

VERIFICATION OF SATISFACTION AND CLIMATE MODELS IN A TOURIST SERVICE ORGANIZATION

ROBERTA MAERAN
DIEGO PICCOLO
CORRADO PITTARO
UNIVERSITY OF PADOVA

In this research study climate and satisfaction models were analyzed in a tourist service organization. More specifically, the aim was to verify Hackman and Oldham's (1980) Job Characteristics Model and Avallone and Paplomatas's (2005) Multidimensional Organizational Health Questionnaire. The research involved 13 hotels from an Italian chain for a total of 440 individuals. The Job Characteristics Model was totally confirmed. As regards wellbeing, perception of people in charge associated with perception of colleagues and increased by fairness are the foundations on which to base a healthy enterprise.

Key words: Climate; Motivation; Satisfaction; Service organizations; Wellbeing.

Correspondence concerning this article should be addressed to Roberta Maeran, Dipartimento di Psicologia Generale, Università degli Studi di Padova, Via Venezia 8, 35131 PADOVA (PD), Italy. E-mail: roberta.maeran@unipd.it

INTRODUCTION

In the tourism sector, competitive intelligence, that is reaching competitive advantages, aims above all to search for elements capable of successfully discriminating products and services.

The tourism industry (Comacchio, 1996), which represents a sizeable segment of the service sector, is mainly oriented toward the client as it is characterized by the relationship established between producer and consumer, who jointly contribute to define quality of supply. In that sense a tourist service organization is a *problem-solving* enterprise, that is to say ready to grasp the signs that come from the environment and promptly respond to them, thus succeeding in being an active part in the continuous innovation process. "Winning organizations do not only respond adequately to external changes, but also primarily contribute to define and determine them. In such organizations learning and innovation are closely interconnected processes, and both are interpretative, constructive, creators of identity, and meaning-makers" (Zucchermaglio, 1996, p. 80).

Service is a "social process" in which the management has the role of determining critical factors and defining and implementing efficacious methods, while the personnel's role is that of guaranteeing quality of service and implementing the services offered. Thus, the economic result of a service enterprise depends — to a greater extent than in other sectors — on the productivity of all the individuals that are part of it, who possess a high degree of discretionality that can condition the specific situations and the managerial choices of the organization itself (De Carlo,

2001). Just because of this, tourist enterprises can be defined as *personality intensity*, in that the quality supplied to the client is basically the product of the way individuals operate, service enterprises tend to be high “personality intensity” in the daily production of quality (Normann, 1992). Therefore, particular importance is to be given to culture, values, climate, as well as to one’s own collaborators’ motivation and satisfaction.

As confirmed in the literature, management of human resources takes on an extremely important role in pursuing the goals of the enterprise (Costa & Gianecchini, 2005; De Carlo, 2002). Quality service can be obtained through control of the climate and role characteristics; a service organization cannot expect its employees to have a positive, high-quality behavior toward customers if the operators do not perceive the organization having the same type of attitude toward themselves.¹

Normann (1992) synthesized this new orientation under the term *personnel idea*, understood as an innovative culture that should permeate every organizational action within the field of human resources; a propulsive force characterized by the need to select the right people, continuous learning and in-service training. In these sectors, the Author maintained, organizations have to summon and concentrate their energy on building and consolidating their business.

Productivity, flexibility, and quality of service can be achieved by creating an operative climate centered on high cooperation between operators and by promoting a highly motivating work environment.

The strengths can be summarized as follows: a) encourage a participatory style, valuing the help of those that cope with problems every day; b) develop communication, relying on feedback — even informal — to share ideas, improvements, as well as problems; c) orient people to problem solving, make the individuals themselves cope with problems decreasing both psychological and operational delegation; d) sensitize people to productivity, also aiming at efficacy of contribution and not only efficiency; e) develop reciprocal training, encouraging exchange of experiences between operators.

Motivation, collaborators’ satisfaction and climate are crucial factors for service organizations because they define and characterize the individuals that work in them, as the “individuals” are indeed the lever to rely on to make an organization a winning one.

