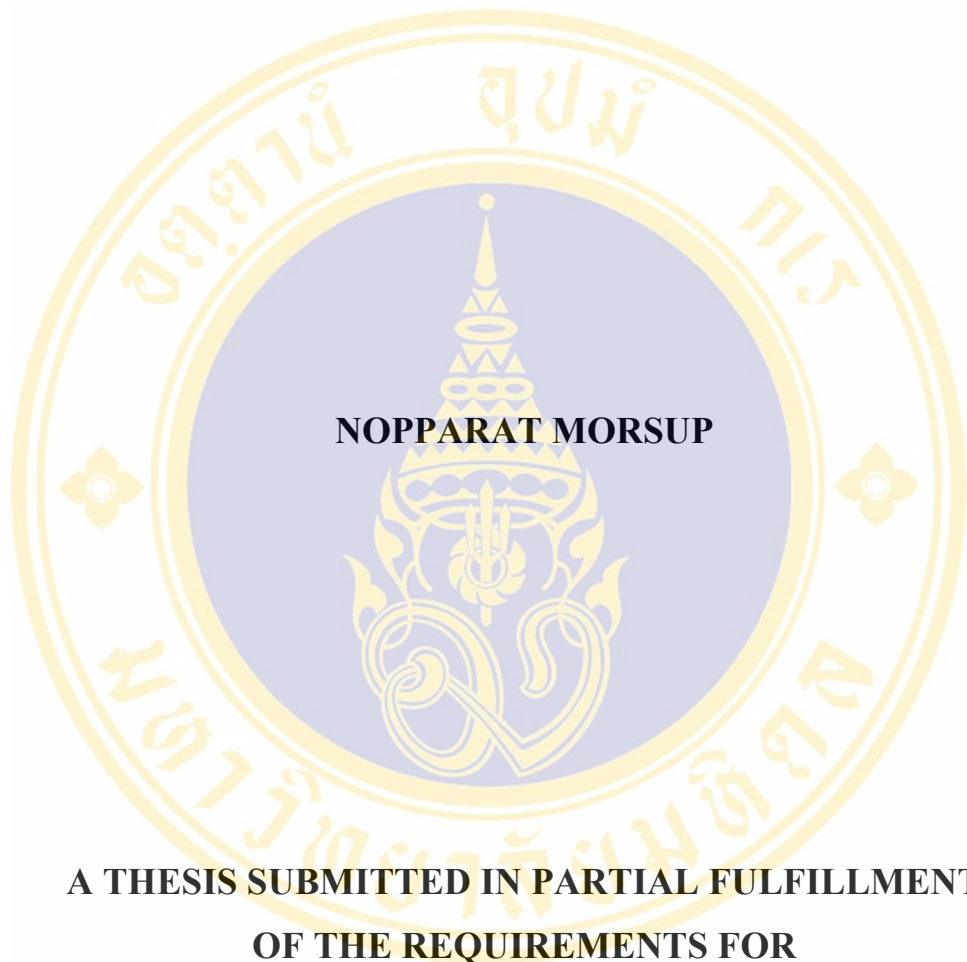


**TRANSFORMATIONAL LEADERSHIP CHARACTERISTICS OF
CHIEFS OF HEALTH CENTERS AFFECTING
ORGANIZATIONAL CLIMATE OF HEALTH CENTERS IN
RATCHABURI PROVINCE**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE (PUBLIC HEALTH)
MAJOR IN HEALTH ADMINISTRATION
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY**

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TRANSFORMATIONAL LEADERSHIP CHARACTERISTICS OF CHIEFS OF HEALTH CENTERS AFFECTING ORGANIZATIONAL CLIMATE OF HEALTH CENTERS IN RATCHABURI PROVINCE.

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ABSTRACT

The main objective of this cross-sectional descriptive research was to study transformational leadership characteristics of chiefs of health centers as perceived by health personnel in Ratchaburi province. A total of 270 health personnel were included in the study and subjected to self-administered questionnaire during October 3, 2003 and November 6, 2003. There were 222 completed questionnaires returned for analysis by using frequency, percentage, mean, standard deviation and Pearson's Product Moment Correlation Coefficient.

