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A field study on determining the effects of organizational climate in terms of social interaction on knowledge management at health organizations

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Abstract

Aim/purpose – In this study, the direction and size of the relations between organizational climate, social interaction and knowledge management were evaluated.

Design/methodology/approach – The research was conducted in two hospitals, one of which is public and the other is private. Questionnaire method was used for data collection and a total of 740 employees who work at these hospitals completed the questionnaire forms.

Findings – According to survey results it is found that organizational climate affects social interaction at the rate of 77%, social interaction affects knowledge management at the rate of 45% and organizational climate affects knowledge management at the rate of 29%.

Research implications/limitations – The limitation of the present study is that it was conducted in one city.

Originality/value/contribution – The originality of this work is to examine between organizational climate, social interaction and knowledge management in health sector.

Keywords: organizational climate, social interaction, knowledge management.

JEL Classification: M100; M0.

1. Introduction

The concept of knowledge management is defined in the literature in different ways by various authors. The reason for this is that the concept is young and theories about the concept are still in the phase of development. However, it can be observed that among the definitions of knowledge management there is a consensus on describing it as a field of implementation directed at using knowledge in order to increase the efficiency of a business as well as being formed of certain processes. According to Skyrme [1999], who has provided one of the most general definitions of knowledge management, it is the open and systematic management of knowledge, which is of vital importance for a business, and the creation, organization, dissemination, application and processing of this knowledge in accordance with the business targets. The knowledge-based theory of the firm posits knowledge as the primary determinant of sustainable organizational growth and competitive advantage. Professionals have varied and important roles in the creation, harvesting, storage and dissemination of organizational knowledge [Lin & Fan 2011; Witherspoon et al. 2013].

In our contemporary unstable and competitive environment, knowledge is usually considered as the fundamental source of success for a business. Successful businesses have to continuously integrate knowledge assets into their activities and manage them in order to achieve their targets and ensure the best performance. To achieve targets, it is not enough to just acquire or produce knowledge; at the same time the dissemination of this knowledge through the whole of the organization and be available for everyone's use is also a requirement.

In the literature, certain factors which have effects on knowledge management performance are mentioned. These factors are determined as culture, leadership, technology and measurement. Although the effects of different factors have been tried to be researched in different studies on knowledge management, issues of organizational climate and social interaction have not been much discussed. Organizational climate is a psychological process which consists of organization policies, implementations and procedures and mediates the relations among attitudes and behaviors regarding works perceived as objective series [Schneider 2009] and it is constituted by the individual perceptions of employees. The more positive the employees' perceptions regarding the workplace the higher their performances will be in knowledge management as in all other operations. Social interaction is communication in which the participants of the interpersonal communication have certain (face-to-face) proximity and there is mutual verbal or non-verbal messaging [Dökmen 2003]. Social interaction expresses the interaction of organization members with each other in terms of trust,

communication and coordination. Previous studies have recognized the importance of social interaction in affecting the formation knowledge management behavior among members.

The main purpose of the study is to be able to determine the effects of organizational climate in knowledge management in terms of social interaction. In the subsequent flow of the article organizational climate, knowledge management, social interaction will be examined theoretically and methods, findings, discussions and conclusions sections will be given respectively.

2. Literature review

Organizational climate is a psychological process which consist of organization policies, implementations and procedures and mediates the relations among approaches and behaviors regarding works perceived as an objective series [Schneider 2009]. Organizational climate is a name given to an organization's psychological environment. In other words, it can be defined as the aura one feels while visiting a business. Organizational climate is a product of organizational culture; it affects employees psychologically and directs human relations Organizational climate is described where employees perceive that they are treated as impersonal objects, are exploited by management, and feel significant lack of confidence. Organizational climate is a important concept that brings significant assumption to recognize employee's behavior in an organization especially for the employees with disability. The physical environment, the technological environment, the social environment, the political environment and the economic environment represent the elements of organizational climate which influence employee motivation, work satisfaction and performance [Başaran 2008; Brimhall et al. 2016; Hashim, Ishak & Hilmi 2017].

The word "climate" was first used by Kurt Lewin in the 1930s in his psychological study. In this study, he first of all stressed the relationship between climate and leadership types [Schneider 2009]. Later in the 1960s the term organizational climate appeared fully developed. It started with the joint studies conducted by Lewin & Stringer in 1968 on "motivation and organizational climate" and continued with the work of Tiguiri & Litwin titled "The concept of organizational climate" [Stringer 2002]. Organizational climate became at the beginning of studies a topic which researchers investigated in order to explain organizational efficiency. The fundamental assumption of the studies has been that there may be certain differences among organizations in terms of organizational climate and that these differences affect organizational efficiency [Şişman 2007].

The existence of organizational climate and its impact on employees or the discovery of the fact that employees who experience different organizational climates can make different contributions to business efficiency brings along with it the necessity to classify the climatic structure. Thereby the possibility of interpreting and comparing from different angles the various climate types emerged. The fact that organizational climate is affected by many variables and that it is difficult to measure has caused many researchers to construct different classifications of organizational climate types [Akyüz 2009]. In this study, three different organizational climate types which form organizational climate have been emphasized.

Warm Climate: In this climate type, there is a striking friendliness in both managers and employees. Satisfaction of social requirements is highly effective in reaching the target even if management and control of group activities are low. Morale and work satisfaction are average or close to average. There exists a situation in which the manager displays too much sympathy by embracing the idea of forming a ‘one big happy family’ believing and arguing that he or she is also one of the employees. Nobody works at full capacity. The works of members are never criticized even if they are wrong or mistaken. Compared to open type climate, having a high level of dissolution and expressing sympathy, an average level of morale and a low level of dedication to work are the notable characteristics of this climate type [Peker 1993].

