



## Original Article

## Organizational culture in Qazvin University of Medical Sciences: based on the Denison Model



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Mehran Alijanzadeh<sup>1\*</sup>, Rohollah Kalhor<sup>1</sup>, Mahsa Joftyar<sup>1</sup>

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<sup>1</sup> Deputy of Research and Technology, Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

**Correspondence:**

Mehran Alijanzadeh. Deputy of Research and Technology, Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.  
[mehranalijanzadeh@gmail.com](mailto:mehranalijanzadeh@gmail.com)

## ABSTRACT

**Introduction:** Existence of appropriate organizational culture can pave the way for achievement of success at universities of medical sciences, which play important roles in health promotion of communities. This study aims to investigate organizational culture status in staff of the Qazvin University of Medical Sciences based on Denison Model.

**Methods:** This cross sectional study was conducted on 276 university staff at the Qazvin University of Medical Sciences in 2016 based on cluster sampling method. Research variables included four organizational culture domains namely involvement, consistency, adaptability, and mission culture. Data was collected by Denison's 60-item organizational culture questionnaire. Cronbach's alpha was used to determine reliability of the questionnaire which was 0.96.

**Results:** In this study, the mean age and job experience of participants were  $39.79 \pm 7.57$  and  $15.60 \pm 7.59$  years respectively. The highest mean score was obtained in adaptability culture, but the lowest mean score was in mission culture. Mean score of organizational culture was  $2.93 \pm 0.62$ , which was medium (normal). There was a significant relationship between organizational culture and staff's educational levels ( $p < 0.05$ ).

**Conclusion:** According to research results, organizational culture was at medium level in staff of the Qazvin University of Medical Sciences, but the mean score for mission culture was low and therefore, needed intervention. Furthermore, holding training workshops with the emphasis on explaining the importance of organizational culture for the staff can help improve their organizational culture.

## Introduction

Staff is the main axis of any health organization, and thus analysis of staff behavior is a very important factor. The role of individuals in organizational success is now obvious and clear (1). It must be admitted that organizational culture acts as the specific value and language of a health organization, and can distinguish a health organization from other similar organizations (2). In other words, organizational culture is a system which utilizes mental assumptions for leading organizational activities (3). Nowadays, improvement of service quality in health organizations is important; hence, appropriate organizational culture can be very necessary (4). According to a research by Hesselink et al.,

appropriate organizational culture can improve patient safety, patient care process, and patient satisfaction with health organization (5). According to the results of a research by Meterko et al. (6) and Ancarani et al. (7), patient satisfaction with health service depends on organizational culture in the staff. Studies also believe that organizational culture affects job satisfaction of employees, and thus can affect their relationships with patients (8-10). Furthermore, it should be noted that staff would have better interaction with each other as well as better relationships with organizational managers in organizations that develop a cooperation culture (11). Moreover, establishment of appropriate organizational culture has been found to be effective in reduction of organizational mistakes (12), and is asso-

ciated with appropriate organizational interaction and cooperation among staff (13). The existing values and attitudes in the organization will ultimately represent staff behavior in health organizations (14). The Denison Model of organizational culture describes a theory of organizational behavior that emphasizes the strong link between culture and performance. The American Professor Denison, first described this model, which emphasized on the cultural dimensions; involvement, consistency, adaptability and mission. Based on Denison's model, each of these dimensions is comprised of three features (15, 16, 17). Discovering the weaknesses of employees in the field of organization culture can be crucial for health organization managers. Organizational culture especially is important in health but there is a lack of comprehensive research in this field. Therefore, this study was conducted in the Qazvin University of Medical Sciences, the largest provider of health services in Qazvin province, to investigate organizational culture status among the university staff based on Denison Model.

## Methods

### Studied population

This cross sectional study was conducted on the staff of the Qazvin University of Medical Sciences, Qazvin, Iran during 2016. The Cochran sample size formula was used considering the design effect and the findings of previous studies, to calculate the sample size which yielded to 300 subjects (15, 16). Sampling was cluster type. Samples were randomly selected from any department in proportion to its staff population. Study population consisted of all university staff in seven departments, including Development and Resource Management, Educational Affairs, Health Deputy, Treatment Deputy, Research Deputy, Deputy of Cultural Affairs and Food and Drugs Affairs. Based on the inclusion criteria, all the staff who worked for at least 6 months in the relevant units was included in the study.

### Ethical considerations

The Ethics Committee of the Qazvin University of Medical Sciences (Iran) approved this study (code: IR.QUMS.REC.1394.846). Interviewers explained research importance to participants, in order to assure the confidentiality of their information. Subjects were ensured that their participation in the research was voluntary, and they could withdraw from research at any time. Finally, participants were asked to sign a consent form before answering the questionnaire.