It was found that the majority of health personnel in Ratchaburi province were female (61.3%), aged between 25-34 years (54%) married (57.2%) with bachelor degrees (59%) and work experience of 1-5 years (58.5%). They perceived that chiefs of health centers had a moderate level of overall and of each aspect of transformational leadership characteristics including charismatic leadership, inspiration motivation, intellectual stimulation, and individualized consideration. The overall organizational climate of health centers was perceived to be at the high level as were risk and warmth aspects. Other aspects of the organizational climate rated at the moderate level were support, reward, structure, identity, responsibility and conflict. In regard to relationships, it was found that the overall transformational leadership characteristics and each aspect were significantly and positively related to overall and selected aspects of Organizational Climate of health centers except for reward, conflict, structure, and identity.

It is suggested from the study that the Ministry of Public Health consider providing sufficient resources for carrying out health center activities as well as opportunities for chiefs of health centers leadership development, especially human skills.

KEY WORDS: TRANSFORMATIONAL LEADERSHIP CHARACTERISTICS / ORGANIZATIONAL CLIMATE/CHIEFS OF HEALTH CENTERS.

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ลักษณะภาวะผู้นำการเปลี่ยนแปลงของหัวหน้าสถานอนามัยที่มีผลต่อบรรยากาศองค์การของสถานอนามัยในจังหวัดราชบุรี (TRANSFORMATIONAL LEADERSHIP CHARACTERISTICS OF CHIEFS OF HEALTH CENTERS AFFECTING ORGANIZATIONAL CLIMATE OF HEALTH CENTERS IN RATCHABURI PROVINCE).

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บทคัดย่อ

การวิจัยเชิงวิเคราะห์แบบภาคตัดขวางครั้งนี้ มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างลักษณะภาวะผู้นำการเปลี่ยนแปลงของหัวหน้าสถานอนามัยกับบรรยากาศองค์การของสถานอนามัยตามการรับรู้ของเจ้าหน้าที่สาธารณสุขระดับตำบลของสถานอนามัยในจังหวัดราชบุรี เก็บข้อมูลจากเจ้าหน้าที่สาธารณสุขระดับตำบลจำนวน 222 คน จากสถานอนามัย 110 แห่ง ใช้แบบสอบถามเจ้าหน้าที่สาธารณสุขระดับตำบล ระหว่างวันที่ 3 ตุลาคม 2546 ถึงวันที่ 6 พฤศจิกายน 2546 และวิเคราะห์ข้อมูลด้วยโปรแกรมสำเร็จรูป สถิติที่ใช้ได้แก่ ร้อยละ ความถี่ ค่าเฉลี่ยเลขคณิต ส่วนเบี่ยงเบนมาตรฐาน และ ค่าสัมประสิทธิ์สหสัมพันธ์เพียร์สัน