Supportive Climate: Wallach [1983] has defined supportive climates as such; supportive climates entail sharing principles. Just like harmony, openness, friendship, cooperation, encouragement, sociability, individual freedom and trust. Previous studies have shown that support given to the employees in the organization is an important part of organizational environment. There is a positive relationship between employees’ perception of being valued by the organization and being honest while undertaking traditional work responsibilities, being efficient in pre-designed organizational participation, individual recognition and innovating for the organization without any expectation of direct remuneration [Eisenberger, Fasolo & Davis-LaMastro 1990]. According to Shore & Wayne [1993] perceived organizational support (for example organizational citizenship, efficient management) is an important insight for employee behavior. Employee perception and employee participation programs can prove beneficial for the organization and the individual can have positive feelings about organizational citizenship and these feelings are constructed with supportive organizational climate. By generating cooperation and aura of transparency, supportive climate increases the quality of team work and communication [Shore & Wayne 1993]. Organizational support level perceived by employees is a determining factor to

foresee employee behavior. The positive perceptions of employees regarding organizational development projects can benefit both the organization and the individual. Supportive climate has an important role in the constitution of organizational citizenship as well [Ay & Çelik 2003]

Innovative Climate: Innovative climates can be described as risk-taking, result-oriented, dominant, hardworking, challenging, entrepreneurial and efficient. The fact that organizations need more efficient use of organizational resources in order to survive in competitive markets has given birth to innovative organization approaches. Innovative climates make use of team work and communication during sharing in decision-making. The reason is that innovative climates entail creativity, are result-oriented and have a competitive environment. This situation requires efficient and open communication. Innovative climates support team work and allow substantial opportunities for employees. These opportunities must also be involved in decision-making mechanisms in order for them to do their job more efficiently. In the study by Burns & Stalkers [1961] innovative organizations have been characterized by organic management systems and in these management systems there are team work, horizontal communication and removal of work boundaries. This is done to make use of sharing in people's work duties. Subsequent studies have supported these claims. According to these studies, organizations with innovative climates have at the same time innovative human resources practices [Kanter 1992]. Organization climate is the important dimensions of organizational social context that are central to promoting innovation and effectiveness in human services [Glisson 2015].

Social effect refer to changes in a person's own attitudes, ideas and judgments after being exposed to other people's social judgments, attitudes and ideas [Arkonaç 2005]. In other words, it is the act of one or more individuals consciously or unconsciously changing in any social, economic or a political subject the emotions, thoughts and behaviors of one or more individuals [Sakallı 2006].

Social interaction is a form of communication in which participants of interpersonal communication are in certain proximity, face-to-face, and there is mutual verbal or non-verbal messaging. At the same time, the participants of interpersonal communication are expected to be communicating "in their own name". In order for a communication to be recognized as social interaction participants of communication have to be face-to-face, there has to be mutual messaging between the participants and the messages in question have to verbal or non-verbal. In order to be successful in social interaction possessing such communication skills as talking and listening is essential.

Social interaction expresses the mutual interaction among organization members in terms of trust, communication and coordination. Previous studies

have recognized the importance of social interaction among individuals for the formation of knowledge management behaviors. Koskinen, Pihlanto & Vanharanta [2003] claim that different team members have different experiences and background in team and group work contents and that they have a tendency to retrieve similar knowledge from reliable, talented colleagues. Natural trust and understanding among colleagues allow businesses to acquire knowledge and help better integrate experience. Therefore, reliable relations increase the will to share knowledge and accept those of others thereby leading to a greater increase in knowledge sharing. Hoegl, Parboteah & Munson [2003] state that in terms of communication, when the members have large social interaction environments there will be an important amount of knowledge transaction within the organization and that members will be more inclined to share while applying, disseminating and acquiring knowledge.

Medical technologies, and requiring tools, skills, and methods with more knowledge resources are rapidly changing in health sector. Hospital organizations have been interested in communities of practice as a means of transferring and generating knowledge within them [Lee 2017]. Although there are a rich variety of definitions of knowledge in the literature at the most basic level knowledge is defined as “proven, tested true belief or thought”. In accordance with this definition while truth is the necessary but at the same time abstract, static and non-human aspect of knowledge having the capacity to be tested or proven stresses the dynamic and human aspect of knowledge [Nonaka, Toyama & Konno 2000].

In a broader definition, knowledge can be described as the totality of factors having the potential to affect human thought and behavior. Accordingly, many factors such as skills, theory, intuition, organizational culture or commercial credibility which allows the control of expression, estimation and physical events can be considered as knowledge [Hall & Adriani 2003]. Wiig [2004] states that knowledge consists of facts, perspectives and ideas, mental reference models, realities and beliefs, judgments and expectations, methods and accumulated skills. Leonard & Sensiper [1998] define knowledge as information which is meaningful, can initiate action and is at least partly dependent on experience. According to another definition, knowledge is data which is gathered, organized and interpreted and delivered to the appropriate unit in order to take effective action via a definite method, which can be transformed into a valuable and meaningful state after a processing phase and which as a result, affects decisions and behaviors [Koza 2008].

Nothing can have mobility without knowledge. Today it is generally believed that knowledge is a great power and possessing it means being powerful.

In the modern age, in order to be successful every management activity must necessarily be based on knowledge. The best method which would distinguish an organization from its competitors and thrust it forward is making use of knowledge in the best possible way. The manner of collecting, managing and using knowledge determines whether one will be successful or not. However, it must also be stated that in today's world where the amount of knowledge has substantially increased and that in addition to possessing knowledge the success of organizations requires managing this knowledge in the best possible way [Tutar 2009].

The concept of knowledge management has been defined in the literature by various authors in different ways. The reason is that, the concept is very young and theories about the concept are still in the development phase. However, it can be observed that among the definitions of knowledge management there is a consensus on describing it as a field of implementation directed at using knowledge in order to increase the efficiency of a business and as being formed of certain processes.

Gold, Malhotra & Segars [2001] define knowledge management as the totality of strategies and processes directed at producing, disseminating, applying and protecting knowledge in order to increase competitiveness. Skyrme [1999] defines knowledge management as the open and systematic management of knowledge, which is vital for business, and the creation, organization, dissemination, application and processing of knowledge in accordance with the targets of the business. According to Lee Y.C. & Lee S.K. [2006], knowledge management is a practice aiming to improve organizational performance through obtaining knowledge and transforming it in a useful way, applying it and protecting it in a conscious and systematic way. In a broader definition, knowledge management is an organizational management concept which covers all knowledge activities such as how knowledge used in an organization is collected, created, retrieved, obtained, monitored, classified for registration management, indexed for content management, protected, corrected, organized, used, disseminated, published, transmitted, given away and archived [Özdemirci 2001, pp. 179-186].

Knowledge management is a process and in the literature it is accepted that it is constituted by the following stages:

- producing and obtaining knowledge,
- organizing and storing knowledge,
- disseminating and sharing knowledge,
- using and applying knowledge.

