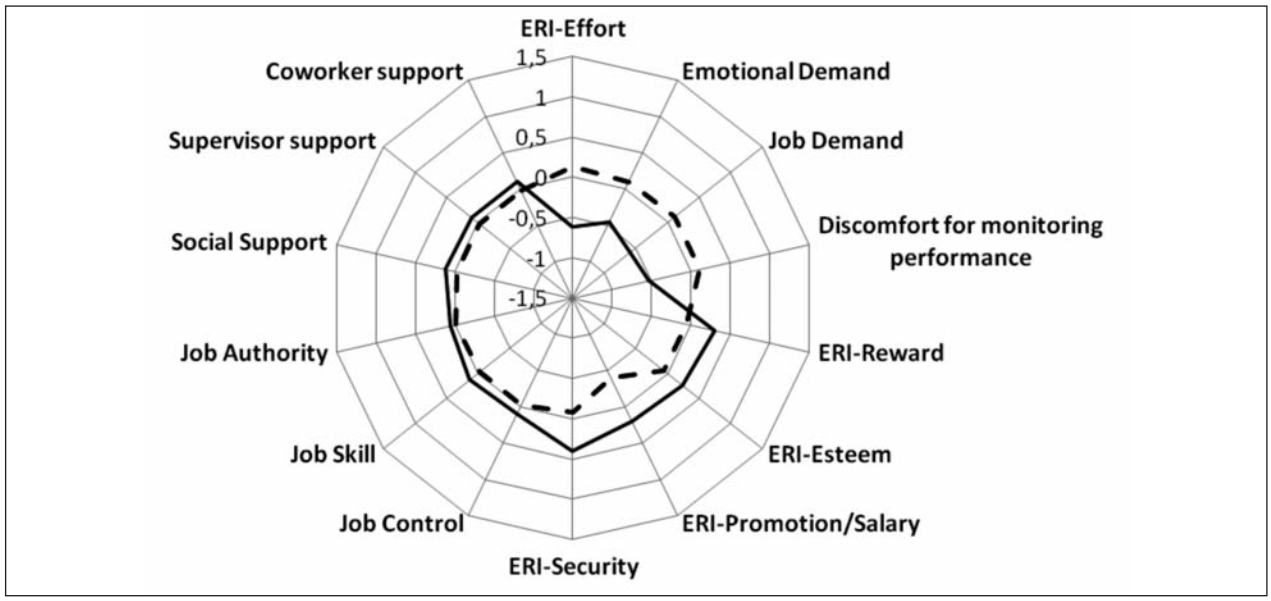

Figure 1 - Graph of comparison between the means score at the variables of "Job demand" and "Resources", in the two call centres (Continuous line=company A)

sentfulness and irritation in company B (44.7% versus 26.3%) but in both companies the impact on stress is high when the management requires quantity instead of quality, the matter regards respectively only 13.8% and 18.0% of personnel. In company A, stressful effects derive from *annual feedback on performance* because it does not seem to reflect the reality perceived by the subjects (23.0%).

In company A *low support of colleagues* (8.5% versus 0) and *low support of superiors* (21.2% versus 7.0%) is worse than in company B, however, when the situation is present, the resentment is high in both call centres.

Area rotation (here considered as opportunity of new skills and variation) involves respectively 41.8% and 49.0% of the operators in the two call centres, but in company B the complaint for the absence of meritocratic criteria results very high (60.0% vs 25.1%). The subjects are generally moved on the basis of organizational needs.

The "*work-family conflict*" and short "lunch break" are evaluate as very stressful in both companies, but scarce time flexibility raised strain only in company B.

The *training opportunities* are not a problem for the majority of these subjects, but in company A, the 19.7% report lack of time to participate in the training courses and their low practical consequence for their job needs with a certain impact on their well-being.

The data results were returned to the homogeneous group of workers in the different Italian head offices to verify their mirroring in the recognized condition, its effective relevance in their strain level and the goodness of the anticipated possible actions of intervention.

Discussion

The basic principle of the law is congruent with the aims of the positive psychology. It requires not a mere inspection but also a change in attitudes and objectives to develop ideas for a positive future.

In the study discussed, since the beginning of the procedure, the workers' participation have ensured a large base to identify the presence of the "work related stress" risk and to distinguish correctly the homogeneous groups. A sufficient number of representative workers has allowed to collect the points of view of many different situations.

The training and support during the procedure has facilitated the realization of a company network and its future autonomy in preventive activi-

ties, and the interiorisation of the well-being culture and practice.

Among the theoretical models to assess properly the work-related stress and to match specificity, the Job Demand-Resources model offers the best possibility to evaluate negative factors, positive and buffer (for example: occasions of restore, job security).

This study, focused on specificity, demonstrates that even if the standardized questionnaires have testified a worse "work related stress" level in Company B (in part due to the higher number of married females, lack of daily rotation among inbound, outbound and back office and higher seniority), the discomfort revealed during interviews did result in many case more frequent and/or higher in company A, especially with regard to difficulties in managing costumers, low support from superiors, low recognition and appreciation of efforts from supervisors, training unrelated to task requirements, interference among different tasks, low quality of physical environment. The different results between standardized questionnaires and interviews are justified by the different contents of the questions.

Even if some reasons of discomfort are common in both companies like bad quality of the air or others, generally they differ in cause, frequency and impact. Only with a future in-depth analysis it will be possible to search adequate solution and maintain the so far achieved participative and collaborative attitude among different workers toward prevention.

This report on the assessment of work related stress in two call centers has been voluntarily limited to some common variables to allow comparison between the two companies in order to think in deep about specificity.

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