ผลการวิจัยพบว่า ลักษณะประชากรของเจ้าหน้าที่สาธารณสุขระดับตำบลที่ตอบแบบสอบถาม ส่วนใหญ่เป็นเพศหญิงร้อยละ 63.1 อายุระหว่าง 25-34 ปี ร้อยละ 52.1 สถานภาพสมรสคู่ ร้อยละ 57.2 การศึกษาระดับปริญญาตรี ร้อยละ 59 อายุงาน 1-5 ปี ร้อยละ 58.5 ลักษณะภาวะผู้นำการเปลี่ยนแปลงของหัวหน้าสถานอนามัยอยู่ในระดับปานกลางทั้งในภาพรวมและรายด้าน แต่เจ้าหน้าที่สาธารณสุขมีการรับรู้บรรยากาศองค์การโดยรวมอยู่ในระดับสูง และมีบรรยากาศองค์การรายด้านอยู่ในระดับสูงคือด้านความอบอุ่นและด้านความเสียภัย ส่วนด้านที่อยู่ในระดับปานกลาง และเมื่อวิเคราะห์หาความสัมพันธ์พบว่าลักษณะภาวะผู้นำการเปลี่ยนแปลงโดยรวม มีสัมพันธ์กับบรรยากาศองค์การอย่างมีนัยสำคัญทางสถิติที่ $p < 0.01$ ($r = 0.52$) รายด้านมีความสัมพันธ์กับด้านความรับผิดชอบ ความเสียภัย ด้านความอบอุ่น ด้านการสนับสนุน และด้านมาตรฐานการปฏิบัติงานอย่างมีนัยสำคัญทางสถิติ ส่วนภาวะผู้นำการเปลี่ยนแปลงโดยรวม ไม่มีความสัมพันธ์กับบรรยากาศองค์การ ด้านรางวัล ด้านความขัดแย้ง ด้านโครงสร้าง และด้านความเป็นอันหนึ่งอันเดียว

ข้อเสนอแนะจากการวิจัยหน่วยงานภาครัฐ ได้แก่ กระทรวงสาธารณสุขควรจัดหาทรัพยากรให้พอเพียงเพื่อนำไปสู่การให้การสนับสนุนการดำเนินงานของสถานอนามัย ให้โอกาสที่ดีเกี่ยวกับหัวหน้าสถานอนามัยมีการส่งเสริมพัฒนาศักยภาพให้มีพัฒนาเกี่ยวกับภาวะผู้นำโดยเฉพาะอย่างยิ่งทักษะเกี่ยวกับด้านมนุษยสัมพันธ์

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CHAPTER I

INTRODUCTION

Background and Rationale

An organization is one of importance unit of society that contributed to the development and overall goal achievement. The organization consists of varied functions and explicit structure to conduct business. (Brow and Moberg, 1980: 5) The organization is a group of persons who work together for a particular purpose. The act of people is neither happened by accident nor by chance. In fact, it is made up systematically and based on good coordination pattern. Teamwork is the cornerstone of success. For that reason, the organization becomes very important in current society. Each organization has specific objective. Its members are assigned to work according to individual's skills. Chain of command indicates each job description and commandant authority to achieve the organization's objective. (Sanoa Tiayao, 2001: 4) However, the organization consists of 2 kinds of people: leaders and followers or subordinates. Both have different roles and duties. (Sulak Meechoosub, 1987: 31)

A leader is the organization's key person who influences and directs subordinates. The leader must use his/her leadership, skills and knowledge, must understand about managing organizational system as well as know about how to motivate and direct subordinates to help each other to achieve organizational goal. Such leadership character mainly comes from education, experience and practice. (Somphong Kasemsin, 1983: 285) In addition, an organizational success also depends on influences from both individuals and groups of people in the organization. (Arun Raktham, 1996: 63) Personal behavior is determined by relationship between an individual's needs and perception against organizational environment. Everything happened in the organization are results of human actions. Then personnel or human

resources are important corporate asset and have more value than other resources. (Booyens, 1993, Szlagyi & Wallace, 1980) That is because an individual is not only a member of the organization, but also a major factor for desired product. Each individual has intelligence to create innovation and mind set of conscience to affect on corporate performance and efficiency. (Thongchai Santiwong, 1994: 53).