3. Research methodology

In the study, survey technique has been used to collect data. National and international literature on surveys has been reviewed and scales which have been previously constructed and whose validity and reliability have been tested have been used.

The survey consists of mainly two sections. In the first section there are 7 questions aimed at determining the socio-demographic characteristics of participants. In the second section, there are 93 questions consisting of organizational climate scale, social interaction scale and knowledge management scale. The survey has a total of 100 questions. The questions in the survey have been prepared according to a 5-point Likert scale and the responses have been codified and graded as Strongly Disagree (1), Disagree (2), Somewhat Agree (3), Agree (4) and Strongly Agree (5). In the determination of organizational climate, the scale developed by Bilir in 2005 in the study titled *Gençlik ve Spor Genel Müdürlüğü'nün Örgüt İklimi ve Çalışanların Katılımıyla İlgili Algılamaları* [2005] has been used. In the determination of social interaction, the social interaction scale utilized by Chen & Huang in their 2007 study titled *How Organizational Climate and Structure Affect Knowledge Management* has been used after being translated into Turkish. In order to measure knowledge management, the scale developed by Çetinkaya in 2012 in context of the study titled *Örgütsel Bilgi Yönetim Sürecinde Bilgi Yönetim Performans Boyutları: Ölçek Geliştirme ve Geçerliliği Üzerine Bir Araştırma* [2012]. Before the survey has been finalized, a pilot study has been conducted with 55 employees of Sivas Numune Hospital and the reliability of the survey has been tested.

The population of the research consists of all the workers of a private (Private Sivas Anatolian Hospital) and a public hospital (Sivas Public Hospital) in Sivas who were employed between 1 and 31 May. As the population was not that high and everyone was within reach no sample selection took place. During these dates, a total of 323 and 587 people were employed in Private Sivas Anatolian Hospital and Sivas Public Hospital respectively and the total population was 910 people; at the end 740 survey forms have been analyzed and 81.3 percent of the population has been reached.

4. Research findings

The socio-demographic data obtained from this study and analyzed in detail in Table 1.

Table 1. Socio-demographic characteristics of workers of hospital

Variable	Frequency	Percent
Gender		
Female	459	62.0
Male	281	38.0
Age		
Less 25	137	18.5
26-35	330	44.6
36-45	200	27.0
46-55	60	8.1
More 56	13	1.8
Education		
High school	122	16.5
Two-year university degree	328	44.3
Undergraduate	228	30.8
Masters	25	3.4
Doctorate	37	5.0
Marital Status		
Single	241	32.6
Married	499	67.4
Job		
Doctor	49	6.6
Nurse	234	38.2
Other health worker	267	36.1
Administrative staff	128	17.3
Technical staff	50	6.8
Company personnel	12	1.6
Income		
Less 1000 TL	142	19.2
1001-2000 TL	166	22.4
2001-3000 TL	346	46.8
More 3001 TL	86	11.6
Institution		
Private Anadolu Hospital	260	35.1
Sivas Public Hospital	480	64.9

The total number of employees who participated in the research is 740. 459 of those who participated in the survey (62%) are women, 330 (44.6%) are between 26 and 35. 328 (44.3%) have a two-year university degree, 499 (67.4%) are married, 267 (36.1%) are other healthcare personnel (health technician, etc.), 353 (47.7%) have worked for less than 5 years, 346 (46.8%) have a monthly income between 2001 and 3000TL and 480 (64.9%) work at Sivas Public Hospital.

4.1. Findings regarding the analysis of differences between demographic characteristics and organizational climate, social interaction and knowledge management

The differences between the evaluations of employees who participated in the research regarding organizational climate, social interaction and knowledge management have been analyzed with respect to their socio-demographic char-

acteristics. “Independent Sample T Test” and “ANOVA (One-way analysis of variance)” tests have been used during analysis. Tukey HSD test has been used in order to determine which groups were the sources of differences for the levels which have been found to have statistically significant difference as a result of the ANOVA test.

As a result of the analysis it has been found that employees’ evaluations regarding organizational climate and social interaction do not present statistically significant difference ($p > 0.05$). However, the employees’ evaluations regarding knowledge management show a statistically significant difference according to their sex ($p < 0.05$). More women (3.74 ± 0.78) than men (3.53 ± 0.85) have responded to the questions regarding knowledge management. It can be said that the women who participated in the research have a higher knowledge management performance than men.

Employees’ evaluations regarding organizational climate show a statistically significant difference according to age groups ($p < 0.05$). As a result of the Tukey test which has been conducted to determine which age group is the source of the difference it has been found that the difference is between those 25 years of age and younger (3.01 ± 0.88) and those between 26 and 35 (2.52 ± 0.76), 36 and 45 (2.61 ± 0.75) and moreover there is also a difference between those 46 to 55 (2.83 ± 0.62) years of age and those between 26 and 35 (2.52 ± 0.76). Accordingly, those 25 years of age and younger perceive organizational climate more positively than the 26-35 and 36-45 age groups and the 46-55 age group perceive organizational climate more positively than the 26-35 age group. The employees’ evaluations regarding social interaction show a statistically significant difference according to the age groups ($p < 0.05$). As a result of the Tukey test which has been conducted to determine which age group is the source of the difference it has been found that the difference is between those 25 years of age and younger (3.21 ± 0.77) and those between 26 and 35 (2.93 ± 0.78) and 36 and 45 (2.86 ± 0.77). Accordingly, those 25 years of age and younger have a higher social interaction level than the 26-35 and 36-45 age groups.

The employees’ evaluations regarding knowledge management show a statistically significant difference according to age groups ($p < 0.05$). As a result of the Tukey test which has been conducted to determine which age group is the source of the difference it has been found that the difference was caused by those 25 years of age and younger (3.54 ± 0.83) and those between 26 and 35 (3.77 ± 0.78) and by those between 26 and 35 (3.77 ± 0.78) and 46 and 55 (3.43 ± 0.75). Accordingly, the knowledge management performance of the 26-35 age group is higher than that of those 25 and younger and the 46-55 age group.

