

Organizational Climate and its Effects on Organizational Variables: An Empirical Study

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Abstract

This study investigated the characteristics of organizational climate and its effects on organizational variables. Investigation of 419 participants including both managers and employees indicated as follows: educational level, position and length of time working for the current organization had significant main effects on organizational climate; specialty, enterprise character and enterprise size also had significant main effects on organizational climate; organizational climate had significant main effects on human resources management effectiveness such as turnover intention, job satisfaction and work efficacy; organizational climate also had significant main effects on organization effectiveness like staff members' organization commitment and collective identity.

Keywords: Organizational climate, Human resources management effectiveness, Organization effectiveness

1. Introduction

Research on organizational climate can be traced back to the 1930s. With the human relations movement pioneered by Hawthorne, researchers turned their attention from the "hard" physical environment to the "soft" psychological environment; thus the concept of organizational climate was born. The first researcher to initiate studies in this area was Kurt Lewin, the founder of group dynamics (1939). In his famous "leadership style" study, Lewin applied three different leadership styles, democracy, autocracy and laissez-faire, to create a different group atmosphere, and was the first to propose the concept of organizational climate. However, he failed to define climate. Later, Forehand (1964) outlined three features of organizational climate: firstly, it varies among different organizations; secondly, it is persistent; lastly, it can affect the behavior of organization members. Since Litwin et al (2001, PP. 63-170) proposed the empirical study of organizational climate, studies in this area have proliferated. Litwin defined organizational climate as "a group of measurable characteristics that members could perceive directly or indirectly in the work environment," and, as a description of environmental factors, it could help researchers ascertain the effects of environment on employee motivation. In addition, organizational climate was the most common variable applied to descriptions of the organizational context. As a description of individuals' perception of organization, organizational climate was more similar to the real behavior than the real environment.

As a result of the interaction between organization and environment, organizational climate was rich in content. Using different operational definitions, researchers tended to select different atmosphere dimensions in studies. Aguirre's classification of the organizational environment has been the most widely recognized (1968). He classified the organizational environment into four dimensions, namely ecology, background, social system and culture, and speculated that organizational climate is the sum total of the environmental characteristics of a group which results from the interaction of the four dimensions. When investigating organizational climate, we should select variables from the four dimensions: ecology refers to organizational material resources, including equipment, materials, instruments, construction and finance; background environment covers all the background characteristics of an organization's members, including socio-economic status, education level, self-concept of members and so on; social system represents the interaction between formal and informal roles in organizations, including administrative organization, guidance programs, interaction between leaders and members, decision-making and participation models; culture relates to contained norms, belief systems, values, cognitive structures and so on (Tang & Chen, 2001). Thus, the concept of "organizational culture" that has been intensively and extensively developed in recent years is actually a micro-level of the concept of organizational climate and is the extension of its further investigation.

In short, organizational climate describes the members' perception of their work environment. Looking at existing studies, two basic modes are apparent: one is the macro mode, namely investigation aimed at the organizational climate individuals perceive in the entire work environment; the other is the micro mode, namely investigation aimed at a certain dimension or a certain environment of the organization. For example, from the ecological dimension, organizational climate was investigated in companies with different levels of performance (Kangis, Gordon & Williams, 2000); from the social system dimension, the effects of managers on organizational climate were observed (Butcher & Houston, 1994); organizational climate was assayed from a human resources management aspect (Ren, Huang & Zheng, 2001). In recent years, more and more researchers consider that the micro mode not only measures organizational climate accurately, but also is of more practical value to the organization (Ren, Huang & Zheng, 2001; Tang & Chen, 2001).

One study found that human resources management situations were one of the issues that members of organizations were most concerned about (Ren, Huang & Zheng, 2001). Whether these issues are recruitment, selection, training, salary or performance appraisal and benefits, they are all closely associated with the vital interests of employees. For this reason, human resources management style and its operation mode are crucial to the way employees perceive organizational climate, and thus are significant factors affecting organizational climate. Moreover, the members' opinions about organizational human resources management style affect their personal performance (Jackson & Schuler, 1995). Because human resources management is of such great significance for organizations and their members, we will investigate organizational climate from the angle of human resources management in this paper.

Due to varying national circumstances, institutions and cultures, organizational performance features and their effects on enterprise management in different countries not only possess similarities but also differences. In China, along with the gradual transition from a planned to a market economy, the attitudes and behaviors of staff members have undergone unprecedented changes, and their perception of organizational climate is also bound to have transitional characteristics. In addition, the performance characteristics of the organizational climate also differ among various individuals and organizations. For example, do members' education level and position affect their perception of organizational climate? Does the length of time a member works for an organization make a difference in his or her evaluation of organizational climate? In addition, China is experiencing a situation in which multiple forms of ownership coexist and non-public economic forms have rapidly developed. In enterprises of different ownership types and scales, what are the characteristics of their organizational climate? Within an enterprise, how do staff members in different departments or of different technical abilities perceive the organizational climate? Establishing the afore-mentioned individual and group characteristics of organizational climate will no doubt help enterprises enhance their relevance and ameliorate their organizational climate.

Another research topic of interest in this area is the effect and impact of organizational climate. For example, one study found that organizational climate was significantly associated with the perception of staff members regarding the organization's goals and core values (Butcher & Houston, 1994). Another study found that organizational climate had a positive effect on organization performance (Kangis, Gordon & Williams, 2000). Although dependent variables in such studies included company performance and employee behavior, the studies were incomplete because more of them looked at the macro level than at the micro level. Studies on organizational climate from the angle of human resources management were found lacking and of limited usefulness.

