

Organizational Factors Impacting on Climate Perceptions: A Mixed Method Study in Health Care Units

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Abstract

There is a growing interest in work environment of health care staff since they are at high risk for job dissatisfaction. Current literature agreed on the existence of a positive relationship between service climate and job satisfaction, and between service climate and customer satisfaction. The present study investigates the organizational dimensions having a greater impact on climate perceptions, in a sample of Italian health care staff and in a sample of patients' parents. A qualitative and quantitative approach has been chosen to assess organizational climate dimensions, taking into account the opinions of both medical and nursing staff and parents' patients. Participant observation has been integrated by a questionnaire survey (anonymous questionnaires). The setting is represented by two paediatric wards of two government-funded hospitals in Naples, Italy. The survey have been carried out in 2011 in the ward of the first hospital, and in 2013 replied in the same ward transferred in other hospital. Two typologies of questionnaires were distributed respectively to medical and nursing staff, and parents' patients. 79 questionnaires for medical and nursing staff and 95 questionnaires for patients' parents were returned and analysed. In both wards the highest scores were recorded for cooperation among employees. The most appreciated aspects by parents' patients are professional capabilities of medical staff and quality of nurse - patient relationship. Relationship with leader and cooperation with colleagues are the organizational dimensions having a major influence on climate perceptions. Participative leadership is associated with high levels of job satisfaction.

Keywords: Service climate, Health care staff, Job satisfaction, Customer satisfaction

1. Introduction

The centrality of human resources is a strategic asset that can affect the value creation supporting the idea that an effective human resource management promotes organizational performance. Human resources are even more emphasized in healthcare organizations, where job satisfaction is increasingly recognized as a critical measure of outcome of care, especially for its relation with patient satisfaction.

In this context, where quality of service and efficiency are closely linked to human factor, there is the need to introduce tools to assess organizational performance and climate. Healthcare organizations can provide a quality service only if workers perceive they are considered as value resources and they can be in turn attentive to patients' needs (De Simone, 2013a).

Climate analysis can contribute to a change process, based on a reformulation of interpersonal relations. The direct employees' involvement can increase the likelihood that a change in the workplace produces the expected results.

Organizational climate can be defined as the policies, practices and procedures and behaviors that get rewarded, supported, and expected in a work setting and the meaning those imply for employees (De Simone, 2013b). Organizational behavior scholars use and apply psychological, sociological, economic and organizational perspectives in order to understand and predict the determinants of human behaviour. One of the purposes of organizational behavior management is to create a link between performance and satisfaction, by understanding the attitudes of individuals, groups and organizations (Knights & Willmott, 2007).

It is not always easy to change attitudes to increase job satisfaction. That's why many organizations enable periodic climate analysis to understand employees' attitudes towards job attributes, policies, reward systems, progression of career, training, leadership style, organizational structure (Tosi, & Pilati, 2002). Recent studies on the relationship between organizational performance and climate have showed that a positive work environment can help to improve outcomes, by creating a positive perception of how things are made, reducing work stress and favouring innovations, as a response to environmental and organizational change (Schneider, Ehrhart, & Macey, 2011).

The climate analysis enables to assess the work environment, through employees' perceptions towards the totality of organizational policies, practices and procedures (James, & al. 2008). Members observe and interpret their work environment in order to attribute them a meaning which traduces into activities, tasks and actions (Ashfort, & Mael, 1989). Climate is what employees observe happening to them and around them and the meaning given by employees to organizational events, such as how to implement a project, to interface with a colleague or customers, to interpret a communication from a superior. Climate is theoretically a multi-level construct of shared employees' perceptions. The climate is concretely reflected in the description of relational aspects, such as team cohesion or leader support, and structural aspects, such as job attributes or performance assessment system. In brief it describes the feeling of an organization (Glick, 1985).

The participative leadership style, with involvement decision-making, is often associated with high levels of employees' satisfaction (Tosi, Pilati, 2002).

Research has suggested that climate perceptions are associated with a variety of important outcomes at the individual, group, and organizational levels. Schneider and colleagues demonstrated that service climate is related to customer perceptions of service quality (Schneider, White, & Paul, 1998). Expanding such arguments to health care setting, it's anticipated that the positive work environment will predict job and customer satisfaction. The paper focuses on the results of an empirical survey that has been conducted in 2011 in a paediatric unit of an Italian hospital, in Naples (De Simone, 2013b), replied in 2013 in the same paediatric unit transferred in another hospital. Since it's the first case in Italy of the transfer of the whole paediatric unit of a generic hospital in other hospital specialised in children care, it's interesting to analyse potential variations in perceptions of climate of the medical and nursing staff and to analyse the point of view of parents' patients on health care service provided. This study utilizes data from multiple sources (medical doctors, nurses and patients).

