

# “Collective climate” in hospital settings: A tool to better target work climate improvement strategies

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**Abstract**—Work climate continuous improvement programs are implemented to create and maintain healthy workplaces. This article presents evidence-based supports for the use of “collective climates” as a tool to better target improvement strategies, taking into account that work climate is not only a key for attraction and retention issues but also for performance and quality issues. Our study in 3 different Canadian hospitals shed light on 6 typical configurations that involve specific organizational development strategies.

Healthcare executives address work climate as a strategy to lessen the difficulties in recruiting and retaining qualified personnel as well as a strategy to improve quality of services. To make good decisions based on the accurate evaluation of work climate, managers need valid and reliable instruments, providing results that can be directly translated into interventions. The Psychological Climate Questionnaire (CRISO-PCQ)<sup>1</sup> fits that description. This instrument is organized around 5 areas of workplace perceptions: job’s nature, role, leadership of supervisor, work team, and organization.

To improve the ease of CRISO-QCP’s use and increase the managers’ ability to target the right improvement strategy for the right people at the right place, we came up with a work climate typology. Work climate is not perceived the same way by everybody, even in the same work unit. Typologies are a way to describe shared and redundant perceptions across large groups of employees, thus permitting a further level of finesse in strategic improvement efforts. In other words, “one size does not fit all” in work climate improvement strategies!

## LITERATURE REVIEW

Work environments can be described by many characteristics that confer on them their own “identity.” An individual develops a number of perceptions with respect to his/her workplace. The interaction between perceived organizational attributes and the person’s own individual characteristics is defined as the “psychological work climate.”<sup>2–7</sup> The individual’s perception of the work climate will eventually lead to the

formation of consistent expectations, attitudes, and behaviours concerning his/her organization.<sup>8</sup> It is why work climate has significant impacts on performance and quality.

During the first half of the 20th century, social scientists<sup>9–11</sup> were interested in the work climate’s role in shaping the behaviours of individuals in a given organizational context. As this idea gained interest, attempts have been made to describe the different kinds of “climates” individuals could experience in different types of work environments.

Later in the century, various typologies were suggested.<sup>12–14</sup> However, these typologies are either theoretic or based on practical knowledge and therefore lack scientific validation.

Over the decades, researchers used data gathered at the individual level with the intention to infer work climate from a higher group level perspective (organization, department, and so on) by using aggregated mean scores. To justify aggregation, researchers try to show sufficient within-group agreement.<sup>6,7</sup> Without consensual perception, work climate becomes an individual characteristic rather than an organizational one.<sup>15</sup> Unfortunately, the aggregated groups that are usually used do not always meet this criterion.<sup>7,16</sup> As for collective climates, they represent a group level construct that is defined by statistically identifying individuals who share similar perceptions of their work environment,<sup>7</sup> whatever their belonging in the organization chart, as opposed to using aggregates from predetermined organizational groups<sup>17</sup> as Department of Radiology services for example.

In the mid-1980s, Joyce and Slocum<sup>7</sup> developed interest about the validity of collective climates. Basically, they wanted to know if collective climates met three main criteria. First, were there significant differences between the aggregated scores of the collective climates? Second, could agreement be demonstrated among perceptions within climates? Finally, was there a relationship between organizational or individual characteristics and the climates? In other words, individuals who perceive climate the same way should also share characteristics about themselves. In their study, they found that membership in a collective climate was related to job satisfaction in some groups and to job performance in other groups. These findings were sufficient for them to conclude

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**Table 1.** Departmental membership, hierarchical levels, job categories, tenure, age, and sex for the 3 hospitals

	<i>Hospital 1</i>	<i>Hospital 2</i>	<i>Hospital 3</i>
Departmental membership*			
Finances	54	47	—
Human resources services	37	50	15
Nursing services	1385	509	171
Professional services	499	384	146
Technical services	154	109	39
Chi-square	126.87†	50.07†	43.46†
Hierarchical level			
Managers	78	60	24
Professionals	1,812	906	285
Lower-level employees	471	165	63
Chi-square	202.88†	65.18†	49.12†
Job categories			
Auxiliaries, support personnel, etc	471	165	63
Health professionals and technicians	504	288	71
Managers	95	60	24
Nurses	895	413	146
Office personnel	413	205	68
Chi-square	259.77†	116.45†	75.27†
Sex			
Male	501	244	—
Female	2006	910	—
Tenure			
	M = 7.79	M = 9.32	M = 9.45
	SD = 8.86	SD = 9.34	SD = 8.80
Age			
	—	M = 41.73	M = 45.0
	—	SD = 10.57	SD = 9.61

\*The discrepancy between the n value and the sum of the subjects in each department is explained by respondents who omitted to answer the related question, resulting in missing values. The same goes for the other variables.