It is within this perspective that in a work setting it is necessary to aim at the wellbeing of operators (Jaffe, 1995; Karasek & Theorell, 1990; Williams, 1994) understood both as positive interface between the individual and the organization and also as the new culture of work centered on valorization, as opposed to the old culture that privileged control. Nowadays, motivation, satisfaction (Herzberg, Mausner, & Snyderman, 1959; Locke, 1976; McGregor, 1960), and climate (De Vito Piscicelli, 1991; Majer & Marocci, 2003; Quaglino & Mander, 1987; Schneider, 1990; Schneider, Salvaggio, & Subirats, 2002) are considered key factors for the construction and development of an organization, because the continuously evolving work market affects organizations and the people that make them.

METHOD

The aim of the present research² was to analyze and understand the dynamics taking place within a service organization in terms of climate and motivation. In particular, the aim was

to verify Hackman and Oldham's (1975, 1976, 1980) Job Characteristics Model, which led the authors themselves to develop the Job Diagnostic Survey, JDS (an instrument for the detection of motivation and satisfaction), and Avallone and Paplomatas (2005) to devise the Multidimensional Organizational Health Questionnaire, MOHQ, "which allows to examine the set of organizational processes and practices that affect the wellbeing of the working community" (p. 75).³

PARTICIPANTS AND PROCEDURE

The research was carried out in a tourism enterprise that has the typical characteristics of an organization with high personnel intensity and high customer contact, the Italian chain Jolly Hotels. It was conducted in 13 hotels of the chain and data were collected from 520 respondents, but, due to missing values, a final sample of 440 was considered for analyses,⁴ divided by role: department head (23.7%) or collaborator (76.3%); and sector: reception (24.7%), kitchen (15%), restaurant/bar/room service (20.6%), floors (22.8%), administration (6.8%), maintenance (5.1%), sales (2.9%), management (2.2%). People involved in the research were quite equally divided between males (56.8%) and females (43.2%), average age was 38.02 ($SD = 9.99$) with 60% of the respondents having a secondary school degree.

QUESTIONNAIRE

The instrument utilized in the research is composed of Avallone and Paplomatas's (2005) Multidimensional Organizational Health Questionnaire (MOHQ) and Hackman and Oldham's (1980) Job Diagnostic Survey (JDS).⁵ The two instruments allow the analysis of complementary decisions as shown in Figure 1.

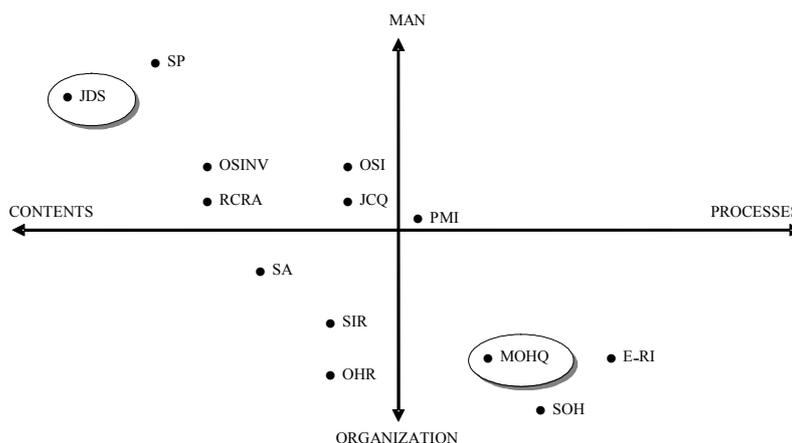


FIGURE 1
 Comparison among MOHQ, JDS, and other international instruments⁶
 (from Avallone & Paplomatas, 2005).

The analysis model proposed by the MOHQ involves the evaluation of the set of processes and practices that affect wellbeing at work, while the JDS considers dimensions connected with the individual and the contents/characteristics of the task.⁷ All analyses on JDS Model were conducted on observed variables obtained by aggregating specific items. The measures of reliability obtained using Cronbach's Alpha are: Job Characteristics ($\alpha = .75$), Critical Psychological States ($\alpha = .74$), Affective Outcomes ($\alpha = .76$), Context satisfaction ($\alpha = .82$).