Organizational climate is a complete and comprehensive concept but, in studies on organizational climate aimed at developing greater practical use, a number of issues have arisen: does organizational climate have a significant effect on the performance of human resource and organization management? How about the relationship between different dimensions of organizational climate and all specific organization effectiveness variables? Which elements of organizational climate have positive effects on job satisfaction, efficacy, stress, performance and turnover intention of staff members, and thus enhance the members' organization commitment, collective identity and group performance? Which elements have no significant effect on the organization effectiveness variables? The answers to these questions will undoubtedly offer theoretical references and the building blocks from which enterprises can ameliorate their organizational climate, and thus be helpful in improving the level of leadership and the effectiveness of managers in China.

Taken together, this study had three purposes as follows:

1. Investigate the features of organizational climate in enterprises in China;
2. Investigate the effects of organizational climate on human resources management effectiveness, for example:

employees' turnover intention, job satisfaction, work efficacy and so on;

3. Observe the effects of organizational climate on organization effectiveness, for example: organizational commitment, collective identity and so on.

2. Methods and Participants

2.1 Participants

Four hundred and nineteen enterprise managers and staff members who participated in MBA courses and business administration advanced training classes (247 males, 166 females, 6 unknown sex).

Average distribution of participants: less than 30 years of age, 22.6%; 31-40 years old, 54.7%; 40-50 years old, 20.6%; more than 50 years old, 2.2%. Position distribution: general staff members, 22.6%; lower level managers, 33.6%; middle managers, 38.9%; top managers, 5.5%. Profession distribution: technology types, 21.5%; management types, 33.9%; production types, 8.1%; others, 6.2%.

2.2 Research tools and variables

2.2.1 Basic situation of research participants and their organizations

The personal information of the research participants included gender, age, education level, position, and length of time working for the current enterprise. The basic information of the organizations included profession (working department), enterprise size, ownership type and so on.

2.2.2 Organizational climate

In this study, we defined organizational climate as the perception of the human resources management environment by staff members and applied the "organizational climate" scale prepared by Ren et al (2001, PP. 63-170). With this tool, organizational climate was measured from the angle of human resources management. Based on the references of previous measurement tools, the scale utilized processes such as focus group interviews with individuals, preliminary preparation, pre-testing, multiple project revisions and so on, and its content covered all modern human resources management aspects. After factor analysis, 8 factors were taken out of the scale. Principal component analysis was as follows: factor 1: "leadership", 10 questions with the interpretation ratio of 34.0%, and factor loading of every question was all more than 0.48; factor 2: "salary", 5 questions with the interpretation ratio of 7.2%, and factor loadings were all over 0.58; factor 3: "rules", 10 questions with the interpretation ratio of 3.9%, and factor loadings were all over 0.35; factor 4: "promotion", 4 questions with the interpretation ratio of 3.2 %, and factor loadings were all more than 0.70; factor 5: "development", 4 questions with the interpretation ratio of 2.8%, and factor loadings were all over 0.35; factor 6: "performance appraisal", 9 questions with the interpretation ratio of 2.6%, and factor loadings were all more than 0.27; factor 7: "welfare", 3 questions with the interpretation ratio of 2.4%, and factor loadings were all 0.39 or more; factor 8: "communication", 4 questions with the interpretation ratio of 2.2%, and factor loadings were all more than 0.41. The scale had 49 questions in total with a cumulative interpretation ratio of 58.2%. According to the results of this study, the reliability analysis showed that the Cronbach α coefficient of each factor ranged from 0.78 ~ 0.94. The above analysis indicated that the scale had good validity and internal consistency reliability.

2.2.3 Human resources management effectiveness

For this paper, human resources management effectiveness was measured using five dimensions: turnover intention, job satisfaction, job performance, job stress and efficacy.

2.2.3.1 Turnover intention

The possibility that an individual would leave a company was directly measured by the question, "To what degree do you want to leave the company?" The scope ranged from 0 to 100, where 0 indicated "very reluctant to leave" and 100 "keen to leave". Participants wrote down their own scores.

2.2.3.2 Job satisfaction

The satisfaction of individuals with their work was measured by the question, "On the whole, are you satisfied with your current job?" The scope also ranged from 0 to 100 and higher scores indicated higher levels of satisfaction.

2.2.3.3 Job performance

Employees' perception of their job performance was measured by the question, "Compared to your colleagues, what do you think of your current job performance?" The scope ranged from 0 to 100 in the same way, and

higher scores meant indicated higher perceived levels of job performance.

2.2.3.4 Job stress

The “job stress” scale applied in this study was compiled by Sosik et al (2000). It included 6 questions in total, such as “I am in a state of tension at work”, “Work makes me upset” and so on. The scale was answered using Lecter’s five-point scale form. The reliability coefficient Cronbach α of variables was 0.91.

2.2.3.5 Efficacy

Efficacy was defined as individuals’ level of incentive regarding their work, competence and sense of ownership. The “efficacy” scale applied was compiled by Conger (2000). It included 13 questions, such as “I am capable of the work”, “I am enthusiastic about efforts to achieve enterprise goals”, “I can handle the challenges at work” and so on. The reliability coefficient Cronbach α of variables was 0.87.

2.2.4 Organization Effectiveness

We evaluated organization effectiveness from three aspects, viz. organization commitment, collective identity and group performance.