† $P < .001$ .

that they provided evidence to support the validity of collective climates.

Jackofsky and Slocum<sup>18</sup> conducted a similar study with a multidimensional instrument developed by Newman.<sup>19</sup> They found that perceptual agreement on climate dimensions was related to job satisfaction, leader reward behaviours, and intention to quit, but it was not related to performance or turnover.

A couple years later, Payne<sup>20</sup> criticized the methodology and findings of the 2 articles mentioned previously. "Before claiming that these climate clusters have useful analytical value, it is necessary to demonstrate that they (a) have a substantive social meaning, (b) that they do not occur because of some third factor and (c) that individuals agree among themselves sufficiently that an aggregate score truly represents their collective identity." In other words, for a collective climate to be valid, it is important for it not to be simply based on a group's similar perceptions of climate dimensions (clusters). These similar perceptions must also be rooted in some formal or informal structure. Clusters can occur around departments or work teams (formal) and also around cliques or trade union membership (informal). Following the "call" of Payne, other authors

tested the same kind of relationships between collective climates and organizational, demographic, or informal group-based belonging<sup>16,17,21,22</sup> with convincing results.

As a result of this review, we decided to further investigate the validity of collective climates construct on a larger population using data from 3 organizations. We propose a contribution to the advancement of knowledge by bridging the gap between the current state of knowledge based on limited samples in 1 organization at a time and what we found out with our multiorganizational study. Thus, we will evaluate if our sample's collective climates share a significant relationship with variables such as departmental membership, hierarchical level, and job category. Furthermore, we will describe a preliminary work climate typology that can be used to better target specific work climate improvement strategies and provide many examples of improvement strategies.

## METHODS

### Sample

Data were collected over a period of 2 years (2004–2005) in 3 healthcare centres of a similar vocation (3 large urban

**Table 2.** Results for hospital 1

Climate dimensions	Climate means						ICC	Alpha	F*
	1 n = 362	2 n = 660	3 n = 533	4 n = 402	5 n = 278	6 n = 318			
Task									
Importance	4.41	4.11	3.90	4.09	3.04	3.97	0.15*	0.51	215.22*
Autonomy	4.35	3.96	3.48	3.68	3.17	3.00	0.31*	0.69	216.60*
Challenge	4.42	4.19	3.93	4.27	2.97	4.00	0.31*	0.66	227.96*
Role									
Clarity	4.41	3.79	3.35	3.09	2.74	2.63	0.37*	0.72	415.18*
Conflict	4.38	3.83	3.29	3.35	3.12	2.50	0.33*	0.67	301.43*
Workload	3.57	2.89	2.50	2.34	2.85	1.78	0.59*	0.86	164.44*
Leadership									
Trust and support	4.63	4.04	3.52	2.79	2.45	2.11	0.52*	0.87	839.92*
Goal emphasis	4.12	3.53	3.37	2.69	2.39	2.56	0.40*	0.75	349.84*
Work facilitation	4.29	3.61	3.25	2.43	2.29	1.97	0.42*	0.78	810.76*
Work group									
Warmth	4.40	3.89	2.75	3.79	2.64	2.02	0.68*	0.90	804.81*
Pride	4.43	3.86	2.84	3.66	2.53	2.17	0.56*	0.84	867.29*
Cooperation	4.40	3.95	2.92	3.91	2.80	2.40	0.51*	0.82	639.75*
Organization									
Innovation	3.97	3.29	2.76	2.41	2.00	1.84	0.44*	0.77	746.93*
Justice	4.23	3.41	2.87	2.35	2.17	1.81	0.44*	0.82	995.11*
Support	4.20	3.31	2.60	2.18	1.92	1.59	0.57*	0.85	967.87*

\*P < .001.

university hospitals) from the province of Quebec. In hospital 1, 4,933 survey questionnaires were distributed; 2,557 of those returned were usable for a response rate of 51.8%. In hospital 2, 2,850 questionnaires were distributed; 1,174 were returned completed for a response rate of 41.2%. Finally, in hospital 3, 757 questionnaires were distributed; of those returned, 427 were usable for a response rate of 56.4%. Table 1 provides information about the respondents’ sex, age, departmental membership, hierarchical level, job category, and tenure. Unfortunately, as a limit of this study, data for “age” were not available from hospital 1 nor was it for “sex” from hospital 3.