2. Hypothesis and Method

The study aimed to investigate the organizational factors impacting on climate perceptions, by verifying the following hypotheses:

H1. Participative leadership will be positively associated with service climate.

H2. Service climate will be positively associated with customer satisfaction.

We opted for a mixed approach that combines qualitative and quantitative methods to assess organizational climate, taking into account the opinions of health care staff and parents' patients (De Simone, 2013b). The preference is given to the quantitative method.

2.1 Setting, Design and Sample

This study focused on paediatric units (or wards) of two government-funded hospitals in Italy. The first hospital “Cardarelli” was a generic hospital in the metropolitan area of Naples. The second one “Santobono” was specialised in children care. The survey has been conducted in 2011 within the paediatric unit of “Cardarelli”, and it has been repeated in 2013 within the same paediatric unit, transferred in “Santobono” hospital. These paediatric units were chosen because it’s the first case in Italy concerning the transfer of the whole paediatric unit of a generic hospital, with the same medical responsible, in other hospital specialised in children care.

The paediatric unit of “Cardarelli” hospital (PUC) had 32 beds for ordinary staying, 10 beds for day hospital and 6 beds for emergency. At the time of the survey, the unit had about 3.000 hospitalizations for year and 7.000 for emergency with hospital stay of 3 days.

The paediatric unit of “Santobono” hospital (PUS) had 12 beds, about 895 hospitalizations for year and 7.000 for emergency with hospital stay of 5 days.

Data were collected in January 2011 within PUC, and in December 2013 in PUS. We obtained data from two sources within the hospital. First, medical and nursing staff provided data on organizational climate. Second, parents’ patients rated their satisfaction with care provided.

Qualitative research was conducted with the use of participant observation, in which the researcher is inserted in a direct manner and for a period of time in a particular social group, by establishing a relationship of personal interaction with its members in order to describe the actions and understand their motivations. The information and data observed by the researcher are recorded in the notebook.

To reduce the subjectivity of the survey data, participant observation has been integrated by a questionnaire survey.

Organizational climate is assessed with two psycho-social questionnaires.

The first questionnaire consisted of 27 items addressing seven organizational dimensions: (i) *Nature of interpersonal relationships* (6 Items); (ii) *Leadership style* (6 Items); (iii) *Job attributes* (10 Items); and (iv) *Reward system and organizational support* (5 Items). Using a 5-point Likert-type scale (from “strongly disagree” to “strongly agree”), medical doctors and nurses were asked whether specific elements were present in their work-place.

The second questionnaire investigates aspects such as: health care; courtesy and professional capabilities of medical and nursing staff; and hygienic conditions of the hospital.

Two anonymous questionnaires were distributed respectively to the health care staff working in the two wards of the two hospitals, and to parents’ patients. 77 questionnaires for medical and nursing staff (37 in PUC and 40 in PUS) and 95 questionnaires for patients’ parents (42 in PUC and 53 in PUS) were returned and analysed. The full sample of health care staff is represented by about 37% of doctors and 63% to the nurses.

2.2 Data Analysis

Descriptive analyses were useful to describe the distribution of the most interesting items and to identify the related position and variability index. In addition, we opted for a factorial approach, the Principal Component Analysis, to summarize the available information and ensure minimal loss of information.

It is assumed there is a "latent" structure among the original variables that can highlight specific climate dimensions. The latent variable concerns an unobserved phenomenon and an abstract concept arising from the relation of the original variables (in this case the items of the questionnaire). The Principal Component Analysis allows to reduce p original variables and obtain h new variables ($h < p$) not related among them and linearly related with the original variables. These new variables “latent components” are ordered according the variability percentage of the original data. In order to interpret the latent components, we used the “factor loading”, indicating how the latter variables are "explained" by the originals ones. The latent components are explained by the linear correlation coefficient of Bravais-Pearson: the correlation indicates the trend of two variables to shift in the same direction (positive correlation) or in the opposite direction (negative correlation).

The internal consistency of the latter components was verified by the Cronbach's Alpha coefficient, being useful to assess items with more alternatives, attitudes and opinions.

The statistical analyses were performed with the statistical package SPSS 18 e 21.

3. Results

3.1 Level of Satisfaction of Doctors and Nurses

The general climate is satisfactory in both analyzed paediatric wards with slightly higher values in the paediatric unit of “Cardarelli” hospital, as emerges from Table 1 showing the means of satisfaction expressed by medical and nursing staff.