The present world is dynamic with rapid changes. It is the result of globalization and changes in economics, societies and technologies. The significant changes are those in communication, technology, telecommunications, growth of international free trade, internal politics and so on. It is noted that the Constitution of the Kingdom of Thailand, B.E. 2540 (A.D.1997) causes changes, political reform, administrative reform and economic reform, emphasizing good governance. These changes to the new century obtain 3 fundamentals. (1) Restructuring includes downsizing, reshuffle of officers, simplifying chain of command, empowerment, change of organization chart and cost-effective personnel management for efficiency. (2) Reengineering is to redesign work process and system with clear indicators such as cost decrease, and productive time. The objective is to increase work efficiency and customer satisfaction. (3) Rethinking is a paradigm shift of thoughts, vision, practice, and understanding to improve work strategy and operations. For example, what are our duties? What are our objectives? Who do we work for? How can we achieve the objectives? The target of rethinking will increase work efficiency, organizational performance, customer satisfaction and self-development for career. It is found that those transformations happen within overall organizational parts including structure, work system and personnel. (Weerawat Punnitamai, 1995: 24) In order to be competitive and maintain sustainable improvement, an organization needs to promote development of personnel that is important resource. This is true work efficiency and effectiveness of the organization. (Thiphawadee Meksawan 1997: 24-25) Regardless of changes in the world and society, the fundamental resource is “human”. It is possible that this information – based society will change to be knowledge – based society. The knowledge cannot be gained without “human”.

Organization's quality does not only depend on the management team but also the quality and relationship of its personnel. Being open organization, it interacts with external environment and requires new information as well as provides appropriate response. (Cottingham, 1988: 24-27) In addition, the Act on Determining Plan and Process of Decentralization B.E. 2542 leads to mission and duties transfer among management systems including public health system. The major factors accelerating changes are National health insurance (30 baht Scheme) that promotes the public to access health care, and changes in the country's public health problems. In order to meet demands of many organizations, the health system has to modify and improve to keep up with dynamic changes and response to the public's needs as much as possible. (Samrid Srithamrongsawat, 2002: 589) Each organization tried to find out strategies to be survived, especially, the Ministry of Public Health. It has been affected by those changes. However, it accomplishes administrative reform by downsizing and restructuring the body with new mission. Its major objective is to provide the good public health in all aspects: physical; mental; social; and spiritual healths. In overall the people should have good life quality to live happily and be value resource of the country. (Administrative Reform, 2003) Such reforms and changes much affects on organizational climate in the Ministry of Public Health.

In general management, a supervisor, who is a leader of an organization, has important role to proceed cooperation of the organization to be in good balance causing a pattern of organizational climate that may or may not be desirable. (Richard M .Steer, 1977: 101-104) Organizational Climate influences work motivation and job satisfaction. (Davis, 1981: 104) Good organizational climate leads personnel to love, understand, encourage, and be glad to work at their own will. This good climate also promotes creative thinking and reduces conflicts among personnel. (Chanchai Arginsmajarn, 1998: 7) Relationship between behaviors of people in the organization, organizational structure and process cannot be separated. It affects each other and turns out to be the organizational climate or work atmosphere. Finally, it becomes the organizational culture that influences over dimensions of individual and work group. The culture has impacts on the organization performance. Different

organizational climate leads to different job satisfaction and further relates to organizational work effectiveness. (Paranee (Keeratibud) Mahanont, 1986: 121).

Organizational climate should reflect good atmosphere or promote an individual to work. The organizational climate can encourage its personnel to enjoy working, be happy at work, trust in the organization, devote themselves and have good attitude towards their organization. Then the personnel can work at their best for optimum efficiency. Consequently, good work quality and life quality reflects decrease of work absence, work transfer and resignation. Less personnel's problems promote development of the organization and more productive performance. On the other hand, if the personnel dissatisfy their organizational climate, they will not trust the organization. Then, they will not commit at work and that will affect work performance. (Invancevich & Matteson, 1990: 657) In addition, the organizational climate also can either accelerate or hold back the organization's success towards its objectives. (Grigsy, 1991: 82) Organizational climate is very important for both leaders and followers. That is because a climate of one organization may be better than others. At the same time, a leader is directly influenced by the organizational climate. It is also found that appropriation between individuals and organization affects work performance and job satisfaction. (Hellriege & Slocum, 1975: 144-145) Brow & Moberg (1980: 420) mentioned that to change or to improve an organization, the first thing that should be considered is organizational climate. If the management cannot support desirable organizational climate for personnel, the organization will face difficulties in operation. (Robert Swetizer, 1969: 167)

Thus, to improve organizational climate is much needed because it encourages and motivates better work of personnel. A person who plays an important role in promoting good organizational climate is every leader at all level of the organization. The leader will execute, motivate, coach, create, compromise and coordinate in order to create the organizational identity to achieve the objectives. Moreover, competence and leadership style are closely related to quantity, quality and value of each organization. (Somphong Kasemsin, 1983: 286) Regardless of the type

of organization, the leader should pay attention to the organizational climate and try to promote as well as maintain satisfied work atmosphere.