There was not found a statistically significant difference between the employees' evaluations regarding organizational climate and their education levels. The employees' evaluations regarding social interaction show a statistically significant difference according to their educational levels ($p < 0.05$). As a result of the Tukey test which has been conducted to determine which educational level is the source of difference it has been found out that the difference is between two-year university graduates (3.07 ± 0.76) and bachelor's level graduates (2.84 ± 0.73). Accordingly, two-year graduates have a higher degree of social interaction level than bachelor's level graduates. The employees' evaluations regarding knowledge management show a statistically significant difference according to their educational levels ($p < 0.05$). As a result of the Tukey test which has been conducted to determine from which educational levels the difference originates it has been found out that the differences exist between primary/high school graduates (3.46 ± 0.91) and bachelor's level graduates (3.82 ± 0.78) / PhD/medical specialist graduates (4.08 ± 0.53) and moreover between two-year graduates (3.58 ± 0.79) and bachelor's level graduates (3.82 ± 0.78) / PhD/medical specialist graduates (4.08 ± 0.53). Accordingly, knowledge management performances of bachelor's level graduates and PhD/medical specialist graduates are higher than primary/high school and two-year university graduates.

There was not found a statistically significant difference between the employees' evaluations regarding knowledge management and duration of employment ($p > 0.05$). The employees' evaluations regarding organizational climate show a statistically significant difference according to their duration of employment ($p < 0.05$). As a result of the Tukey test conducted to determine from which employment periods the difference originates it has been found that the differences are between those who have been employed for 5 years or less (2.80 ± 0.82) and those who have been employed for 6 to 10 years (2.47 ± 0.65) and 11 to 15 years (1.83 ± 0.59). Accordingly the organizational climate perception of those who have been employed for 5 years or less is more positive than those who have been employed for 6 to 10 years and 11 to 15 years. Another difference has been determined to be between those who have been employed for 6 to 10 years (2.47 ± 0.65) and those who have been employed for 11 to 15 years (1.83 ± 0.59), 16 to 20 years (2.79 ± 0.84) and 21 years or more (2.87 ± 0.63). Accordingly, while the organizational climate perception of those who have been employed for 6 to 10 years is more positive than those who have been employed for 11 to 15 years it is more negative than those who have been employed for 16 to 20 years and 21 years or more. Another difference has been determined to be between those who have been employed for 11 to 15 years (1.83 ± 0.59) and those who have been employed for 16 to 20 years (2.79 ± 0.84) and 21 years or

more (2.87 ± 0.63). Accordingly, the organizational climate perception of those who have been employed for 11 to 15 years is more negative than those who have been employed for 16 to 20 years and 21 years or more.

The employees' evaluations regarding social interaction show a statistically significant difference according to their duration of employment ($p < 0.05$). As a result of the Tukey test conducted to determine from which employment periods the difference originates it has been found that the differences are between those who have been employed for 5 years or less (3.13 ± 0.77) and those who have been employed for 6 to 10 years (2.81 ± 0.72), 11 to 15 years (2.55 ± 0.57) and 16 to 20 years (2.81 ± 0.84). Accordingly the social interaction level of those who have been employed for 5 years or less is higher than those who have been employed for 6 to 10 years, 11 to 15 years and 16 to 20 years. Another difference is determined to be between those who have been employed for 11 to 15 years (2.55 ± 0.57) and those who have been employed for 21 years or more (2.02 ± 0.76). Accordingly, the social interaction level of those who have been employed for 21 years or more is higher than those who have been employed for 11 to 15 years.

The employees' evaluations regarding organizational climate, social interaction and knowledge management show statistically significant difference according to the organization they work for ($p < 0.05$). Those employed at private hospital (2.78 ± 0.87) perceive organizational climate more positively than those employed at public hospital (2.61 ± 0.73). Social interaction level is higher among private hospital employees (3.13 ± 0.79) than public hospital employees (2.88 ± 0.75). Knowledge management performance is again higher for private hospital employees (3.79 ± 0.79) than for public hospital employees (3.59 ± 0.82).

4.2. Findings regarding the analysis of the relations between organizational climate, social interaction and knowledge management dimensions

When the relations between the dimensions of organizational management (warm climate, supportive climate, innovative climate) and social interaction (trust, communication, coordination) were investigated there were found medium level and positive relationships between warm climate and trust ($r = 0.385$), communication ($r = 0.459$) and coordination ($r = 0.395$) and these relationships have been found to be statistically significant ($p < 0.01$). As the warm climate perception increases, the levels of trust, communication and coordination among employees increase. There were found medium level and positive relationships

between supportive climate and trust ($r = 0.518$), communication ($r = 0.461$) and coordination ($r = 0.463$) and these relationships are statistically significant ($p < 0.01$). As the supportive climate perception increases the levels of trust, communication and coordination among employees also increase. There were found medium level and positive relationships between innovative climate and trust ($r = 0.557$), communication ($r = 0.433$) and coordination ($r = 0.516$) and these relationships are statistically significant. As the innovative climate perception increases the levels of trust, communication and coordination among employees also increase.

When the relations between the dimensions of social interaction (trust, communication, coordination) and knowledge management (collecting and sharing knowledge, storing and using knowledge) are investigated there were found a positive and medium level relationship between trust and collecting and sharing knowledge ($r = 0.302$); a positive and low level relationship between trust and storing and using knowledge ($r = 0.193$) and these relationships are also statistically significant ($p < 0.01$). As the trust level among employees increases their knowledge management performances also increase. There were found positive and low level relationship between communication and collecting and sharing knowledge ($r = 0.259$) and storing and using knowledge ($r = 0.105$) and these are statistically significant ($p < 0.01$). As the communication level among employees increases their knowledge sharing performances also increase. There were found positive and low level relationships between coordination and collecting and sharing knowledge ($r = 0.273$) and storing and using knowledge ($r = 0.142$) and these relationships are also statistically significant ($p < 0.01$). As the coordination level between employees increase their knowledge management performances also increase.

When the relations between the dimensions of organizational climate (warm climate, supportive climate, innovative climate) and knowledge management (collecting and sharing knowledge, storing and using knowledge) are investigated the relationships between warm climate and storing and using knowledge has not been found to be statistically significant ($p > 0.01$). There was found a positive but a low level of relationship between warm climate and collecting and sharing knowledge ($r = 0.171$) and this relationship is statistically significant. As the employees' perceptions of warm climate increases their performances of collecting and sharing knowledge also increase. The relationship between supportive climate and storing and using knowledge has not been found to be statistically significant ($p > 0.01$). There was found a positive but low level relationship between supportive climate and collecting and sharing knowledge ($r = 0.133$) and this relationship is statistically significant ($p < 0.01$). As the supportive climate perception of employees increase their performances of collecting and sharing

knowledge also increase. There were found positive but low level relationships between innovative climate and collecting and sharing knowledge ($r = 0.185$) as well as storing and using knowledge ($r = 0.096$) and these relationships are statistically significant ($p < 0.01$). As the innovative climate perceptions of employees increase their knowledge management performances also increase.