In both analyzed wards the highest scores (more than value 4) were recorded for the item cooperation among employees.

In the paediatric unit of “Cardarelli”, the staff expressed high satisfaction (mean 4.29) also for the items such as procedures for care continuity (written daily reports, structured meetings, computerized systems of communication) and figure of weekly responsible doctor. Lower scores, around medium satisfied, concern the career progression (impartiality of rewards criteria and opportunities for professional growth).

In the paediatric unit of “Santobono”, the relationship with superior (mean 4.20) and emotional attachment to the organization has a high score (mean 4.15), as confirmed also by notebook. The analyzed unit, previously located in a generic hospital, is now in a hospital specialised in children care. Health care staff working in the new ward, especially nurses, feel themselves more and more part of an organizational context. On the contrary, there wasn't an increase of the work environment comfort in the new ward, probably due to the significantly reduction of space. Scores on comfort and healthy work environment and respect of hygiene and safety standards were in fact lower in the new ward as compared with the previous one.

Table 1: Descriptive Statistics for the Level of Satisfaction of Health Care Staff

Items	Mean PUC	Mean PUS	Standard Deviation PUC	Standard Deviation PUS
Nature of interpersonal relationships				
Cooperation among members	4,33	4,25	,917	,638
Relationships with colleagues	4,33	3,80	,702	,767
Non-job-prescribed behaviours	3,83	3,55	1,007	,944
Managing emotionally difficult situations	3,75	3,90	1,032	,788
Emotional attachment to the organization	4,04	4,15	,859	,933
Values and norms ruling members interaction	4,00	3,85	,780	,745
Leadership style				
Enhancement of teamwork	3,79	4,00	1,141	,973
Listening to employees' requests	3,67	3,95	1,129	,887
Cooperation with superiors	4,04	4,05	1,122	,759
Relationships with superiors	3,96	4,20	,908	,767
Respect of employees privacy	3,75	3,80	,847	,833
Figure of weekly responsible doctor	4,29	3,80	,751	,767
Job attributes				
Comfort and healthy work environment	3,88	3,20	,741	,716
Respect of hygiene and safety standards	3,75	3,20	,737	,767
Job characteristics	3,92	4,00	1,018	,725
Data and information availability	3,92	3,55	,881	1,050
Use of information technology	4,21	3,25	,884	1,196
Internal communication systems	4,00	3,25	,834	1,208
Work organization	4,08	3,85	1,100	,875
Procedures for care continuity	4,29	3,95	,955	,825
Psycho-physical effort towards difficulties	3,96	4,05	,908	,604
Collective effectiveness for performance	3,83	3,85	,868	,670
Reward system and organizational support				
Job appraisal by superior	3,71	3,70	1,122	,801
Opportunities of professional growth	3,50	3,65	1,216	,988
Impartiality of rewards criteria	3,38	3,45	1,377	,887
Problem solving skills of the organization	3,96	3,70	,859	,864
Organizational support	3,46	3,80	1,215	,894

Note: PUC = the Paediatric Unit of “Cardarelli”; PUS = the Paediatric Unit of “Santobono”.

The correlation matrix related to questionnaire items has been submitted to factor analysis by using the Principal Component Analysis (*Varimax rotation*) in order to identify the latent dimensions. The first four factors being extracted explain more than 75% of the total cumulative variance of PUC e more than 70% of the total cumulative variance of PUS. The tables 2 and 3 show the eigen values of components in descending order, the percentage of explained and cumulative variance. The cumulative variance is an indicator of how much information is owned by the latent variables (components).

Table 2: Extracted Components in the Paediatric Unit of “Cardarelli” Hospital

Components	Eigen values		
	Total	Explained variance %	Cumulative Variance %
1	13,652	48,759	48,759
2	3,226	11,520	60,279
3	2,551	9,111	69,390
4	1,720	6,142	75,532

Table 3: Extracted Components in the Paediatric Unit of “Santobono” Hospital

Components	Eigen values		
	Total	Explained variance %	Cumulative Variance %
1	10,397	38,508	38,508
2	4,594	17,014	55,522
3	2,836	10,505	66,027
4	2,132	7,897	73,924

The tables 4-5 show the factor loadings with the values of the linear correlation coefficient of Bravais-Pearson (ranging from -1 to 1) between the original variables and the most correlated latent variable. A value close to one indicates that the original variable is more correlated (positively or negatively) with the component: high values of the coefficient can lead to the interpretation and the assignment of a name.

In PUC, the first factor explaining 48.76% of the total variance is largely linked with the relationships with leader and labelled as "relationship leader-followers". The items included in this factor are consistent with it, such as the listening to employees' requests by leader and cooperation with leader (Table 4).