The MOHQ measures individuals' perceptions of organizations allowing the detection of possible critical areas. Thus, employees' perception of their organization, and not their specific objective knowledge, is recorded. The sum of the single perceptions gives the overall data an objective value.

The JDS is based on Hackman and Oldham's (1976) Job Characteristics Model (see Figure 2). According to that model, high levels of motivation, satisfaction (personal results), and efficiency (occupational results) are linked to particularly critical psychological states which, in turn, are connected with specific characteristics of the task. It measures a person's reactions and feelings experienced in his or her job.⁸ As an instrument for data collection, it can be considered part of a multiple-diagnosis method (it can be flanked by interviews with workers and supervisors) to analyze working situations that are being reorganized or developed. It can also be used to verify a process of organizational change as it allows a comparison "before" and "after" the intervention (Taber & Taylor, 1990).

As an instrument of diagnostic investigation, in its *descriptive* use of the task, the JDS allows to obtain an accurate and objective picture of the working reality; its *previsional* features help detect "alarm" signals on current or looming problems allowing timely interventions; its *investigative* aspect allows to detect and determine the causes of a problem, thus avoiding wasting energies and resources. The diagnostic use of these motivational investigations is an added channel of communication between the organization and the collaborator. Each application takes on an important role in defining and constructing a "shared culture".

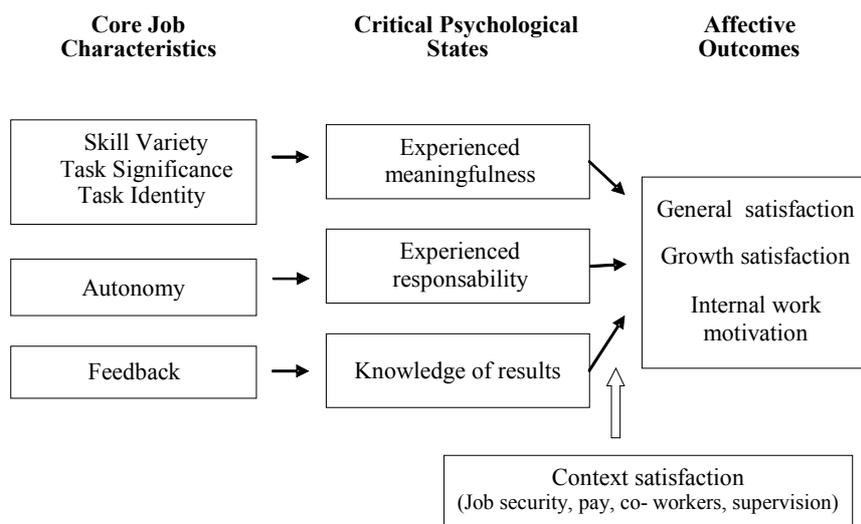


FIGURE 2
 The Job Characteristic Model.

RESULTS AND DISCUSSION

The present paper illustrates the results of the structural analyses carried out to empirically examine the relation model between the constructs determined via the factor analyses, in function of the theoretical hypotheses formulated for both instruments.

Job Diagnostic Survey

The relationship between the model's three dimensions — the characteristics of work, critical psychological states, and affective outcomes — was analyzed/considered. The correlations between the three dimensions are all positive and high. We then proceeded considering the affective outcomes as the dependent variable, following Hackman and Oldham's model, to see how and how far the intensity of work and the critical psychological states could affect this variable. An analysis (multiple regression) showed the mediating role played by the critical psychological states in the relationship between type of work and affective outcomes, as in Hackman and Oldham's model. The influence of the characteristics of the work on the affective results is not direct but mediated by the critical psychological states. Indeed, analyzing the partial correlation, it has been noted that, controlling the effect of the mediating variable, the correlation between characteristics of work and affective outcomes tends to zero. The simple correlation between Job Characteristics and Affective Outcome is .423.

As shown in Figure 3, the role of critical psychological states becomes crucial in the process of creating affective outcomes.