Efficiency in public health relates to management resources consisting of human resource, money, materials, equipment, tools and management techniques or methods that are appropriate both in terms of quantity and quality. However, optimum resource management must rely on “executive or leader” who possesses knowledge and ability in supervising, and promoting teamwork atmosphere (Thonglaw Dejthai, 1999: 196). The organization needs its leader with good leadership. The leader has to motivate all personnel to work together for the optimum efficiency. When considering the organizational performance, it is found that the performance relates to leadership characteristics of the leader. (Thongchai Suntiwong, 1993: 410)

How much an organization will success, depends on leadership and management. The leadership styles are varied and each influences work of colleagues or subordinates. (Ekachai Keesukpun, 1995: 7) People need a leader because they can work well when the leader who is creative, imaginative and not discouraged against difficulties supervises them. It is the leader’s responsibility to command the organizational workforce and encourage them to work together. However, the leader has to maintain appropriate social space. He/she should not show too many emotions. The leadership requires emotional control. The subordinates then trust, admire and respect his/her fairness. The leader has to know what he/she is doing, what the organization’s direction is and what individuals’ and the organization's clear objectives. (Arun Raktham, 1982: 23) When considering the organizational performance in many aspects, it is seen that the results relate to the leadership quality of that leader. In addition, it points out that leadership is needed for any success of the organization. If a leader lack of leadership, the organization will then also lack of work efficiency. On the other hand, a leader who is good at leadership will change his subordinate to commit at work and help the organization to succeed. (Thongchai Suntiwong, 1993: 410) A leader needs to use his/her competency to manage limited resources for optimum efficiency and to motivate personnel to concentrate on work with good common senses. The leader should have ideology and devote for the

overall benefits. He/she should work with merit and charisma leadership to be trusted and believed by colleagues. This leadership style is individualized consideration who can promote personnel to gain self-development, knowledge and intelligence to solve problems in many situations. Also this kind of leader encourages the subordinates with rewards and so on as well as being good sample for a staff who are doing work with knowledge and devotion. (Boonraieng Choochaisangrut, 1996: 54)

Ratchaburi is a province with various geography such as plateau, mountains, low land and river. The province is also borderland next to the neighbor country. It has health center both in downtown and border areas. Primary care is provided to its population living in the province under geographic conditions, which allow the public to access the healthcare service.

Health center is the front line primary health care provider that is reformed to be public organization under a regulation of the Ministry of Public Health (Department of Health Service Support, 2001). It is close to the ordinary members of a society and easily accessed. Its services integrate health promotion, disease control, medical treatment, nursing care with disability patients and service support including primary health care and quality of life development. Therefore, the front line service plays important roles in the public health development. (Ministry of Public Health, 1999: 143-146) Health center is a health service provider that is very important for distribution of technology and health resource as to provide appropriate health service to resolve the country's health problems. It is one of organizations being affected by changes, especially from health systems reform, administrative reform, political policies and so on. Then it has to adapt itself to present environment.