2.2.4.1 Organization commitment

The “organization commitment” scale was compiled by Yang and Zheng (2000). It included 6 questions, such as “I would do anything as long as I could stay in the company”, “As one member of the company, I feel very honored”, “I often tell my friends that my company is an ideal workplace” and so on. The scale was answered using Lecter’s five-point scale form. In this study, the reliability coefficient Cronbach α of variables was 0.92.

2.2.4.2 Collective identity

The “collective identity” scale applied was compiled by Conger (2000). It included 4 questions, such as “Our work group is a cohesive team”, “Conflict is out in the open and conflict handling is constructive within our work group”, “With regard to department development goals and tasks, ideas and opinions are consistent among individuals” and “With regard to work goals and approaches for realizing those goals, we have broad consensus”. In this study, the reliability coefficient Cronbach α of “collective identity” was .89.

2.2.4.3 Group performance

The “group performance” scale applied was compiled by Conger (2000). The scale investigated individuals’ subjective perception of group performance, and consisted of 5 questions in total, such as “Our work performance is good”, “Most of our tasks are completed quickly and effectively”, “We always accomplish our tasks with high standards” and so on. In this study, the reliability coefficient Cronbach α of variables was 0.84.

2.3 Statistical methods

All data were processed with SPSS 11.5.

3. Results and analysis

3.1 Characteristics of organizational climate

In order to reveal the present characteristics of organizational climate, we investigated the characteristics of organizational climate from two angles of individuals and organizations.

3.1.1 Individual characteristics of organizational climate

In the present paper, effects of individuals’ educational level, position, the length of time working for the current enterprise on the perception of organizational climate. “Educational level” was divided into three groups: “high educational level group” indicated undergraduate and graduate students; “middle educational level group” indicated junior college students; “low educational level group” indicated high school and technical school students. Position was divided into four groups, viz. general staff members, first-line managers, middle managers and top managers. “The length of time working for the current enterprise” was divided into 3 groups: short time group, less than 5 years; middle time group, 5-10 years; long time group, more than 10 years.

In the present study, organizational climate was undertaken multivariate analysis of variance (MANOVA) using the three individual characteristics described before as independent variables. Results showed that educational level, position and the length of time working for the current enterprise had MANOVA main effects on organizational climate: $F_{educational\ level}(16,810) = 4.72, p = 0.000$; $F_{position}(24,1200)=3.41, p = 0.000$; $F_{time}(16,804)=4.32, p=0.000$. In order to reveal individual characteristics of organizational climate in more detail, in the present paper, it was undertaken ONE-WAY analysis using 8 kinds of organizational climate as dependent variables. Result was listed in Table 1 in detail.

ONE-WAY analysis of variance showed that individuals with different educational level had significant differences on the perception of rules, performance, promotion and communication climates. Compared to individuals with high educational level, those with low educational level had more positive perception of rules, performance, promotion and communication climates. Position had a broader impact on the perception of organizational climate: excluding “rules climate”, effects of position on the other 7 kinds of organizational climate were all significant. With the promotion of position, the perception of organizational climate by individuals was more positive. Among 8 kinds of organizational climate, the length of time working for the current enterprise had significant effects only on the “salary” and “development” climates: the perception of “salary” climate by high time group was not only more negative than that of middle time group, and their perception of “development” was also more negative than that of middle and low time group.

3.1.2 Organizational characteristics of organizational climate

In the present study, we attempted to reveal the organization characteristics of organizational climate from three aspects, viz. specialty, enterprise characteristics and enterprise size.

Specialty objects engaged in the present paper could approximately be classified into the following 5 categories: a, technology type, including research, development, support, service and technology management; b, marketing type, including sale, marketing, administration and integrated marketing; c, management type, including personnel, finance, administration and integrated management; d, production type, including planning, quality, site management and field operation; e, others, including purchasing, storeroom management, transportation and others. The characteristics of the enterprise were broadly divided into the following 4 categories: a, state-owned enterprises; b, private enterprises; c, sino-foreign contractual joint ventures; d, foreign enterprises. Enterprise size was broadly divided into the following four categories: a, lower than 100 people; b, 100-500; c, 500-1000; d, more than 1000.

In the present study, organizational climate was undertaken MANOVA using specialty, enterprise characteristics and enterprise size as independent variables. Results showed that these factors had MANOVA main effects on organizational climate: $F_{specialty}(32,1620) = 3.05, p = 0.000$; $F_{ec}(24,1206) = 2.12, p = 0.001$; $F_{es}(24,1209) = 4.26, p = 0.000$. In order to reveal organization characteristics of organizational climate in more detail, in the present paper, it was undertaken ONE-WAY analysis using 8 kinds of organizational climate as dependent variables. Results were listed in Table 2 in detail.

ONE-WAY analysis showed specialty categories had significant effects on the perception of organizational climate by all kinds of organizations. Specifically, compared to “technology type”, specialty groups of “management” and “marketing” showed more positive perception of 8 kinds of organizational climates; the perception of “management type” for leadership, performance, salary, promotion and communication climates were more positive than that of “produce type”. Performance and promotion climates perceived by “marketing type” were more positive than “produce type”. ONE-WAY analysis also found that enterprise characteristics had significant impact on the perception for performance, salary and welfare climates, and the three climates perceived by staff members of sino-foreign contractual joint venture were significantly more superior than that of stated owned enterprise. Enterprise size had significant effects on the perception of leadership, rules, salary and welfare climates: the four climates perceived by staff members in enterprises with lower than 100 people were significantly more superior than that in enterprises with 500-1000 people; salary and welfare climates perceived by staff members in enterprises with more than 1000 people were also more superior than that in enterprise with 500-1000 people.