Table 2. Items descriptive analysis, factor loadings and construct reliability

Constructs	Observed variables	Average	Standard deviation	Factor loading	Cronbach's Alpha
Warm climate	Item 19	2.70	0.90	0.524	0.85
	Item 21			0.654	
	Item 23			0.736	
	Item 24			0.738	
	Item 25			0.700	
	Item 27			0.723	
Innovative climate	Item 34	2.81	0.93	0.545	0.84
	Item 39			0.620	
	Item 40			0.831	
	Item 41			0.768	
	Item 59			0.646	
Supportive climate	Item 18	2.45	0.94	0.546	0.86
	Item 42			0.580	
	Item 48			0.733	
	Item 49			0.764	
Trust	Item 51	3.02	0.81	0.669	0.90
	Item 52			0.678	
	Item 53			0.675	
	Item 54			0.672	
	Item 55			0.720	
	Item 56			0.756	
Coordination	Item 57	2.90	0.95	0.632	0.92
	Item 63			0.388	
	Item 68			0.737	
	Item 69			0.595	
	Item 70			0.523	
	Item 71			0.821	
Communication	Item 72	2.96	0.90	0.771	0.91
	Item 64			0.606	
	Item 65			0.783	
	Item 66			0.804	
Storing and using knowledge	Item 67	3.62	0.88	0.639	0.92
	Item 83			0.601	
	Item 85			0.705	
	Item 86			0.831	
	Item 87			0.801	
	Item 88			0.797	
	Item 89			0.724	
	Item 90			0.706	
	Item 91			0.793	
	Item 92			0.750	
Obtaining and sharing knowledge	Item 93	3.68	0.87	0.722	0.92
	Item 73			0.572	
	Item 78			0.720	
	Item 79			0.778	
	Item 80			0.794	
Item 81	0.726				
Item 82	0.717				

In Table 2 at the end of the factor analysis test, factor patterns have emerged for the organizational climate scale which consist of three factors (warm climate, innovative climate, supportive climate); for the social interaction scale which consists of three factors (trust, coordination, communication); and for the knowledge management scale which consists of two factors (storing and using knowledge, obtaining and sharing knowledge).

Although the reliability of the scale had been tested by a pilot study before the research, re-conducting an analysis after research was considered to be important for the reliability of research results. As a result of the reliability analysis, it has been found that the reliability coefficient of the scale (Cronbach Alfa) was 0.93. This result shows us that the scale is highly reliable.

Validity and reliability are the two fundamental criteria of scientific research. The reliability and validity of the methods used in the analysis of research data and of the findings obtained at the end of research are of great importance for the success of the study [Yüksel & Yüksel 2004]. Validity is the measuring instrument's degree of correctly measuring the property that it is aiming to measure without confusing it with another property. Reliability is the degree of consistency of measurement values obtained through measurements repeated under the same conditions with the same measuring instrument [Ercan & Kan 2004].

There are three different forms of validity over which evaluation is undertaken regarding scale validity and these are scope validity, criterion validity and structure validity. Scope validity refers to the purpose of the scale as a whole and of every article in the scale. Criterion validity, examines future or present relationship between scores obtained from the scale and the designated criterion in order to determine the validity of the scale [Ercan & Kan 2004]. Structure validity is the indicator of what the scale is measuring in actuality. Structural validity is important because it allows generalizations to be made regarding the scale. Before the factor analysis, which was conducted in order to determine the factor patterns of the variables of organizational climate, social interaction and knowledge management, Kaiser–Meyer–Olkin (KMO) test has been implemented to test the suitability of sample size for factorizing. At the end of analysis, KMO values for organizational climate, social interaction and knowledge management have been determined to be 0.84, 0.89 and 0.91, respectively.

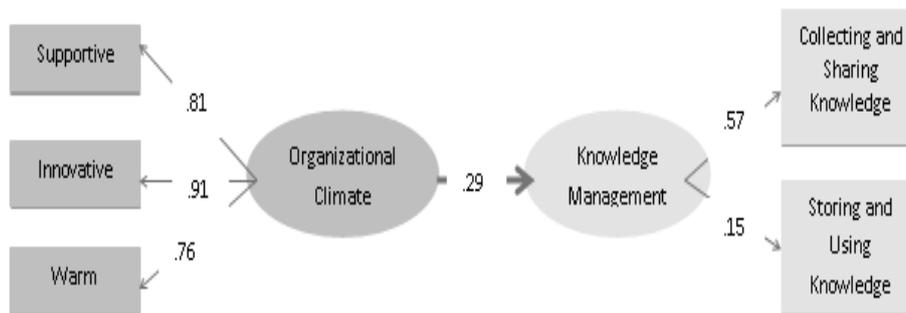
This section tries to explain the level of effect of the independent variable, directly or via the mediating variable, on the dependent variable in Table 3. In the analysis of the effect on the dependent variable Structural Equation Modeling has been used. The models constructed for the hypotheses of the research have been tested using the AMOS statistics program.

Table 3. Indices for the measurement model

Fit index	Recommended criteria	Model 1	Model 2	Model 3
X ² / sd	≤ 4-5	4.790	4.738	4.930
p value	0.01 ≤ p ≤ 0.05	0.02	0.02	0.02
RMSEA	0.05 ≤ RMSEA ≤ 0.08	0.077	0.078	0.079

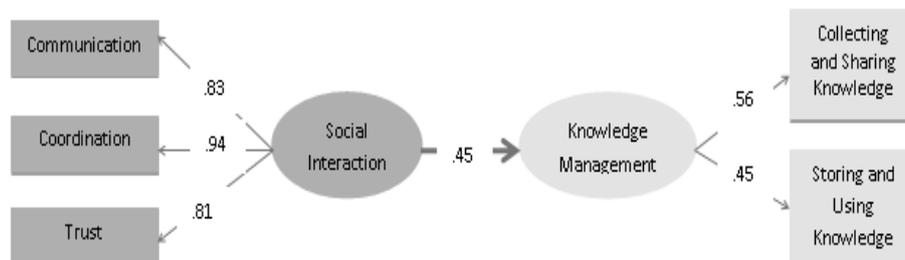
Structural equation modelling is a comprehensive statistical technique used to test the relationships between observable and non-observable variables [Yılmaz 2004, p. 79]. In structural equation modelling, observable variables refer to values which can be measured. The data regarding the measurable variables are the answers provided by the survey participants. Meanwhile, non-observable variables are values which cannot be directly measured and they are found by using observable variables.