The second factor explaining 11.52% of the total variance has been labelled as "interaction among employees". This component has high positive linear correlations with items as work organization and non-job-prescribed behaviours.

The interpretation of the third factor (9.11% of the variance) led to the component labelled as "involvement and organizational support". The items with high correlations with this factor are, for example, job characteristics or managing emotionally difficult work situations.

The fourth and final factor (6.14% of the variance), identified as "communication and trust among members", has a high positive correlation with the items as use of information technology and values and norms ruling members interaction.

In PUS, the first factor, explaining the 38.50% of the total variance, labelled as "team cohesion", has been mainly explained by the synergy among members. The items such as listening to employees' requests and cooperation with superiors are consistent with it (Table 5).

The second factor exploiting the 17.01% of the total variance was identified as "leader support". This component has a high positive linear correlation with the following items: job appraisal by superior; data and information availability; use of information technology; and internal communication systems.

The interpretation of the third factor (10.50% of variance) led to the component "job organization". The items with high correlations with this factor are work organization, procedures for care continuity and comfort and healthy work environment.

The fourth and final factor (7.89% of variance), identified as "organizational identity", has a positive correlation with emotional attachment to the organization and with values and norms ruling members interaction.

Table 4: Factor Loadings in the Paediatric Unit of “Cardarelli” Hospital

Rotation matrix	Components			
	1	2	3	4
Cooperation between colleagues				,625
Relationships with colleagues		,754		
Extra-job behaviors of colleagues			,882	
Managing emotionally difficult situations by colleagues			,860	
Emotional attachment to the organization	,731			
Values and norms ruling members interaction				,638
Enhancement of teamwork			,771	
Listening to employees' requests	,851			
Cooperation with superiors	,815			
Relationships with superiors		,661		
Respect of employees privacy		,794		
Figure of weekly responsible doctor		,713		
Comfort and healthy work environment	,598			
Compliance with hygiene and safety standards			,465	
Job characteristics			,822	
Data and information availability			,626	
Use of information technology				,797
Internal communication systems		,734		
Work organization		,827		
Procedures for care continuity		,697		
Psycho-physical effort towards difficulties	,556			
Collective effectiveness for performance	,640			
Job appraisal by superior	,809			
Impartiality of rewards criteria	,752			
Opportunities of professional growth			,621	
Problem solving skills of the organization			,520	
Organizational support	,813			

Table 5: Factor Loadings in the Paediatric Unit of “Santobono” Hospital

Rotation matrix	Components			
	1	2	3	4
Cooperation between colleagues	,542			
Relationships with colleagues	,725			
Extra-job behaviors of colleagues	,373			
Managing emotionally difficult situations by colleagues			,418	
Emotional attachment to the organization				,849
Values and norms ruling interaction between members				,570
Enhancement of teamwork		,690		
Listening to employees' requests	,803			
Cooperation with superiors	,936			
Relationships with superiors	,941			
Respect of employees privacy	,621			
Figure of weekly responsible doctor	,763			
Comfort and healthy work environment			,871	
Compliance with hygiene and safety standards		,713		
Job characteristics	,378			
Data and information availability		,835		
Use of information technology		,939		
Internal communication systems		,865		
Work organization			,759	
Procedures for care continuity			,786	
Psycho-physical effort towards difficulties			,509	
Collective effectiveness for performance			,733	
Job appraisal by superior		,774		
Impartiality of rewards criteria			,361	
Opportunities of professional growth		,116		
Problem solving skills of the organization	,653			
Organizational support	,658			

In PUC, the first two principal components ("relationship leader-follower" and "interaction among employees"), which in total reach more than 60% of the cumulative variance, have a greater impact on the service climate perceptions. In PUS, the first two principal components ("team cohesion" and "leader support"), which in total reach more than 55% of the cumulative variance, have a greater impact on service climate perceptions. So, the leadership is the organizational factor affecting more workers' climate perceptions in both wards.

3.2 Level of Satisfaction of Parents' Patients

The patient satisfaction survey in both paediatric units was aimed to monitor patients' perception of service climate and assess health services quality. Since it deals with a paediatric hospital, the survey is based on the satisfaction of young patients' parents.

Data analysis of socio-cultural characteristics showed the profile of the typical patients' parent: an Italian mother (approximately 70% percent of the sample of respondents in PUC and more that 90% in PUS); aged between 25-40 years (about 71 percent of the sample of respondents in both the analyzed units); housewife with secondary school diploma (48,6% percent of respondents of PUC e 37,7 of PUS); who already knows the hospital and has just lived a care experience in the hospital (35,7 % for PUC and 45,3 for PUS). The composition of the sample is similar in the two hospitals, except for the nationalities equally divided between foreign and Italian parents in the paediatric unit of "Cardarelli", and mainly Italian parents in paediatric unit of "Santobono".