3.2 Effects of organizational climate on the performance of human resource management

Performance of human resource management was classified into 3 groups, namely high, middle and low score group, according to 25% and 75% percentile of organizational climate scores. Effects of each kind of human resource management were undertaken MANOVA analysis using organizational climate as an independent variable and controlling all individual and organizational characteristics.

Results indicated that organizational climate had MANOVA main effects on the performance of human resource management ($F(10,764) = 18.58, p = 0.000$). Unit variable analysis showed that organizational climate had significant effects on five kinds of human resource management performance, such as turnover intention, job satisfaction, efficacy and so on. ONE-WAY analysis found that job satisfaction and efficacy showed an ascending trend while turnover intention, job performance and job stress showed a descending trend with the increasing scores of organizational climate. In addition, effects of organizational climate on the above five human resource management performance reached a statistically significant level. In other words, the more positive organizational climate perceived by individuals was, the higher their job satisfaction and efficacy was,

while the lower turnover intention and job stress was. It was also worthwhile to mention that with the increasing score of organizational climate, its self-evaluated job performance had a descending trend. Results were listed in Table 3 in detail.

Because organizational climate was an integrated and overall experience of individuals for organizations, in order to analyze the relative effects of organizational climate on human resource management performance more accurately and thoroughly, we took 8 kinds of organizational climate and above-mentioned individual and organization variables as independent variables, and undertook multiple regression analysis on human resource management performance. Results were listed in Table 4 in detail.

As seen from Table 4, performance, salary and development climates could significantly decrease the turnover intention of individuals while all individual and organization variables had no significant effects. The length of time working for the current enterprise, leadership and performance climates had significant effects on job satisfaction: individuals who have been staying in enterprises longer had more positive perception for leadership and performance climates, and the same was with job satisfaction. As for the above-mentioned 3 independent variables in each regression equation, they could be explained 17% of the variance for turnover intention and 18% for job satisfaction. Among 14 independent variables, only effects of "rules" climate on its self-evaluated job performance reached a statistically significant level. Enterprise characteristics and communication climate had significant effects on job stress. The more positive communication climate was, the lower one's perception for job stress was. Three variables that had significant effects on the performance of individuals were position, leadership and development climates. Overall, when the position was higher, and the perception of leadership and development climates was better, the efficacy sense of individuals was higher. These three independent variables could explain 33% of the variance for efficacy.

3.3 Effects of organizational climate on organization effectiveness

In order to investigate effects of organizational climate on organization effectiveness, all kinds of organization effectiveness were undertaken MANOVA analysis using organizational climate as independent variable, and controlling 3 kinds of individual characteristics, viz. educational level, position and the length of time working for the current enterprise, and 3 kinds of organization characteristics, viz. specialty, enterprise characteristics and enterprise size.

Results showed that organizational climate had MANOVA main effects on organization effectiveness ($F(6,778) = 38.79, p = 0.000$). Unit variable analysis showed that organizational climate had a significant effect on the effectiveness of group performance, collective identity and organization commitment. ONE-WAY analysis found that the group performance, collective identity and organization commitment had an ascending trend with the increasing scores of organizational climate. In addition, effects of organizational climate on the performance of 3 kinds of organization effectiveness reached a statistically significant level. In other words, the more positive the perception of organizational climate by individuals was, the stronger their perception of collective identity and organization commitment was, and the better organization effectiveness was. Results were listed in Table 5 in detail.

In order to undertake more detailed analysis of relative effects of various kinds of organizational climates on organization effectiveness, 3 kinds of organization effectiveness were tested conducted with multiple regression analysis respectively using 8 kinds of organizational climates, the above-mentioned 3 kinds of individual and organization characteristics as independent variables together. Results were also listed in Table 4.

As seen from Table 4, variables in "group performance" regression equation were educational level, specialty, leadership and communication climate, and the 4 variables could explain 29% of the variance for group performance. Specifically, the better the perception of leadership and communication climates by individuals was, the higher its evaluation of group performance was. It was worthwhile to note that the evaluation of individuals for group performance was worse with the increasing of educational level. The variables that had significant effects on collective identity were enterprise size, leadership climate, salary climate and promotion climate, and the 4 variables could explain 43% of the variance for collective identity. In addition, the bigger enterprise size was, the weaker perception for collective identity was. The better leadership, salary and promotion climates were, the stronger perception of collective identity by staff members was. The variables in organization commitment regression equation were educational level, "rules climate", promotion climate and development climate, and the 4 variables could explain 49% of the variance for organization commitment. Specifically, the perception for organization commitment decreased with the increasing of educational level. Rules, promotion and development climates had a positive impact on promoting organization commitment.

4. Discussions

4.1 Individual and organization characteristics of organizational climate

In the present paper, MANOVA analyses indicated that educational level, position and the length of time working for the current enterprise had significant main effects on organizational climate. Specifically, for individuals with different educational level, there was significant difference among their perception for rules, performance, promotion and communication climates. Compared to individuals with high educational level, the perception of low educational level for rules, performance, promotion and communication climates was more positive, which could be ascribed to that individuals with high educational level had higher expectation for organizational climate and thus were more sensitive to the negative aspects of organizations. Since individuals with high educational level were undergraduate and graduate students and individuals with low educational level were high school and technical school students, the former had more important position and took harder work than the latter in most enterprises. Consequently, this fact gave us a suggestion that enterprise managers should pay particular attention to the feelings of those individuals with high educational level, walk into their inner world, and understand their expectations for enterprise on the aspects of rules, performance appraisal, promotion and communication. On the one hand, enterprise managers should gain their understanding and support; on the other hand, they should listen to their views and suggestions, work hard to improve the management level, and avoid the loss of key personnel and the resultant greater loss of enterprise.