Such psychological states (job significance, responsibility, being aware of results) could be a mediating variable between the job characteristics that originate them and the affective results that they themselves originate.

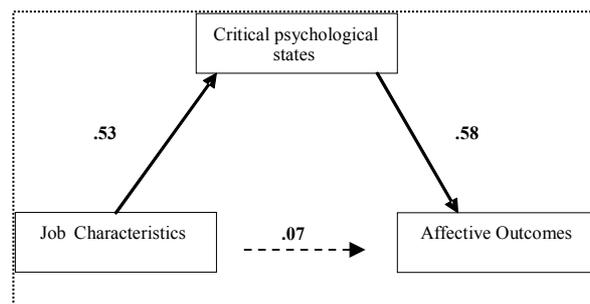


FIGURE 3
Job Characteristic Model: multiple regression.

Subsequently, the model proposed by the Authors was verified by inserting the Context satisfaction dimension in the analysis in order to examine whether it was related with the molar dimensions of the model. In doing that, the original theoretical model was used, which hypothesizes psychological states to affect also Context satisfaction and to be able to influence the most intrinsic aspects of work, affective results.

The verification carried out via LISREL 8.71 (Jöreskog & Sörbom, 1996-2001), which confirms the goodness-of-fit of the proposed model, is shown in Figure 4.

As can be seen, Hackman and Oldham's Job Characteristics Model is fully confirmed, as already highlighted by the regression coefficient analysis: job characteristics are positively correlated with critical psychological states and only through them can they influence affective results. The hypothesized model, which predicted a correlation between critical psychological states, affective results, and context satisfaction, is also confirmed. Critical psychological states can be seen to influence affective results more substantially ($\beta = .58$), but also context satisfaction to a lesser degree ($\beta = .47$; $R^2 = .34$). It is also clear that a positive relation exists between the two satisfactions, the more intrinsic represented by affective results and the more extrinsic represented by the context. The model explains 34% of the variance with respect to Affective results, and 22% of the variance concerning Context satisfaction.

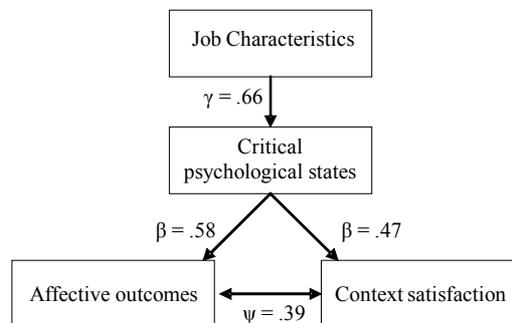


FIGURE 4

Theoretical model verification.

($\chi^2 = 8.55$; $df = 2$; $p = .014$, very close to the criterion, .05; moreover, CFI = .99 goes beyond the criterion, .95. The model is likewise supported by the indices SRMR = .032, NNFI = .97, and RMSEA = .08). (Schermelleh-Engel, Moosbrugger, & Muller, 2003).

Our results seem to support the model, but more in general they are in line with what was found in many other studies on job satisfaction (Behson, Eddy, & Lorenzet, 2000), in which the dimensions that seem to be more greatly correlated with people's job satisfaction are: role content, autonomy, level of responsibility, and feedback on objectives.

Job characteristics have actually been shown to significantly affect how a job can motivate and satisfy the individuals that do it. However, more than on this relationship, which is clearly indirect, the attention must be placed on the ability a job has to generate the psychological states that can lead individuals to feel responsible for the results of their work. That would then help them to shift their locus of control, which justifies the output of their work, from external (supplying information about what happens in terms of environmental causes or bad luck, external to the person) to internal (supplying explanations of what happens in terms of personal commitment and one's own rather than others' merits and faults) and thus generate a process of empowerment, that is to say of responsabilization of the individual. Also the job characteristics that Piccardo (1995) indicated as necessary to activate this process to a great extent recall those previously analyzed. The Author maintained that a responsabilizing job must allow individuals to express their own potentials, to be autonomous, to access the necessary re-

sources to pursue their goals, to develop high esteem and confidence in their own abilities. In addition, aspects such as autonomy, task significance, and variety emerge from this model. It becomes paramount to pay attention to job planning and job characteristics, not only in terms of physical safety or productive efficiency, but considering more greatly that what employees do can affect their satisfaction, their motivation and, in the end, their productive effectiveness.