### Measures

The CRISO-PCQ was developed by Gagnon et al<sup>1</sup> based on the framework initially proposed by Jones and James.<sup>23,24</sup> As introduced in the introduction, the CRISO-PCQ consists of 60 items organized according to 15 scales and 5 theoretic dimensions (Tables 2–4). Items are rated on a 5-point Likert-type scale with anchors ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability co-efficients for each of the 15 scales are shown in Tables 2 to 4. More information on the validity, reliability, and translation of the questionnaire is available in the previously mentioned article.

### Procedure

Every analysis in this study was conducted by using SPSS 14 (SPSS Inc, Chicago, IL).<sup>25</sup> Collective climates were identified following the procedure suggested by Joyce and Slocum,<sup>7</sup> which consists of using series of clustering analyses that regroups individuals on the basis of a similar work climate perception. Additional analyses were performed to determine if the clusters could be labelled as collective climates. A multivariate analysis of variance was conducted to evaluate if there were significant differences between the clusters across the 15 climate dimensions. Then, perceptual agreement should be shown before aggregating the individual score into collective climate scores,<sup>6,26</sup> which was verified using the Intraclass Correlation Co-efficient (ICC).

### RESULTS

Six collective climates were identified for each of the hospitals. Tables 2 through 4 present the collective climate means for each climate dimension. Significant differences between clusters mean scores were obtained for each climate dimension in the three hospitals. Then, the “within-cluster” agreement was assessed, using ICC. The co-efficients calculated for each climate dimension were also

**Table 3.** Results for hospital 2

Climate dimensions	Climate means						ICC	Alpha	F*
	1 n = 205	2 n = 353	3 n = 191	4 n = 169	5 n = 112	6 n = 144			
Task									
Importance	4.34	4.04	4.08	4.09	3.23	3.59	0.15*	0.52	67.82*
Autonomy	4.24	3.84	3.52	3.56	3.34	2.76	0.35*	0.71	99.35*
Challenge	4.39	4.12	4.29	4.23	2.76	3.68	0.42*	0.76	138.53*
Role									
Clarity	4.27	3.66	3.19	3.01	3.11	2.35	0.37*	0.71	194.22*
Conflict	4.26	3.73	3.12	3.21	3.74	2.56	0.33*	0.67	131.31*
Workload	3.35	2.96	1.93	2.37	3.35	1.92	0.62*	0.87	93.70*
Leadership									
Trust and support	4.50	3.80	3.06	2.11	2.97	1.80	0.57*	0.89	432.15*
Goal emphasis	4.18	3.41	2.97	2.31	2.54	1.89	0.47*	0.80	317.35*
Work facilitation	4.16	3.44	2.75	1.85	2.74	1.61	0.53*	0.84	505.80*
Work group									
Warmth	4.41	3.62	2.45	3.82	2.95	1.88	0.70*	0.91	370.29*
Pride	4.41	3.61	2.51	3.56	2.88	1.98	0.57*	0.84	397.82*
Cooperation	4.38	3.68	2.67	3.84	3.08	2.21	0.54*	0.84	274.85*
Organization									
Innovation	3.97	3.01	2.48	2.16	2.23	1.44	0.52*	0.83	413.12*
Justice	3.97	3.08	2.45	2.00	2.58	1.57	0.45*	0.82	433.22*
Support	3.69	2.69	2.06	1.74	2.32	1.34	0.58*	0.86	253.40*

\* $P < .001$ .

significant and high enough;<sup>27</sup> thus, aggregation was justified.