When Figure 1 is reviewed, it is seen that the direct effect rate of organizational climate on knowledge management is 0.29. According to these results, 1 unit of increase in organizational climate leads to a 0.29 units of increase in knowledge management performance. Moreover, the most important dimension which affects organizational climate is the innovative climate (0.91) and the most important dimension which affects knowledge management is collecting and sharing knowledge (0.57). It has been determined that at the beginning the fit indices of the model were beyond the acceptable limits however as a result of the applied modifications it was seen that fit indices remained within acceptable limits. While before modification the Chi-square value, which was used in the evaluation of the model, was 2893.876, after modification it was 1983.071 and while before modification the degrees of freedom was 428 after modification it was 414. Thus while before modification the fit indices were measured as X²/sd = 6.761. RMSEA = 0.094 after modification they were measured as X²/sd = 4.790. RMSEA = 0.077. Both indices are within acceptable limits and this shows that the model has acceptable fit.

Figure 1. (Model 1) Direct effect of the independent variable (organizational climate) on the dependent variable (knowledge management)

When Figure 2 is reviewed it is seen that the direct effect rate of social interaction on knowledge management is 0.45. According to these results, 1 unit of increase in the social interaction level leads to a 0.45 units of increase in knowledge management performance. Moreover, the most important dimension which affects social interaction is coordination (0.94) and the most important dimension which affects knowledge management is collecting and sharing knowledge (0.56). While in the previous model which shows the effect of organizational climate on knowledge management, the difference between the effects of the knowledge management dimensions were greater, in this model this difference has diminished and the effects of the two dimensions on knowledge management are almost equalized. It has been determined that at the beginning the fit indices of the model were beyond the acceptable limits however as a result of the applied modifications it was seen that fit indices remained within acceptable limits. While before modification the Chi-square value, which was used in the evaluation of the model, was 3165.846, after modification it was 2170.004 and while before modification the degrees of freedom was 474 after modification it was 458. Thus while before modification the fit indices were measured as $X^2/sd = 6.679$, $RMSEA = 0.095$ after modification they were measured as $X^2/sd = 4.738$, $RMSEA = 0.078$. Both indices are within acceptable limits and this shows that the model has acceptable fit.

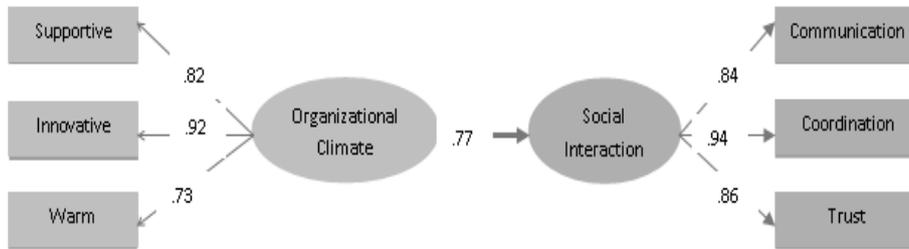
Figure 2. (Model 2) Direct effect of the mediating variable (social interaction) on the dependent variable (knowledge management)



When Figure 3 is reviewed, it is seen that the direct effect rate of organizational climate on social interaction is 0.77. In contrast to the other models which measure direct effects, a mutual effect between two variables has been found in this model. According to these results, while 1 unit of increase in organizational climate leads to a 0.77 units of increase in social interaction, 1 unit of increase in social interaction leads to again a 0.77 units of increase in organizational climate. Moreover, while the most important dimension which affects social interaction is coordination (0.94) the most important dimension which affects organi-

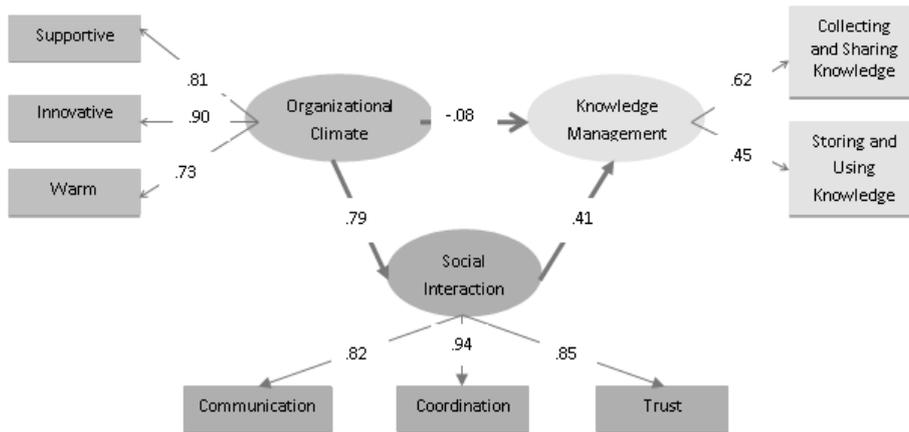
zational climate is innovative climate (0.92). It has been determined that at the beginning the fit indices of the model were beyond the acceptable limits however as a result of the applied modifications it was seen that fit indices remained within acceptable limits. While before modification the Chi-square value, which was used in the evaluation of the model, was 2848.844, after modification it was 2045.950 and while before modification the degrees of freedom was 436 after modification it was 415. Thus, while before modification the fit indices were measured as $X^2/sd = 6.534$, $RMSEA = 0.093$ after modification they were measured as $X^2/sd = 4.930$, $RMSEA = 0.079$. Both indices are within acceptable limits and this shows that the model has acceptable fit.