Psychological states can be seen as the bridge that connects job characteristics and satisfaction. In this model they are the central focus of the relation between job characteristics and satisfaction. According to what Behson et al. (2000) stated in their review of the numerous studies carried out with the JSD, critical psychological states are indeed able to explain the relation between the dimensions involved in the Job Characteristics Model.

MULTIDIMENSIONAL ORGANIZATIONAL HEALTH QUESTIONNAIRE

Following factor analyses, with Varimax rotation (factors explain the 48.8% of total variance), and the analysis of means of the different factors defining an organization as “healthy,” also thanks to the data collected via the MOHQ, a theoretical model of relations between dimensions was developed (see Figure 5).⁹

The item-scale correlation coefficients had values greater than .40 for each factorial dimension that emerged. Thus, we can conclude by saying that all the factors used for survey had a satisfaction reliability.

Always using structural equation models for observed variables (LISREL 8.71; Jöreskog & Sörbom, 1996-2001) the correspondence between a theoretical model and our data was evaluated.

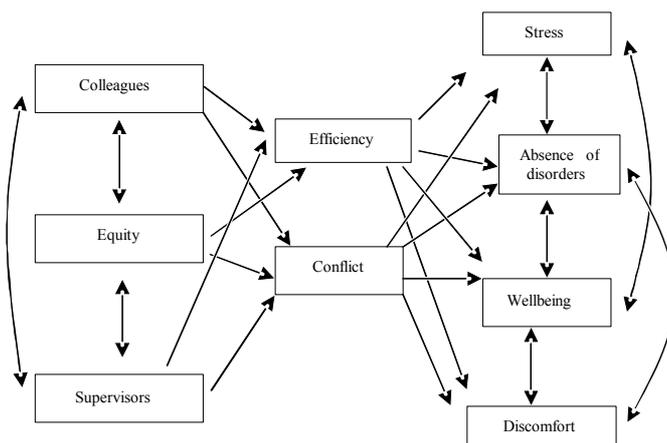


FIGURE 5
 Theoretical model of relations between dimensions
 (Cronbach's alphas: colleagues .71, equity .88, supervisors .83, efficiency .74, conflict .70, stress .66, absence of disorders .89, wellbeing .86, discomfort .91).

The hypothesized model predicts the influence of Perception of persons in charge, Perception of fairness, and Perception of colleagues on absence of Psychosomatic disorders, Stress, Indicators of wellbeing, and Indicators of discomfort, mediated by the constructs Perception of efficiency and Perception of conflictuality.

First of all, the goodness-of-fit indices of the final model are extremely adequate: $\chi^2 = 3.23$; $df = 1$; $p = .072$; NNFI = .97; CFI = 1; SRMR = .012; and RMSEA = .072 (see Figure 6).

In the relationship between variables, the perception of Supervisors positively influences the perception of organizational Efficiency ($\gamma = .35$) and Wellbeing ($\beta = .29$), and negatively influences the perception of Discomfort ($\beta = -.26$) and Conflict ($\gamma = -.33$). The perception of Colleagues only affects the perception of Wellbeing ($\beta = .12$). The perception of Equity positively influences the perception of Efficiency ($\gamma = .36$), the perception of Absence of disorders ($\beta = .40$) and Wellbeing ($\beta = .39$), while negatively influences the perception of Conflict ($\gamma = -.28$), Stress ($\beta = -.22$), and Discomfort ($\beta = -.42$). The perception of Organizational Efficiency positively influences the perception of Wellbeing ($\beta = .24$) and the Absence of disorders ($\beta = .14$), however, it negatively influences the perception of Discomfort ($\beta = -.22$). The perception of Conflict, however, positively influences the perception of Stress ($\beta = .14$) and Discomfort ($\beta = .23$) and negatively influences the perception of Wellbeing ($\beta = -.14$) and the Absence of disorders ($\beta = -.21$).