It was also found that position had significant effects on the other 7 kinds of organizational climates excluding “rules” climate, and the perception of organizational climate by individuals was more positive with the ascending of position in the present paper. The results could be explained in the following two ways: individuals who were more satisfied with organization had greater motivation, and had more chances to be promoted to more senior positions; positions were higher, their participation of organization affairs was more profound, their autonomy and decision-making power shared in organization management were bigger, and therefore they were more satisfied with organizational climate. It was also found that the length of time working for the current enterprise had significant effects on “salary” and “development” climates in the present paper: the perception of “salary” climate by high time group was more negative than that of middle time group, and their perception of “development” was also more negative than that of middle and low time groups. In other words, satisfaction with “salary” and “development” climates decreased with the increasing of time working for the current enterprise, and the difference between the expectations of old staff members in “salary” and “development” and enterprise reality was bigger. “Salary” and “development” were the two human resource management areas to which staff members paid more attention. On the one hand, enterprise should strengthen communication with staff members and try their best to gain the understanding of old staff members for enterprise policies and programs. On the other hand, they should re-examine and ponder the current system in order to determine whether to adjust the present policies from the angle of enterprise culture and development strategy.

In addition, the present study found that specialty, enterprise characteristics and enterprise size had significant MANOVA main effects on organizational climate. Specifically, compared to “technology type” groups, the perception of 8 kinds of organizational climates by “management type” and “marketing type” groups was more positive; the perception of leadership, salary, promotion and communication climates by “management type” groups was more positive than that of “production type” groups; the perception of performance and promotion climates by “marketing type” groups was all more positive than that of “production type” groups. These results gave us a suggestion: since “technology type” and “production type” groups showed relatively low satisfaction with organizational climate, enterprises should strengthen the communication between these two groups. In addition, enterprises should also straighten out a reasonable gap between the two groups and give them due recognition to their contribution in combination with the characteristics of their industry aimed at enhancing their core competition. The results also showed that enterprise characteristics had significant effects on the perception of performance, salary and welfare climates, and the perception of staff members in Sino-foreign contractual joint ventures was significantly superior than that in state owned enterprises. Enterprise size had significant effect on the perception of leadership, rules, salary and welfare climates: the perception by staff members in enterprises with lower than 100 people for above-mentioned 4 kinds of organizational climates was significantly more superior than that with 500-1000 people; the perception by staff members in enterprises with more than 1000 people for salary and welfare climates was significantly superior than that with 500-1000 people. Consequently, managers in both stated owned enterprises and enterprises with 500-1000 people should pay attention to and adjust the current human resource management policies, and analyze the reason for the poor organizational climate in order to avoid the job-hopping of talents to Sino-foreign contractual joint ventures and enterprises with larger size.

4.2 Effects of organizational climate on the performance of human resource management

It was found that organizational climate had significant effects on the performance of 5 kinds of human resource management, such as turnover intention, job satisfaction, and efficacy and so on. Specifically, the more positive the perception of organizational climate by individuals was, the higher their job satisfaction and efficacy were, while the lower turnover intention and job stress were. This observation suggested that creating a better organizational climate was one of the cardinal approaches to enhance the job satisfaction and efficacy of staff members, avoid talent loss and adjust job stress.

It was worthwhile to note that their self-evaluated job performance scores decreased with the increasing scores of organizational climate. This result could be explained that as the higher evaluation of organizational climate was, the higher requirement and expectation for themselves were, and therefore the more unsatisfied with their performance they were. In other words, positive and excellent organizational climate might be able to encourage individuals to recognize their own shortcomings and differences and thus made them work harder.

Since organizational climate was so important, how could we create better organizational climate? Based on the previous analysis, various kinds of human resource management performance undertook multiple regression analysis in order to analyze the relative effects of all kinds of organizational climates on human resource management performance more accurately and thoroughly. Results showed that performance, salary and development climates could significantly predict the turnover intention of individuals; the length of time working for the current enterprise, leadership climate and performance climate had significant effects on job satisfaction; the higher the length of time in enterprise was, the more positive the perception for leadership and performance climates was, and the higher the efficacy of individuals was. The above-mentioned results pointed out the direction for enhancing human resource management performance: reduce the turnover rate beginning by ameliorating performance, salary and development climates; leadership and performance climates should be a breakthrough to enhance the job satisfaction of staff members; enhancing the efficacy of individuals beginning by ameliorating leadership and development climates. In addition, it was also found that communication climate had significant effects on job stress, and creating better communication climate was helpful to adjust job stress of staff members.

4.3 Effects of organizational climate on organization effectiveness

Various kinds of organization effectiveness were undertaken MANOVA using organizational climate as independent variable and controlling above-mentioned 3 kinds of individual and organization characteristics. Results indicated that organizational climate had significant main effects on organization effectiveness, and group performance, collective identity and group commitment all showed an ascending trend with the increasing scores of organizational climate. In other words, the more positive the perception of organizational climate by individuals was, the stronger their perception of collective identity and organization commitment was, and the better group performance was. As seen from this result, creating excellent group climate was one of the important approaches to enhance the group performance, collective identity and organization commitment of staff members.