Nowadays, a health center is led by a chief of health center (level 6). The internal management consists of a total of 5 personnel: one public health technical office (level 3 to level 7) and three health personnel. (Ministry of Public Health, 1999: 147) At present, there are 9,661 health centers countrywide. (Ministry of Public Health, 2001: 9) The health center is responsible for many tasks. It is expected for high performance and role, while its health personnel are too small in number and not appropriate for the work quantity. (Ampon Jindawattana, 1993: 19) Then, the health

center carries on a burden of difficult management within limited conditions to achieve the target and to serve policies and strategies. Many health centers in Ratchaburi province are located in downtown and border areas. Primary care is provided for people living in all 162 districts (104 districts, 946 villages) that neither have their own hospital and nor located in a municipality. The management of a health center is executed by the chief of health center who is the manager or the organizational leader. The public health technical officer and other health personnel take a role of health service officers. From interviewing those personnel, different problems about leadership of the chief of health center is mentioned because of their various personalities. Hence, leadership style, management pattern and supervision method of the leader to run the unit according to regulations or procedure and policy framework as well as strategies is different. As a result, health center cannot reach its target and its health personnel are discouraged. If the chief of health center lack of leadership, the personnel tends to be absent, leave work, have job dissatisfaction, request for transfer their position and make inappropriate atmosphere at work. This leads to work inefficiency and ineffectiveness, poor quality services and failure to meet the public's needs and expectation. This may be because the transformational leadership is not used in management system.

An approach supporting the health center to achieve its targets or objectives is to develop leadership of the chief of health center. Since the chief of health center is also the district public health executive and organizational leader. His/her duty is to manage the unit to achieve its objectives. In addition, the chief should play a major role to promote good cooperation in the organization. The personnel should be motivated to willingly work. (Barnard, 1968: 50) To evoke strong emotions or to cause identification of the followers with the leader, the leader requires good leadership. (Baronand Greenberg, 1990) New leadership approach is Transformational Leadership theory. The Transformational Leader will convince followers to focus first on team or organizational goals, rather than their own interests. The followers are intended to trust, admire and respect the transformational leader. (Bass, 1985) Then the followers produce better work and the organization obtains sustainable success.

Improvement of public health in every period, according to each National Public Health Development Plan, all aims to promote good health to the public. The health center is responsible for the ordinary members of a society as a front line primary care for nation-wide rural area. Hence, it's an important unit to directly support the public good health. It needs to manage limited resource under insufficiency and changing conditions for the optimum efficiency by using appropriate leadership and reasonably responding to situations. Moreover, it has to motivate its health personnel to devote themselves and commit to the overall benefits and similar ideology.

Regarding the mentioned background and importance of the problem, the researcher, who is a health personnel working in a district as a front line primary care, is interested in studying the problem and transformational leadership according to Bass's theory, which is suitable for the current health public management under present circumstances. Qualification and transformational leadership style as stated in the theory of Bass are similar to and consistent with district public health management. The leadership is very important to the organizational climate of the health center.

The researcher is interested in analyzing transformational leadership of the chief of health center affecting the organizational climate of the health center in Ratchaburi province. The results of this study can be used to improve and develop management and role of Transformational Leadership of the chief of health center. The improvement aims toward following objectives: to make the organizational climate in the health center becomes more desirable; to let personnel have higher job satisfaction; and to promote work effectiveness and efficiency of the health to achieve its goals. This will bring up advantages for the national health insurance and health system reform. Accordingly, the public will receive standard and quality service for good health and life quality from the health center. The study has objectives, hypothesis and scope of research as the followings.

Research objectives

General objective:

To study relationships between transformational leadership of chiefs of health centers and organizational climate of health centers in Ratchaburi province.

Specific Objectives:

1. To explain demographic data of health personnel working at health centers in Ratchaburi province.
2. To study transformational leadership style of chiefs of health centers based on perception of health personnel working at health centers in Ratchaburi province
3. To study organizational climate of health centers in Ratchaburi province based on perception of health personnel working at health centers in Ratchaburi province.
4. To analyze relationships between transformational leadership style of chiefs of health centers and the organizational climate of health centers in Ratchaburi province.

Research Hypothesis

Transformational leadership style of chiefs of health centers relates to the organizational climate of health centers in Ratchaburi province.

Scope of Study

This research is conducted only among those health personnel who have worked at health centers in Ratchaburi province for at least one year, (excluding chiefs of health centers in Ratchaburi province). The total number of health centers is 162 and that of health personnel is 328.