A better perception of persons in charge can be said to improve perception of organizational efficiency and decrease perception of conflictuality. In addition, perception of managers directly improves perception of wellbeing and decreases discomfort.

Fairness favours the conviction that everyone must work to obtain shared results (organizational efficiency); moreover, its influence is not only indirect — it increases wellbeing and lack of disorders and decreases stress and discomfort — but also direct.

Perception of colleagues acts directly on increasing perception of wellbeing and removes almost completely any trace of conflictuality, which can lead to stress and discomfort.

In addition to supporting what was theoretically hypothesized, the model examined confirms that perception of persons in charge, associated with perception of colleagues and increased by fairness, makes up the pillars of a healthy firm.

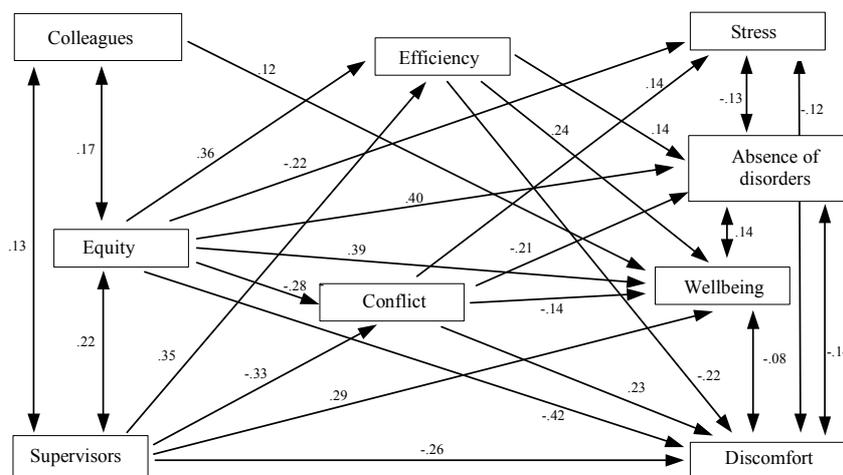


FIGURE 6
 Final model of relations between variables.

The two instruments used (MOHQ and JDS) probe complementary dimensions to analyze two constructs that are different by definition. The results allow some congruence areas to be established both in the theory underlying the constructs and in the results obtained through the analysis of empirical data. The first thing to emerge is the importance of style of human resources management. The critical dimensions for organizational wellbeing are fairness, valorization, stress, and listening. Besides empirically confirming what was theoretically hypothesized, the model allows also to outline possible pathways of intervention on the main dependent variables (indicators of wellbeing and discomfort) which represent the end of the process.

Crucial to personnel satisfaction and motivation are, instead, the psychological states of meaning and responsibility for the job.

Moreover, the present research has highlighted that a clear-cut separation between intrinsic and extrinsic aspects of satisfaction does not exist, at least in this case. Albeit remaining conceptually and practically distinct elements, they seem to influence one another, establishing a fluid rather than dichotomous relationship, in which psychological states and context satisfaction are able to affect satisfaction and intrinsic motivation. As far as meaning and responsibility are concerned, satisfaction with job experience can be felt without too much consideration being paid to context aspects that may yield little satisfaction. On the other hand, context characteristics can weaken dissatisfaction with lack of some critical psychological states and, likewise, overall satisfaction and context satisfaction can reciprocally balance out.

Finally, the verification of the impact of socio-demographic characteristics, role, and sector may influence the validity of the models (whose absence can be a limitation of this study) and will be a future step.