Organizational climate was the perception of work environment by organization staff members, and this definition suggested to us that organizational climate belonged to subjective psychological evaluation and perception by individuals. Based on this basic point, we obtained a necessary conclusion that even if the objective reality was unchangeable, the subjective evaluation and perception of individuals for this reality could be adjusted and controlled. Consequently, managers should pay attention to investigate and understand the perception of staff members for organizational climate and reduce or eliminate their negative perception by a large quantity of communication and expert guidance in order to attenuate its negative effects on human resource management and organization effectiveness.

3 kinds of organization effectiveness were undertaken MANOVA respectively in order to analyze the relative effects of organizational climate on organization effectiveness. Results indicated that education level, specialty, leadership and communication climates could effectively predict "group performance". Specifically, the better the perception of leadership and communication climates by individuals was, the higher their evaluation of group performance was. Because "group performance" referred to the subjective perception of individuals for their group performance in the present paper, it could reflect the satisfaction of individuals for group performance to certain extent. Above observation showed ameliorating leadership and communication climates was helpful to enhance the satisfaction of staff members for group performance. It was worthwhile to note that the evaluation of group performance by individuals worsened with the increasing of educational level. The reason might be the fact that individuals with high educational level had higher expectations for group performance than that with

low educational level, so the difference between reality and ideality was bigger, and their satisfaction for group performance was lower. The perception by individuals with high educational level should be paid more attention by leaders, so the management should begin by adjusting the leadership and communication manner to enhance their evaluation for group performance and reduce the resultant negative consequences.

Multiple regression analysis also found that leadership, salary and promotion climates had significant predicting effects on collective identity, the better the above 3 organizational climates were, the stronger the collective identity of staff members was. In addition, it was also found that the bigger enterprise size was, the weaker collective identity was. This observation gave insight into management practice that ameliorating leadership climate and establishing scientific, rational and stimulating salary and promotion policies were effective approaches to strengthen staff members' collective identity. In addition, large enterprises should also pay attention to these aspects, and enhance staff members' collective identity. The variables in group commitment were as follows: educational level, rules climate, promotion climate and development climate. Specifically, group commitment reduced with the increasing of educational level. Rules, promotion and development climates played a positive role in promoting group commitment. The results suggested us that establishing rational rules and intensifying their execution, creating scientific and stimulating promotion and development climates was a breakthrough to enhance group commitment.

5. Conclusions

5.1

Educational level, position and the length of time working for the current enterprise had significant MANOVA main effects on organizational climate. Compared to individuals with high educational level, the perception by individuals with low educational level for rules, performance, promotion and communication climates was more positive; their perception of organizational climate was also more positive with the ascending of position; the perception of "salary" and "development" climates by high time groups was more negative.

5.2

Specialty, enterprise characteristics and enterprise size had significant MANOVA main effects on organizational climate. Enterprise characteristics had significant impact on the perception of performance, salary and welfare climates, and the perception by staff members in Sino-foreign contractual joint ventures for the above-mentioned 3 kinds of climates was significantly superior than that in state owned enterprise. Enterprise size had significant impact on the perception of leadership, rules, salary and welfare climates.

5.3

Organizational climate had significant MANOVA main effects on human resource management performance. Multiple regression analysis found that performance, salary and development climates had significant predicting effects on the turnover intention of individuals; the length of time working for the current enterprise, and leadership and performance climates had significant effects on job satisfaction; position, and leadership and development climates had significant predicting effects on the efficacy of individuals; enterprise characteristics and communication climate had significant predicting effects on job stress.

5.4

Organizational climate had significant MANOVA main effects on organization effectiveness. Multiple regression analysis found that educational level, specialty and leadership and communication climates could effectively predict "group performance"; enterprise size, leadership climate, salary climate and promotion climate had significant predicting effects on collective identity; educational level, rules climate, promotion climate, promotion climate and development climate had significant predicting effects on group commitment.

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Table 1. Individual characteristics of organizational climate (n=419)

	Leadership <i>M(SD)</i>	Rules <i>M(SD)</i>	Performance <i>M(SD)</i>	Salary <i>M(SD)</i>
Educational level				
Group 1, low (n=54)	3.35 (.81)	3.40 ^c (.70)	3.30 ^c (.82)	2.98 (.86)
Group 2, middle(n=98)	3.21 (.86)	3.30 ^c (.76)	3.22 ^c (.83)	2.99 (.71)
Group 3, high(n=262)	3.14 (.77)	3.09 ^{ab} (.66)	2.99 ^{ab} (.73)	2.96 (.57)
ONE-WAY <i>F(2,411)</i>	1.57	6.71 ^{***}	5.59 ^{**}	.11
Position				
Staff member group (n=89)	2.98 ^{cd} (.71)	3.05 ^{cd} (.66)	2.81 ^{bcd} (.73)	2.83 ^{cd} (.54)
Basic manager group (n=138)	3.13 (.78)	3.14 (.72)	3.06 ^{ad} (.77)	2.86 ^{cd} (.69)
Middle manager group (n=159)	3.31 ^a (.84)	3.25 ^a (.70)	3.21 ^a (.78)	3.08 ^{abd} (.64)
Top manager group (n=23)	3.36 ^a (.83)	3.39 ^a (.62)	3.46 ^{ab} (.72)	3.38 ^{abc} (.44)
ONE-WAY <i>F(3,407)</i>	3.97 ^{**}	2.46	7.29 ^{***}	7.91 ^{***}
The length of time working for the current enterprise				
Low time group (n=206)	3.23 (.77)	3.19 (.65)	3.10 (.73)	2.98 (.58)
Middle time group (n=82)	3.16 (.86)	3.08 (.82)	3.02 (.84)	3.09 ^c (.74)
High time group (n=123)	3.10 (.81)	3.23 (.68)	3.09 (.80)	2.85 ^b (.66)
ONE-WAY <i>F(2,408)</i>	1.07	1.10	0.38	3.56 [*]