Contingency analyses were conducted to test whether collective climates membership were related to membership in the collectivities defined by departmental membership, hierarchical level, and job category (Table 1). Because the relations were found to be significant, we decided to examine these variables distributions under the 6 collective climates in search of notable patterns, possibly common to the 3 hospitals. After a thorough investigation of the descriptive data,<sup>1</sup> we concluded that there is no clear pattern between the 3 institutions.

## DISCUSSION

The results show that the same 6 collective climates consistently appeared in the 3 hospitals. Sufficient perceptual homogeneity and independence of the clusters were also obtained. Previously, Gonzales-Roma et al<sup>22</sup> successfully linked collective climates to hierarchical level. Our results also yielded empiric support for the relationship between collective climate membership and hierarchical level, job category, and departmental membership.

Within a specific organization characterized by a specific way to organize departments and units and by unique staffing policies and management cultures, our results support the conclusion that the nature of the job (hierarchical level, departmental membership, and job category) offers a

reliable way to predict agreement on work climate perception.

Moreover, replicating our collective climates results in 3 distinct settings supports the validity of the concept in an unprecedented way because previous studies focused on the description of a single organization's work climate. The appearance of the same climates in distinct but similar settings reinforces the meaningfulness of the collective climate construct as a tool to better target improvement or maintenance strategies.

## Implications for managers

These results allow the description of 6 types of collective experiences at work related to satisfaction at work and commitment to the organization.<sup>28</sup> These typical configurations are important issues when it comes to recruiting and retaining staff, tasks that are even more difficult to perform in a time of shortage of qualified applicants. Most leaders, who use the work climate approach to mobilize managers and their teams in order to participate in a continuous improvement effort, want to increase job satisfaction and organizational commitment as well as organizational performance and quality of services. Therefore, they need a precise mapping of the "typical configurations" of climate perceptions in the organization as well as typical strategies for each collective climate. We provide some examples later. This is particularly useful for execu-

**Table 4.** Results for hospital 3

Climate dimensions	Climate means						ICC	Alpha	F*
	1 n = 71	2 n = 85	3 n = 95	4 n = 75	5 n = 68	6 n = 32			
Task									
Importance	4.42	4.43	3.82	4.15	4.10	3.05	0.19*	0.54	35.41*
Autonomy	4.37	3.94	3.46	3.88	3.44	2.35	0.35*	0.72	52.63*
Challenge	4.51	4.40	3.70	4.11	4.21	3.50	0.35*	0.70	26.06*
Role									
Clarity	4.37	3.72	3.30	3.31	2.93	2.34	0.34*	0.70	62.91*
Conflict	4.36	3.27	3.17	3.78	2.86	2.39	0.38*	0.71	50.77*
Workload	3.60	2.37	2.78	2.93	2.01	2.02	0.52*	0.81	34.73*
Leadership									
Trust and support	4.44	4.08	3.29	2.92	2.14	1.62	0.53*	0.88	138.86*
Goal emphasis	4.07	3.79	3.29	2.66	2.50	2.33	0.42*	0.76	73.02*
Work facilitation	3.99	3.71	3.15	2.50	1.93	1.75	0.48*	0.81	130.94*
Work group									
Warmth	4.44	3.52	2.49	3.96	2.86	1.95	0.68*	0.90	135.93*
Pride	4.37	3.55	2.52	3.89	2.90	1.90	0.54*	0.83	156.72*
Cooperation	4.45	3.49	2.65	3.99	3.04	2.32	0.50*	0.81	111.40*
Organization									
Innovation	3.90	3.32	2.66	3.76	1.99	1.55	0.47*	0.79	136.81*
Justice	3.93	3.36	2.80	2.71	1.97	1.69	0.40*	0.80	141.63*
Support	3.96	3.20	2.46	2.55	1.74	1.60	0.52*	0.82	119.03*

\*P < .001.

tives who want to implement global improvement strategies across the whole organization.

As shown in Table 5, the first subset comprises 2 collective climates essentially differentiated by the levels of intensity of perceptions, ranging from "very positive" to "positive," thus characterized by satisfaction and commitment. However, the workload perception differ from clusters 1 and 2; cluster 2 was rather negative. The typical strategy for cluster 1 is "recognition" of the full commitment of people who share that perception by showing "gratitude" and asking what additional support could be offered by their leaders and the organization. Strategies for cluster 2 (and other clusters with overload situations) should include a mix of (1) recognition activities

and interventions that would lower the intensity of overload perception by decreasing the number of role-conflict situations and "gray areas" in decision-making processes and increasing the level of cooperation among the work teams (eg, team building, disciplinary management, and so on) and (2) insuring the quality and the intensity of organisational support (eg, providing appropriate tools and equipment, communication from senior management, and so on).