Figure 3. (Model 3) Direct effect of the independent variable (organizational climate) on the mediating variable (social interaction)



4.3. Findings regarding the analysis of the mediating role of social interaction on the effect of organizational climate on knowledge management

Figure 4. (Model 4) The effect of the independent variable (organizational climate) on the dependent variable (knowledge management) via the mediating variable (social interaction)



When the model of mediation in Figure 4 is analyzed it is seen that the effect rate of social interaction on knowledge management is 0.41 and the effect rate of organizational climate of knowledge management via the mediation of social interaction is 0.08. In the model the effect of organizational climate on knowledge management has been found to be statistically insignificant. These results can be explained in this way:

While in the first model (Figure 1), which was constructed to measure the direct effect of organizational climate on knowledge management, the effect rate was determined to be 0.29, the fact that in the model of mediation this number is -0.08 shows that rather than having a mediating role in the model social interaction has a determinative role on knowledge management.

Table 4. Mediating effect test results

IC	M	DC	IC → DC	IC → M	IC+M → DC		Mediation
Organizational climate	Social interaction	Knowledge management	0.29 p = 0.02	0.77 p = 0.02	IC → DC -0.08 p = 0.02	M → DC 0.41 p = 0.02	0.32 p = 0.02

Table 4 demonstrate mediating effect test results. The fact that organizational climate has a high rate of effect, which is 0.79, on social interaction, partly explains why the effect of organizational climate on knowledge management was found to be negative. It has been determined that at the beginning the fit indices of the model were beyond the acceptable limits, however, as a result of the applied modifications it was seen that fit indices remained within acceptable limits. While before modification the Chi-square value, which was used in the evaluation of the model, was 5833.764, after modification it was 4512.576 and while before modification the degrees of freedom was 436 after modification it was 912. Thus while before modification the fit indices were measured as $X^2 / sd = 6.246$, RMSEA = 0.086 after modification they were measured as $X^2 / sd = 4.948$, RMSEA = 0.076. Both indices are within acceptable limits and this shows that the model has acceptable fit.

5. Discussion

Knowledge management is of great importance for the existence and continuity of organizations. The fundamental skill that must be mastered by the organizations which want to be successful in the dynamic global economies of the

future is knowledge management. For in economies of knowledge the most important asset that firms own is not a physical asset but knowledge. In order for the healthcare services to be provided in an efficient and productive way, hospitals need to manage knowledge, in other words they have to make sure that they can rapidly reach new information on both patients and service providing processes and that this information is accessible by all employees. Accessibility does not mean that this information will be obtained and stored by employees. Making use of this knowledge is more important than obtaining it. In this context administrators need to encourage their employees to reach and share knowledge and apply it to work processes. As the administrators do this they need to establish a positive organizational climate and make sure to increase interaction among employees to a high level. The main purpose of this study is to determine the effects of organizational climate on knowledge management in terms of social interaction. Moreover, the study has been conducted to find out whether there are any significant differences between personal characteristics of employees and organizational climate perception, level of social interaction and knowledge management and to determine the relationships between the dimensions of each variable. For this reason, the study was designed to include employees from two different hospitals, one public (Sivas Public Hospital) and one private (Private Sivas Anatolian Hospital), as subjects. Due to limitations of time and resource, university hospitals were left out of the scope of the study. There was no sample selection at the hospitals within the scope of the study and all the employees were involved in the research as it has been considered that healthcare service provision must take place as a whole with the participation of every employee. The data obtained in the research have been analyzed using statistical methods and the findings of the analyses have been interpreted and certain results were achieved. These results have been tried to be explained in turn based upon the model and hypotheses of the research.

Regarding the dimensions of the variables, it has been observed that employees perceive organizational climate rather as innovative. The employees who participated in the research have stated that the level of trust in the organization is higher than communication and coordination levels. With regards to the dimensions of knowledge management it has been found that employee performances of storing and using knowledge are higher.

The existence of significant differences between the personal characteristics of the employees and the variables of organizational climate, social interaction and knowledge management has been investigated through analyses. At the end of the research, it has been found that those 25 years of age and younger, administrative personnel, individuals who have been employed for 16 to 20 years and

those who are working at the private hospital perceive organizational climate more positively and that these differences are statistically significant. There was not found any statistical difference between other personal characteristics and organizational climate. With respect to the social interaction level, it has been seen that those 25 years of age and younger, PhD/medical specialist graduates, administrative personnel, those who have been employed for 21 years or more, those with 1000TL or less income and those working at private hospital have a higher social interaction level and this difference is statistically significant. There was not found any significant difference between other personal characteristics and the social interaction level. After the statements regarding knowledge management variable are examined it has been found that women, those between 26 and 35. PhD/medical specialist graduates, doctors, those with 3001TL or more monthly income and those working at the private hospital have higher knowledge management performances and these differences are statistically significant. There was not found a statistically significant difference between other personal characteristics and knowledge management performance.

As a result, organizational climate perception, social interaction level and knowledge management performance show significant difference according to the personal characteristics of employees. The most striking aspect of these results is that those working at the private hospital have a more positive organizational climate perception, a higher social interaction level and knowledge management performances. Although the causes of this have not been considered to be within the scope of this research, further studies could investigate it. Even though no causes were investigated within the scope of the research, the author of this study considers the cause of this difference to be a more professional administrative mentality. Another result is that no variable showed any significant difference based upon marital status.

One of the purposes of the research was to determine the relationship between the dimensions of organizational climate and the dimensions of social interaction and knowledge management as well as the relationship between the dimensions of social interaction and knowledge management. As a result of the analysis of the obtained data, there was found a medium level and positive relationship between warm climate as one of the organizational climate dimensions and the dimensions of social interaction (trust, communication and coordination) as well as a low level and positive relationship between warm climate and collecting and sharing knowledge as the dimensions of knowledge management and these relationships are statistically significant. There was not found any statistically significant relationship between warm climate and storing and using knowledge. There was found a medium level and positive relationship between

supportive climate as one of the organizational climate dimensions and the dimensions of social interaction (trust, communication and coordination) as well as a low level and positive relationship between supportive climate and collecting and sharing knowledge as the dimensions of knowledge management and these relationships are statistically significant. There was not found any statistically significant relationship between supportive climate and storing and using knowledge. There was found a medium level and positive relationship between innovative climate as one of the organizational climate dimensions and the dimensions of social interaction (trust, communication and coordination) as well as a low level and positive relationship between innovative climate and the dimensions of knowledge management (collecting and sharing knowledge, storing and using knowledge) and these relationships are statistically significant. There was found a medium level and positive relationship between trust as one of the dimensions of social interaction and collecting and sharing knowledge as a dimension of knowledge management as well as a low level and positive relationship between trust and storing and using knowledge and these relationships are statistically significant. There was found a low level and positive relationship between communication as one of the dimensions of social interaction and the dimensions of knowledge management (collecting and sharing knowledge, storing and using knowledge) and this relationship is statistically significant. There was found a low level and positive relationship between coordination as one of the dimensions of social interaction and the dimensions of knowledge management (collecting and sharing knowledge, storing and using knowledge) and this relationship is statistically significant.