Table 1. (Continued) Individual characteristics of organizational climate

	Promotion <i>M (SD)</i>	Communication <i>M (SD)</i>	Development <i>M (SD)</i>	Welfare <i>M (SD)</i>
Educational level				
Group 1, low (n=54)	3.13 ^c (.94)	3.28 (.82)	3.20 (.79)	2.85 ^c (1.01)
Group 2, middle(n=98)	3.04 ^c (.86)	3.10 (.87)	3.09 (.95)	3.06 (.99)
Group 3, high(n=262)	2.83 ^{ab} (.71)	2.96 ^a (.77)	3.19 (.69)	3.09 ^a (.74)
ONE-WAY <i>F(2,411)</i>	4.92 ^{**}	4.08 [*]	.60	2.01
Position				
Staff member group (n=89)	2.78 ^d (.73)	2.79 ^{bcd} (.73)	2.97 ^{cd} (.68)	2.83 ^{cd} (.80)
Basic manager group (n=138)	2.87 ^d (.84)	3.10 ^a (.82)	3.12 ^d (.80)	2.85 ^{cd} (.92)
Middle manager group (n=159)	2.98 (.77)	3.10 ^a (.83)	3.28 ^a (.76)	3.29 ^{abd} (.71)
Top manager group (n=23)	3.29 ^{ab} (.70)	3.21 ^a (.67)	3.53 ^{ab} (.71)	3.65 ^{abc} (.69)
ONE-WAY <i>F(3,407)</i>	3.19 [*]	3.93 ^{**}	5.26 ^{**}	13.78 ^{***}
The length of time working for the current enterprise				
Low time group (n=206)	2.91 (.78)	2.98 (.81)	3.23 ^c (.71)	3.08 (.80)
Middle time group (n=82)	2.91 (.80)	2.98 (.85)	3.25 ^c (.85)	3.15 (.85)
High time group (n=123)	2.92 (.79)	3.15 (.77)	3.02 ^{ab} (.77)	2.94 (.89)
ONE-WAY <i>F(2,408)</i>	0.02	1.93	3.52 [*]	1.70

Note: ^a indicated significant difference with the same type of organizational climate in the first line; ^b indicated the second line; ^c indicated the third line; ^d indicated the fourth line. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 2. Organization characteristics of organizational climate

	Leadership <i>M (SD)</i>	Rules <i>M (SD)</i>	Performance <i>M (SD)</i>	Salary <i>M (SD)</i>
Specialty				
a, technology type (n=90)	2.89 ^{bc} (.69)	2.98 ^{bc} (.73)	2.86 ^{bc} (.79)	2.68 ^{bc} (.60)
b, marketing type (n=124)	3.27 ^a (.70)	3.21 ^a (.59)	3.24 ^{ad} (.66)	2.98 ^{ac} (.57)
c, management type (n=140)	3.33 ^{ad} (.89)	3.28 ^a (.75)	3.19 ^{ad} (.81)	3.19 ^{abde} (.70)
d, production type (n=34)	3.03 ^c (.83)	3.13 (.60)	2.75 ^{bc} (.75)	2.82 ^c (.42)
e, others (n=26)	3.17 (.81)	3.23 (.77)	3.02 (.81)	2.88 ^c (.63)
ONE-WAY <i>F(4,410)</i>	5.03 ^{***}	2.82 [*]	5.68 ^{***}	10.12 ^{***}
Enterprise characteristics				
a, state owned enterprise (n=271)	3.15 (.76)	3.17 (.68)	3.00 ^c (.77)	2.89 ^{cd} (.62)
b, private enterprise (n=38)	3.25 (.62)	3.07 (.61)	3.22 ^a (.62)	3.06 (.51)
c, joint venture (n=45)	3.31 (.78)	3.20 (.63)	3.29 ^a (.60)	3.18 ^a (.55)
d, foreign enterprise (n=57)	3.18 (1.07)	3.26 (.86)	3.22 (.93)	3.08 ^a (.83)
ONE-WAY <i>F(3,408)</i>	.61	.56	3.14 [*]	4.03 ^{**}
Enterprise				
a, <100 (n=169)	3.31 ^c (.81)	3.32 ^{bcd} (.69)	3.18 (.80)	3.07 ^c (.68)
b, 100-500 (n=100)	3.14 (.84)	3.10 ^a (.74)	3.04 (.81)	2.93 (.59)
c, 500-1000 (n=70)	2.95 ^a (.77)	3.07 ^a (.66)	2.97 (.72)	2.74 ^{ad} (.63)
d, >1000 (n=73)	3.15 (.68)	3.05 ^a (.64)	3.04 (.67)	2.98 ^c (.59)
ONE-WAY <i>F(4,410)</i>	3.70 [*]	4.48 ^{**}	1.64	4.62 ^{**}