The 2 climates, relative dissatisfaction and "split" commitment, have many points in common but exhibit 1 important difference. In cluster 3, the experience of work overload is observed along with the experiences of satisfaction and commitment to the manager. However, it is

**Table 5.** Specifics of the satisfaction and commitment experiences for each of the 6 types of psychological climates

Climates of satisfaction and commitment	Cluster 1: very satisfied and committed to task, role, leader, team, and organization Cluster 2: satisfied and committed to task, role, leader, team, and organization but perception of work overload
Climates of relative dissatisfaction and "split" commitment (leader vs team)	Cluster 3: satisfied and committed to task, role, and organization but perception of work overload; satisfied and committed to leader but a lack of commitment to colleagues Cluster 4: satisfied and committed to task, role, and organization but perception of work overload; dissatisfaction with and lack of commitment to leader but satisfied and committed to colleagues
Climates of dissatisfaction and lack of commitment	Cluster 5: moderate dissatisfaction and a relative lack of commitment to leader and organization; satisfied with and committed to a task and role Cluster 6: strong dissatisfaction and a lack of commitment in all aspects except for the task itself

accompanied by experiences of dissatisfaction and a lack of commitment to colleagues. If this collective climate is persistent in a department in which interdisciplinary practices are crucial (eg, in a nursing department), then the department's manager is facing a big challenge! Here are some questions for improvement efforts. Is the lack of cooperation caused by interpersonal conflict? By denigration of certain categories of employees by other categories? By work processes that foster "silos" instead of interdisciplinary practices? Or because of a lack of related abilities among staff? In all cases, support to concerned managers is required to ensure that those questions will be discussed with employees in an "appreciate approach" that will promote a new culture of team work.

In cluster 4, work overload is also present, but the relationship with the manager is perceived as poor, whereas the relations with team members are rated "very positive." (The expression "split" to describe the main characteristic of these 2 typical configurations of perceptions). When this collective climate is widespread throughout the organization, executives face "managerial culture challenge"! Here are examples of questions to address when it is the case. What is the gap between the "expected role" and the "real role"? What is the balance between the administrative/technical side of their job versus the leadership/coaching side of their role? Do they have time to be present on their unit? How do they communicate with their employees? Do they have access to well integrated competencies development programs aligned on the vision/values of the senior management?

Finally, the 2 climates dissatisfaction and lack of commitment also differ in terms of the level of perception intensity. Thus, cluster 6 has a climate of very high dissatisfaction together with a lack of commitment on all fronts, with the exception of the task itself. In cluster 5, the perception is of moderate dissatisfaction with a relative lack of commitment. This cluster presents "rather positive" perceptions of task and role.

Oftentimes, we observe these 2 collective climates among nursing staff in large hospital settings across many care units. This situation can also be observed throughout the organization when, for example, dramatic changes have been implemented without any participation of the employees. These collective climates are a call for "transformational change," a global effort to recreate the "psychosocial fabric," and the "operational systems and processes" of the organization. To do so, first, the senior management must have a "will" that has scope and that is shared, well documented, and global. Second, they need to develop a "vision" that is well targeted, strategic, measurable, mobilizing, sustainable, realistic, and feasible. Third, the organization need a rigorous "implementation plan" that will ensure quick successes in many visible areas. Finally, a pilot team should ensure that obstacles are removed and progresses are communicated and celebrated.

To conclude, a cookie-cutter interpretation of work climate would imply that results are communicated in a uniform manner through the whole organization, focusing on general results or on work-unit aggregates as the finest level of analysis. But, organizational surveys are expensive and the collective climate approach allows a finer level of analysis without adding measurement steps and costs. Collective climates offer the possibility to apply the "one size does not fit all" approach and to refine climate surveys conclusions about the psychosocial fabric of your workplace. This could transform your organization in such a way that people will queue up to submit their application!

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