According to the results there is not a negative relationship between the dimensions of the organizational climate, social interaction and knowledge management variables. However, what is interesting is the fact that knowledge management performance has a stronger relationship with trust as one of the dimensions of social interaction and innovative climate as one of the dimensions of organizational climate than other dimensions. Compared to other dimensions, the administrators' efforts to improve innovative climate and the feeling of trust among employees will positively affect knowledge management performance.

Another purpose of the research was to determine the effects the variables (organizational climate, social interaction and knowledge management) have on each other. As a result of the analysis of the obtained data, there has been found a 77% direct interaction rate between organizational climate perception and social interaction level; in other words, it has been determined that 77% of the change in the social interaction level can be explained by a change in the organizational climate perception just as that 77% of the change in the organizational

climate perception can be explained by a change in the social interaction level. When considered in terms of the organizational climate dimensions, it has been found that the supportive climate perception has a 63%, innovative climate perception has a 71% and warm climate has a 56% effect on the social interaction level. Meanwhile, the effect of the social interaction level on knowledge management performance is 45%; in other words 45% of the change in knowledge management performance is caused by the change in the social interaction level. When considered in terms of the social interaction dimensions, it has been found that communication has a 37% effect, coordination has a 42% effect and trust has a 36% effect on knowledge management performance. The effect of organizational climate perception on knowledge management performance is 29%, in other words, it has been found that 29% of the change in knowledge management performance is caused by a change in organizational climate perception. When considered in terms of the dimensions of organizational climate, it has been seen that on social interaction level supportive climate perception has a 23% effect, innovative climate has a 26% effect and warm climate has a 22% effect.

However, although there is a mutual and high level interaction between organizational climate and social interaction level, it has been found that while the social interaction level has a medium level on knowledge management performance organizational climate has a low level effect on knowledge management performance. There may be other factors which have higher effects on knowledge management performance. In the future studies other independent variables could be included in the models.

When the results of the research are reviewed it can be seen that the survey participants perceive organizational climate as more innovative. Innovative climates can be described as risk-taking, result-oriented, dominant, hardworking, challenging, entrepreneurial and efficient. However, none of the three climate dimensions' averages have reached the expected level. Particularly administrators who aim higher success levels must take steps that will help employees to perceive organizational climate in a more positive way.

As another result of the research it has been seen that the trust level among employees is higher than communication and coordination. Organizations can only achieve their targets by increasing coordination and communication in especially healthcare institutions which have high functional interdependency. Administrators are recommended to take steps to increase communication and coordination in work processes and encourage their employees in this direction. In order to achieve this, holding social organizations which would improve communication among employees not just in work hours but also after work, would be beneficial.

6. Conclusions

When the results are evaluated in terms of the knowledge management dimensions, it has been seen that although both dimensions are above average collecting and sharing knowledge are lower than storing and using knowledge. Storing and using knowledge are not enough to reach targets. This knowledge should be disseminated within organization and knowledge possessed by employees and the organization should be shared with other employees. Technological infrastructure which would be functional in disseminating knowledge in the organizations which were involved in the research has not been investigated. The technological infrastructure of these organizations can be evaluated in another research and the deficiencies in infrastructure could investigated. According to the data obtained within the scope of the study there were significant relationships between communication and coordination among employees and collecting and sharing knowledge. The steps which would be taken to increase the level of communication and coordination among employees will also increase their performances of collecting and sharing knowledge.

One of the most important results of the research is that the average of the response scores of private hospital employees is higher than the average of the response scores of public hospital employees. Although the causes of this have not been investigated in our study, it is thought that a more professional administrative mentality could be the cause. The cause of this significant difference between the employees of private and public hospitals can be investigated by including in the study hospitals with different property ownership regimes (university hospitals, charity hospitals, etc.).

Another result obtained within the scope of the study is that there is a medium level and positive relationship between warm climate, supportive climate, innovative climate perception and trust, communication, coordination. Supportive climate describes a structure where there is team work, commitment and mutual support and not punishment. Moreover, in supportive climate there is transparency, friendship, cooperation, encouragement, socialization and individual freedoms. If these aspects of supportive climate can be given prominence it will be possible to increase the social interaction level. Innovative climates have risk taking, result-oriented, dominant, hardworking, challenging and entrepreneurial spirits. In order to increase the innovative climate perception and thus social interaction level, employees must be given certain freedoms at the beginning of work, be encouraged to innovate and each innovation which contributes to the targets of the organization must be appropriately remunerated. Again, as mentioned before, there is a medium level and positive relationship between trust,

communication and coordination level among employees and collecting and sharing knowledge and as trust, communication and coordination level increase performances of collecting and sharing knowledge will also increase.

One of the purposes of the study was to determine the mediating role of social interaction on the effects of organizational climate on social knowledge management. As a result of the obtained findings, although theoretically there is a certain mediating role it can be said that the effect of social interaction on the knowledge management performance is more of a determinative than a mediating nature. Accordingly, in the future studies social interaction could be defined as an independent variable and other variables could be included in the model as mediators. Moreover, reciprocal and high level interaction between organizational climate and social interaction can also become the subject of different studies.

As a result, it has been found that there is a high level of interaction between organizational climate and social interaction level however social interaction level has a medium level effect on knowledge management performance. In order to increase the social interaction level, steps must be taken which will ensure that organizational climate is perceived more positively. Contrary to expectations, the effect of organizational climate perception on knowledge management performances has been found to be low. This could be interpreted to mean that there may be other factors which could affect knowledge management performance at a higher level. Other variables or other dimensions of organizational climate which could affect knowledge management performance could be investigated in other studies by using different scales or focusing on a wider universe.

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