## Gathering information

The study questionnaire included 5 demographic questions, including age, gender, marital status, work experience, and educational level, and 60 specialty questions about organizational culture (17). The specialty questions included 4 domains and each domain consisted of 3 indices for measurement. Questions 1 to 15 pertained to involvement culture domain, including capability development, team-building and empowerment. Questions 16 to 30 pertained to consistency culture domain, including coordination, agreement and fundamental values. Questions 31 to 45 pertained to adaptability culture domain, including organizational learning, change creation, and customer-orientation. Finally, questions 46 to 60 pertained to mission culture domain, including goals-objectives, vision, and strategic orientation. Each question was given a score ranging from 1 to 5 and higher scores indicated a better condition. Eight out of 60 questions in organizational culture questionnaire were reversely designed and encoded. The mean score equal or higher than 3.5 indicated desired condition for each domain and its indices. Scores from 2.5 and 3.5 indicated medium status; and score lower than 2.5 reflected critical situation. Regarding the organizational culture, desired condition was defined as mean score of at least 3.5 for all 4 domains. Lower scores than 3.5 was indicative of the need for intervention to improve that domain. Validity of questionnaire was approved in previous studies by Amiresmaili et al. (15) and Hamidi studies (16). Reliability of research questions was assessed using the Cronbach's alpha, which was 0.91 for involvement domain, 0.83 for consistency domain, 0.88 for adaptability, 0.93 for mission domains and the reliability of the total organizational culture questionnaire was 0.96. To complete the questionnaire, interviewers referred to the staff workplace at Qazvin University of Medical Sciences and collected data. Four interviewers with bachelor's degree participated in this study. A 6-hour education and familiarization workshop was held for interviewers in order to ensure the precise data collection. Questionnaires were distributed and collected for a month, and 276 (92) out of 300 distributed questionnaires were fully responded. The drop-out rate was 8%.

### Statistical analysis

First, research variables were defined and entered the statistical package for social sciences (SPSS) software version 21.00. Data analysis was performed using the analysis of variance (ANOVA) test. The Kolmogorov-Smirnov test was used to assess data normality and

Levene's test was performed to approve equality of variances.

## Results

The mean age of the participants was  $39.79 \pm 7.57$  years. Seventy-eight participants (28.3%) had more than 20 years of work experience. Among the participants 138 (50%) had bachelor's degrees. Majority of participants (176, 63.8%) were female, and 83.7% ( $n=231$ ) of all participants were married. Official staffs accounted for 62% ( $n=172$ ) of the participants. Among 12 variables, development index had the highest score (mean score of  $3.16 \pm 0.83$ ), but strategic orientation had the lowest mean score ( $2.75 \pm 0.84$ ) (Table 1). Among the four domains of organizational culture, adaptability culture had the highest score (mean score of  $3.01 \pm 0.65$ ), but mission culture had the lowest score (mean score of  $2.81 \pm 0.71$ ). The mean score for all four domains of organizational culture were in medium (normal) range (Table 2). The mean total score of organizational culture was  $2.93 \pm 0.62$  which was medium (normal). There

was a significant direct relationship between the education level of participants and organizational culture score in all four domains ( $p < 0.05$ ) (Table 3).

## Discussion

According to the findings of this study on the organizational culture of the staff of the Qazvin University of Medical Sciences, this organization was in medium level in terms of the four domains of organizational culture. This finding indicates that there is a need for staff training and essential intervention to promote the level of organizational culture. According to the results of a study on the staff of the Kerman University of Medical Sciences, adaptability culture had the highest mean score; and the mean score of organizational culture was at the medium level (15). In our study, adaptability culture had the highest score and the organizational culture was categorized as medium in the Qazvin University of Medical Sciences. This finding was similar to the findings of the aforementioned research in Kerman (15). According to the research by

**Table 1.** Mean score for organizational culture index in Qazvin University of Medical Sciences

Realm	Index	N	Mean $\pm$ SD	Position
Involvement	Empowerment	276	$2.82 \pm 0.79$	Normal
	Team orientation	276	$2.91 \pm 0.83$	Normal
	Capability development	276	$3.16 \pm 0.83$	Normal
Consistency	Core value	276	$2.91 \pm 0.67$	Normal
	Agreement	276	$2.99 \pm 0.80$	Normal
	Coordination	276	$2.92 \pm 0.97$	Normal
Adaptability	Creating change	276	$3.12 \pm 0.83$	Normal
	Customer focus	276	$3.06 \pm 0.72$	Normal
	Organizational learning	276	$2.82 \pm 0.70$	Normal
Mission	Strategic direction	276	$2.75 \pm 0.84$	Normal
	Goals and objectives	276	$2.80 \pm 0.71$	Normal
	Vision	276	$2.87 \pm 0.80$	Normal