NOTES

1. Lovelock (1996) went back to this type of dynamics and proposed a model known as “cycle of failure,” in which two closely connected phenomena were highlighted: failure with employees and failure with customers. In this model, the Author maintained that when dissatisfied personnel supply poor service that does not respond to customer requests, a customer dissatisfaction cycle is initiated that will end in the non-fidelization of the customers themselves. The firm will then have poor service and high turnover.
2. The study was carried out thanks to the collaboration of the *Direzione Risorse Umane* [Human Resources Management], Jolly Hotels. Special thanks go to Mrs A. De Grandis and to Dr. L. Vignaga.
3. This paper presents no data on single factors — fields analyzed by the instruments applied — but rather the verification of the theoretical reference models.
4. No tests were conducted to verify the impact of sociodemographic characteristics, role, and sector that may influence the validity of the models presented in this paper.
5. The questionnaire (see Maeran & Martino, 1996) was administered to small groups (five to eight individuals per group in accordance with the needs of the hotel) following the ideal method proposed by the models used for the evaluation of climate and satisfaction.
6. SP, The Stress Profile (Setterlind & Larsson, 1995). OSINV, Occupational Stress Inventory (Osipow & Spokane, 1987). OSI, Occupational Stress Indicator (Cooper, Sloan, & Williams, 1988). RCRA, Measures of Role Conflict and Role Ambiguity (Rizzo, House, & Lirtzman, 1970). JCQ, Job Content Questionnaire (Karasek, 1985). PMI, Pressure Management Indicator (Williams & Cooper, 1998). SA, Stress Audits (Lancaster, Pilkington, & Graveling, 1999). SIR, Stress Incident Record (Newton & Keenan, 1985). OHR, Organization Health Report (Fiorelli, Alarcon, Taylor, & Woods, 1998). E-RI, Effort Reward Imbalance (Siegrist & Peter, 1996). SOH, Supervising Organizational Health (Lyden & Klengle, 2000).
7. With the collaboration of the *Direzione Risorse Umane* [Human Resources Management] of the organization, the two chosen instruments were adapted, especially as regards terminology. Two of the original seven scales that make up the MOHQ were excluded (security and comfort). The questionnaire used

was then made up as follows: part 1, characteristics of the work setting; part 2, positive and negative indicators of organizational wellbeing; part 3, psychophysical wellbeing; part 4, openness to innovation; part 5, suggestions.

8. The JDS measures the following dimensions: Job characteristics (range of abilities; meaning and identity of the task; autonomy; feedback; relationship with others); Critical psychological states (job significance; job responsibility; awareness of results); Affective results (general satisfaction; intrinsic motivations; satisfaction with professional development); Satisfaction with some aspects of the setting (certainty of job; economic rewards; social relationships; type of supervision).
9. Given that fairness and valorization are the critical areas most often found in the organization examined, and given that the people in charge do not always seem to have a constructive and motivating management style, the aim is to see whether and how these aspects may affect the health of the organization.