Table 2 (Continued). Organization characteristics of organizational climate

	Promotion <i>M (SD)</i>	Communication <i>M (SD)</i>	Development <i>M (SD)</i>	Welfare <i>M (SD)</i>
Specialty				
a, technology type (n=90)	2.67 ^{bc} (.80)	2.86 ^c (.81)	2.99 ^{bc} (.70)	2.66 ^{bcd} (.89)
b, marketing type (n=124)	2.99 ^{ad} (.69)	3.05 ^a (.74)	3.28 ^a (.69)	3.07 ^{ac} (.70)
c, management type (n=140)	3.09 ^{ad} (.86)	3.18 ^{ad} (.87)	3.25 ^a (.88)	3.30 ^{ab} (.88)
d, production type (n=34)	2.61 ^{bc} (.47)	2.84 ^c (.69)	3.01 (.60)	3.02 ^a (.67)
e, others (n=26)	2.93 (.77)	3.09 (.80)	3.03 (.79)	3.03 ^a (.82)
ONE-WAY <i>F</i> (4,410)	5.75 ^{***}	2.61 [*]	2.89 [*]	8.43 ^{***}
Enterprise characteristics				
a, state owned enterprise (n=271)	2.88 (.73)	3.02 (.75)	3.12 (.76)	2.98 ^c (.84)
b, private enterprise (n=38)	2.97 (.78)	3.07 (.72)	3.32 (.57)	3.04 (.70)
c, joint venture (n=45)	3.00 (.66)	3.08 (.83)	3.36 (.66)	3.34 ^a (.71)
d, foreign enterprise (n=57)	2.95 (1.05)	3.06 (1.04)	3.17 (.94)	3.19 (.99)
ONE-WAY <i>F</i> (3,408)	.42	.11	1.75	3.00 [*]
Enterprise				
a, <100 (n=169)	3.01 ^b (.88)	3.07 (.87)	3.22 ^c (.88)	3.18 ^c (.87)
b, 100-500 (n=100)	2.76 ^a (.75)	2.91 (.83)	3.14 (.68)	3.04 ^c (.72)
c, 500-1000 (n=70)	2.91 (.74)	3.07 (.72)	2.97 ^{ad} (.72)	2.65 ^{abd} (.92)
d, >1000 (n=73)	2.94 (.56)	3.11 (.66)	3.29 ^c (.59)	3.17 ^c (.69)
ONE-WAY <i>F</i> (3,409)	2.17	1.21	2.50	7.55 ^{***}

Note: The indication of ^a, ^b, ^c, ^d, and ^e could be seen from the left column of each line.

Table 3. Human resource management performance characteristics of organizational climate with different level

	Turnover intention <i>M (SD)</i>	Job satisfaction <i>M (SD)</i>	Work performance <i>M (SD)</i>	Job stress <i>M (SD)</i>	Efficacy <i>M (SD)</i>
Organizational climate					
Low score group (n=96)	68.70 ^{bc} (22.99)	61.15 ^{bc} (23.91)	84.04 ^{bc} (11.07)	3.06 ^{bc} (.90)	3.51 ^{bc} (.53)
Middle score group (n=206)	53.83 ^{ac} (39.27)	71.75 ^{ac} (16.32)	79.05 ^a (13.41)	2.83 ^a (.72)	3.77 ^{ac} (.47)
High score group (n=98)	26.01 ^{ab} (25.79)	81.81 ^{ab} (18.46)	79.28 ^a (16.01)	2.72 ^a (.78)	4.21 ^{ab} (.42)
ONE-WAY <i>F</i> (2,411)	47.64 ^{***}	33.55 ^{***}	3.97 [*]	5.02 ^{**}	63.46 ^{***}

Note: ^a indicated significant differences with the same type of human resource management performance in low score group; ^b indicated the middle score group; ^c indicated the high score group.

Table 4. Multiple regression analysis of effects of organizational climate on human resource management performance and organization effectiveness

	Turnover intention β	Job satisfaction β	Work performance β	Job stress β	Efficacy β	Group performance β	Collective identity β	Group commitment β
Educational level	--	--	--	--	--	-.17***	--	-.14***
Position	--	--	--	--	.25***	--	--	--
The length of time working for the current enterprise	--	.15**	--	--	--	--	--	--
Specialty	--	--	--	--	--	.10*	--	--
Enterprise characteristics	--	--	--	.18***	--	--	--	--
Enterprise size	--	--	--	--	--	--	-.08*	--
Leadership climate	--	.22*	--	--	.39***	.35***	.55***	--
Rules climate	--	--	.16**	--	--	--	--	.28***
Performance climate	-.20**	.21*	--	--	--	--	--	--
Salary climate	-.13*	--	--	--	--	--	.18***	--
Promotion climate	--	--	--	--	--	--	.25***	.16**
Communication climate	--	--	--	-.18***	--	.16*	--	--
Development climate	-.15*	--	--	--	.13*	--	--	.32***
Welfare climate	--	--	--	--	--	--	--	--
R ²	.18	.19	.10	.12	.34	.30	.44	.49
ΔR^2	.17	.18	.09	.12	.33	.29	.43	.49
F	28.15***	29.90***	9.88**	13.19***	67.70***	41.6***	76.33***	95.69***

Table 5. Organization effectiveness characteristics of organizational climate with different level

	Group performance <i>M (SD)</i>	Collective identity <i>M (SD)</i>	Group commitment <i>M (SD)</i>
Organizational climate			
Low score group (n=96)	3.08 ^{bc} (.86)	2.43 ^{bc} (.83)	2.69 ^{bc} (.70)
Middle score group (n=206)	3.55 ^{ac} (.67)	3.11 ^{ac} (.66)	3.28 ^{ac} (.62)
High score group (n=98)	4.06 ^{ab} (.58)	3.77 ^{ab} (.58)	4.02 ^{ab} (.55)
ONE-WAY <i>F(2,411)</i>	47.33***	97.74***	121.85***

Note: ^a indicated significant differences with the same type of organization effectiveness in the low score group; ^b indicated the middle score group; ^c indicated the high core group.