Table 6: Descriptive Statistics for the Level of Satisfaction of Parents' Patients

Items	Mean	Mean
	PUC	PUS
Waiting time for admission	3,8	4,1
First care provided	3,9	4,1
Courtesy and humanization of medical doctors	4,1	4,7
Courtesy and humanization of nurses	3,9	4,3
Professional capabilities of medical and nursing staff	4,5	4,8
Hygienic conditions of the unit	3,3	3,7
Clarity of information on health status	3,7	4,5

Note: PUC = the Paediatric Unit of "Cardarelli"; PUS = the Paediatric Unit of "Santobono".

Our findings demonstrate a higher level of satisfaction of the respondents for professional capabilities of medical staff and quality of nurse-patient relationship in both wards.

The less appreciated aspects concern the hygiene and cleanliness of the wards, but always with an average value above level 3 "sufficiently satisfied" (table 6). Customer satisfaction is positively influenced by service climate. Finally, respondents reported that children received in overall appropriate care (75% of the sample in PUC and 98% in PUS) and they would recommend it to other people.

4. Discussion

The main goal of this study is to investigate the relationship among work environment, job and customer satisfaction in order to identify the organizational factors impacting on climate perceptions. This study found that the promotion of service climate within the hospital setting was important and the climate had a motivating effect on job and patient satisfaction.

We found support for the first hypothesis and demonstrated that participative leadership will be positively associated with service climate. As emerge from the questionnaire survey and also from the participant observation and notebook, relational characteristics, especially the quality of interpersonal interaction and the relationship with the leader, are the main dimensions affecting service climate (De Simone, 2013b).

The participative leadership style can be associated with positive service climate. Even in the case of organizational change, that is the transfer of paediatrics unit to another hospital, there were no significant differences in terms of workers' climate perceptions. This is due to the strengths such as the team cohesion and the figure of the same leader in both analysed units. Employee who works with participative leaders are less resistant to change and act with greater involvement, trust, compliance and commitment. Health care staff working in the new ward, especially nurses, feel themselves more and more part of the organizational context. This is because the new ward, before in a generic hospital, is actually in a specialised hospital for children care. This fact contributes to enforce the organisational identity.

The effective communication of the leader, intended as the clear definition of organizational goals, is another factor influencing job satisfaction.

We found support for the second hypothesis and demonstrated that service climate will be positively associated with customer satisfaction. Especially patients' parents are mainly satisfied of professional capabilities of medical staff and quality of nurse-patient relationship.

However, there are a number of limitations in this study. One limitation is the relatively small unit-level sample size. Another potential limitation is the impossibility to quantify the extent of the relationship between climate and patient satisfaction.

The finding of our study will be of considerable interest for health care managers who wish to increase employee performance and customer satisfaction within health care setting. The results suggested that by creating a positive service climate, managers can increase the effort that employees devote to both job-prescribed and non-job-prescribed behaviours. Such effort will lead to improved performance and, in turn, increased patient satisfaction.

5. Conclusions

Organization climate refers to the collective conscious perceptions and descriptions that employees have of their work environment. In the context of an organizational setting, a positive climate contributes to promote human flourishing and organizational growth.

Climate is then both what people observe happening to them and around them and the meaning in the form of the climate that what they experience connotes (De Simone, 2013b). Organizational climate analysis enables a reflection on policies, practices, procedures and behaviors that get rewarded, supported and expected in a work setting and on the meaning those imply for the setting's members.

Good relations between leader and workers engender therefore high satisfaction, cohesion and mutual trust between the leader and the group.

Relational characteristics, referred to leader-follower relationship and quality of social interactions, were the dimensions having a major impact on workers' climate perceptions (De Simone, 2013b). The organizational change of the healthcare unit doesn't determine a change in climate perceptions, if there is a participative leader. A crucial element to start a change process is the mutual sharing depending significantly on the level of trust built by the leader. The trust is the basis of organizational unit cohesion.

Different reflections emerge from empirical analysis in healthcare unit. The perceptions of a motivating and involving organizational climate were positively related to leader support, trust, effective communication flow, autonomy and cooperation. Job satisfaction can be increased by encouraging interpersonal relationships. A leadership style stimulating a positive emotional climate also contributes to increase job satisfaction.

However, this study can indicate that a focus on service climate may be important within hospital setting as a predictor of job and customer satisfaction.

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