REFERENCES

- Avallone, F., & Paplomatas, A. (2005). *Salute organizzativa* [Organizational Health]. Milano: Cortina Editore.
- Behson, S. J., Eddy, E. R., & Lorenzet, S. J. (2000). The importance of the critical psychological states in the job characteristics model: a meta analytic and structural equations modeling examination. *Current Research in Social Psychology*, 5, 170-189.
- Comacchio, A. (1996). *Le risorse umane nelle imprese turistiche* [Human resources in tourism enterprises]. Torino, Italy: Giappichelli Editore.
- Cooper, C. L., Sloan, S. J., & Williams, S. (1988). *Occupational stress indicator management guide*. Oxford, UK: NFER-Nelson.
- Costa, G., & Gianecchini, M. (2005). *Strategia risorse umane e valore* [Human resources strategy and value]. Milano: McGraw Hill.
- De Carlo, N. A. (2001). *Le imprese cercano* [Companies seeking]. Milano: FrancoAngeli.
- De Carlo, N. A. (2002). *Teorie e strumenti per lo psicologo del lavoro* [Theories and instruments for the work psychologist] (vol. 1-2). Milano: FrancoAngeli.
- De Vito Piscicelli, P. (1991). *La diagnosi organizzativa* [Organizational diagnosis]. Milano: FrancoAngeli.
- Fiorelli, J. S., Alarcon, G. A., Taylor, E., & Woods, K. (1998). The organization health report: An HR metric to mobilize executives into action. *Human Resource Planning*, 21(2), 12-19.
- Hackman, J. D., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60(2), 159-170.
- Hackman, J. D., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behaviour and Human Performance*, 16, 250-279.
- Hackman, J. D., & Oldham, G. R. (1980). *Work redesign*. Reading, UK: Addison-Wesley.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. New York: Wiley & Sons.
- Jaffe, D. T. (1995). The healthy company. Research paradigms for personal and organizational health. In S. L. Sauter & L. R. Murphy (Eds.), *Organizational risk factors for job stress* (pp. 13-39). Washington, DC: American Psychological Association.
- Jöreskog, K. G., & Sörbom, D. (1996-2001). *LISREL 8 user's reference guide*. Chicago: Scientific Software International.
- Karasek, R. A., & Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of working life*. New York: Basic Books.
- Karasek, R. A. jr (1985). *Job content questionnaire and users' guide*. Los Angeles: University of Southern California Department of Industrial and Systems Engineering.
- Lancaster, R. J., Pilkington, A., & Graveling, R. (1999). *Evaluation of the organisational stress health audit*. Sudbury, MA: HSE Books.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1293-1349). Chicago: Rand McNelly.
- Lovelock, C. H. (1996). Le risorse umane come fattore prioritario di successo del servizio [Human resources as a primary factor in service success]. *De Qualitate*, 11, 4-15.
- Lyden, J. A., & Klengle, W. E. (2000). Supervising organizational health. *Supervision*, 61, 12, 3-6.
- Maeran, R., & Martino G. (1996). *Job Diagnostic Survey, strumento per l'analisi della soddisfazione nel lavoro di Hackman e Oldham. Adattamento italiano* [Job Diagnostic Survey. An instrument for the analysis of satisfaction in the work by Hackman and Oldham. Italian adaptation]. Padova, Italy: Edizioni Logos.
- Majer, V., & Marocci, G. (2003). *Il clima organizzativo* [The organizational climate]. Roma: Carocci.

-
- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- Newton, T., & Keenan, A. (1985). Coping with work-related stress. *Human Relations*, 38, 107-126.
- Normann, R. (1992). *La gestione strategica dei servizi* [Service management strategy and leadership in business service]. Milano: Etas Libri (original work published in 1984. Ltd: Wiley-Sons).
- Osipow, S., & Spokane, A. (1987). *Manual for occupational stress inventory: Research version*. Odessa, FL: Psychological Assessment Resources.
- Piccardo, C. (1995). *Empowerment*. Milano: Raffaello Cortina Editore.
- Quaglino, G. P., & Mander, M. (1987). *I climi organizzativi* [The organizational climates]. Bologna, Italy: Il Mulino.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15(2), 150-163.
- Schermelleh-Engel, K., Moosbrugger, H., & Muller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and goodness-of-fit models. *Methods of Psychological Research Online*, 8(2), 23-74.
- Schneider, B. (1990). The climate for service: An application of the climate construct. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 383-412). San Francisco: Jossey-Bass.
- Schneider, B., Salvaggio, A., & Subirats, M. N. (2002). Climate strenght: A new direction for climate research. *Journal of Applied Psychology*, 87(2), 220-229.
- Setterlind, S., & Larsson, G. (1995). The stress profile: A psychosocial approach to measuring stress. *Stress Medicine*, 11, 85-92.
- Siegrist, J., & Peter, R. (1996). *Measuring effort-reward imbalance at work guidelines*. Dusseldorf, Germany: University of Dusseldorf.
- Taber, T. D., & Taylor E. (1990). A review and evaluation of the psychometric properties of the job diagnostic survey. *Personnel Psychology*, 43, 467-500.
- Williams, S. (1994). Ways of creating healthy work organizations. In C. L. Cooper & S. Williams (Eds.), *Creating healthy work organizations* (pp. 7-24). Chichester, UK: John Wiley & Sons.
- Williams, A. & Cooper, C. (1998). Measuring occupational stress: Development of the pressure management indicator. *Journal of Occupational Health Psychology*, 3, 306-321.
- Zucchermaglio, C. (1996). *Wygotskij in azienda* [Wygotskij in the organization]. Roma: La Nuova Italia Scientifica.