**Table 2.** Mean score for organizational culture domains in Qazvin University of Medical Sciences

Realm	Mean $\pm$ SD	Position
Involvement	$2.96 \pm 0.72$	Normal
Consistency	$2.94 \pm 0.69$	Normal
Adaptability	$3.01 \pm 0.65$	Normal
Mission	$2.81 \pm 0.71$	Normal
Total organizational culture	$2.93 \pm 0.62$	Normal

Yazdkhasti et al., university staff rated mission culture as the least value, which was similar to the results of our study (18). Mean score for organizational culture in Yazdkhasti's research was similar to our study. In the study by Barati et al., the mean score of the organizational culture was higher than our study. This difference was due to different statistical population since only a hospital was studied by Barati et al. (19). The importance of organizational culture has been emphasized in various studies. According to a research by Alharabi et al., 16% of the patient health status and 13% of patient satisfaction depend on the organizational culture of the hospital staff (20). Knapp et al. considered institutionalization of appropriate organizational culture as a factor for improving the performance of health organizations (21). Hung et al. believes that organizational culture affects the way health organizations behavior to patients (22). Mendoza et al. reported that staff satisfaction with organization depended on organizational culture, which ultimately leads to better organizational performance (23). Organizational culture can have an impact on healthy behaviors in an organization and lead to an increase in the presence of employees in the organization (24). Organizational culture has also

changed the absorption capacities of staff and resulted in the adoption of new technology by the staff. This can fit the organization with a global dynamic environment (25). Furthermore, according to the results of our study, strategic orientation and goal-objective indices had the lowest mean scores, which was consistent with the research by Hamidi et al. in Hamadan (16). The results of our study and Hamidi's study both indicated that the mission culture score was insufficient, which should be considered by the managers. According to the research by Brinkley, managers need to pay attention to organizational culture in order to succeed (26). According to the study by Xue et al., monitoring the organizational mission is among the important issues in organizational culture; and strategic thinking will lead to improvement of organization status (27). According to the findings of our study, there was a significant relationship between educational level and organizational culture; and that employees with higher education had higher organizational culture. According to the study by Pourtaheri et al. in Kerman, knowledge management of organization will be promoted by improving organizational culture, which confirms the findings of our study (28). One of the limitations of our study was the lack of separate as-

**Table 3.** Relationship between the education level of the participants and organizational culture domains in Qazvin University of Medical Sciences

Realm	Education	N	Mean ± SD	Confidence Interval		P value
				L	U	
Involvement	Junior diploma	33	2.82±0.74	2.56	3.09	0.04
	Associate degree	25	2.63±0.58	2.39	2.87	
	Bachelor's degree	138	2.99±0.70	2.88	3.11	
	Master's degree	80	3.06±0.76	2.89	3.23	
Consistency	Junior diploma	33	2.74±0.46	2.52	2.98	0.02
	Associate degree	25	2.69±0.61	2.43	2.94	
	Bachelor's degree	138	2.95±0.71	2.83	3.07	
	Master's degree	80	3.09±0.68	2.94	3.24	
Adaptability	Junior diploma	33	2.83±0.66	2.59	3.07	0.01
	Associate degree	25	2.74±0.56	2.51	2.98	
	Bachelor's degree	138	3.01±0.66	2.88	3.11	
	Master's degree	80	3.16±0.63	3.01	3.30	
Mission	Junior diploma	33	2.60±0.72	2.35	2.86	0.04
	Associate degree	25	2.67±0.51	2.46	2.88	
	Bachelor's degree	138	2.83±0.71	2.71	2.95	
	Master's degree	80	2.88±0.76	2.72	3.05	
Total organizational culture	Junior diploma	33	2.77±0.64	2.54	3.01	0.03
	Associate degree	25	2.68±0.48	2.48	2.89	
	Bachelor's degree	138	2.94±0.63	2.84	3.05	
	Master's degree	80	3.05±0.62	2.91	3.18	

\*ANOVA Test \*\* significant < 0.05

assessment of employees based on their departments and not considering confounding variables.

## Conclusion

Given the importance of organizational culture, attention should be paid to fields including mission and consistency culture of the Qazvin University of Medical Sciences staff. Interventions should be designed and implemented in order to improve organizational performance by developing knowledge and awareness in university staff. Finally, due to the low score of mission culture in this organization, it is suggested that managers should pay attention to promotion of indices including organizational goals, objectives and vision, and strategic orientation of the staff by design and implementation of appropriate training programs.

## Ethical disclosure

Interviewers explained research importance to participants, and they were assured them that their information confidentiality will be maintained. Research participation was voluntary, and samples could opt out of research. (Code of IR.QUMS.REC.1394.846)

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## Author contributions

All the authors have accepted responsibility for the entire content of this manuscript.

## Conflict of interest

There is no conflict of interests for the authors.

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