Limitation of the Study

The research is to study transformational leadership of the chiefs of health centers based on the perception of health personnel. It does not include transactional leadership.

Definition of terms

Health Center means a public health care provider located at Tambon level and responsible for 5,000-10,000 populations and a public health care provider located at village in Ratchaburi province.

Chief of Health Center means a health personnel or a person who is assigned to work as a chief of health center in Ratchaburi province and has worked for at least one year.

Health Personnel means a health officer who has been working in the health center for at least one year.

Gender means female or male.

Age means the length of time that one has existed, counting by a full year.

Marital Status means the status of legal union of a man and woman as husband and wife: single, married, widowed, divorced and separated.

Education means the highest education from educational institutes.

Position means the existing position.

Tenure of work means a number of years that a civil servant working in the health center has worked for the public until the present.

Working years at the health center means a number of successive years that a civil servant has worked at the health center.

Leadership means a person who rules or guides or inspires others to work for common objectives.

Transformational Leadership Characteristic of Chief of health center means leadership characteristic that the chiefs of health centers use to support colleagues in order to activate more inspiration and higher motivation. The chief can inspire and increase their awareness of task importance and value. They will then focus first on team or organizational goals. According to Bass's theory, authentic Transformational Leadership is grounded as moral foundations that are based on four components. (Bass, 1985)

Charismatic Leadership (CL) means that the chief of health center has explicit work target or ideology. The chief characteristically treat others with friendliness, kindness, work of mercy and warmth. Focusing intently on his/her own moral merit, he/she is a good sample. Therefore, the colleagues respect the chief and voluntarily commit themselves to good values of their leader. They then appreciate self-dignity and their competences. As a result, they would like to perform as the chief of health center expect.

Inspirational Motivation (IM) means that the chief of health center, by words and actions, encourage, support, speed up and motivate his/her colleagues to be enthusiastic and have inspiration to devote and commit themselves at work. The chief's words and actions should make the subordinates feel confident and proud of themselves that they can successfully complete their assignments. Moreover, they should motivate new creative projects or innovations for continuous quality improvement.

Intellectual Stimulation (IS) means the chief of health center encourage the colleagues to realize operational problems and how to resolve those existing

difficulties. To give information, current facts, concepts, principles, objectives of work improvement and creative thinking at work should be promoted.

Individualized Consideration (IC) means that the chief of health center understands differences of each individual. Then every colleague is accepted and their needs are responded uniquely depending on their different personality. The chief respects the colleagues and gives them an advice when they have a problem.

Organizational Climate means direct and indirect perception of personnel in the health center against direct and indirect environment of the health center. According to the concept of Litwin and Stringer, such perception affects on work performance in the health center. (Litwin & Stringer, 1968) They are followings.

- 1) Structure means perception of an individual about structure set up for formal and informal use in the organization including criteria, rules, work procedures, regulations and communication.
- 2) Responsibility means perception of personnel for their own duties and responsibility, work quantity and ways to complete work, as well as freedom of decision making at work.
- 3) Reward means perception about reward for success work that achieve objective of the organization. The reward includes fairness on assessment of good work performance and promotion in the career path.
- 4) Perceived Support of Risk Taking means the environment that personnel in the health center are aware of existing risks and challenges in work. The organization considers selecting risk taking that support good performance.
- 5) Warmth means perception of good friendliness from teamwork in the organization. It is good feeling of being friends and informal cluster.
- 6) Support means perception of support from the management, from personnel of the health center and other agencies. This concentrates on mutual promotion both top-down and down top.
- 7) Standard Setting means to be aware importance of objectives clearly specified, result-based organizational operation, group's goals and personal objectives according to quality standard and formal indicators.

8) Conflict means the perception of the organizational management and subordinates about listening comments from the management and an individual about problems' solutions instead of let they are.

9) Identity means self-consciousness of being a part of organizational friendship and a value member of the health center's team. It includes commitment and kindness between each other.

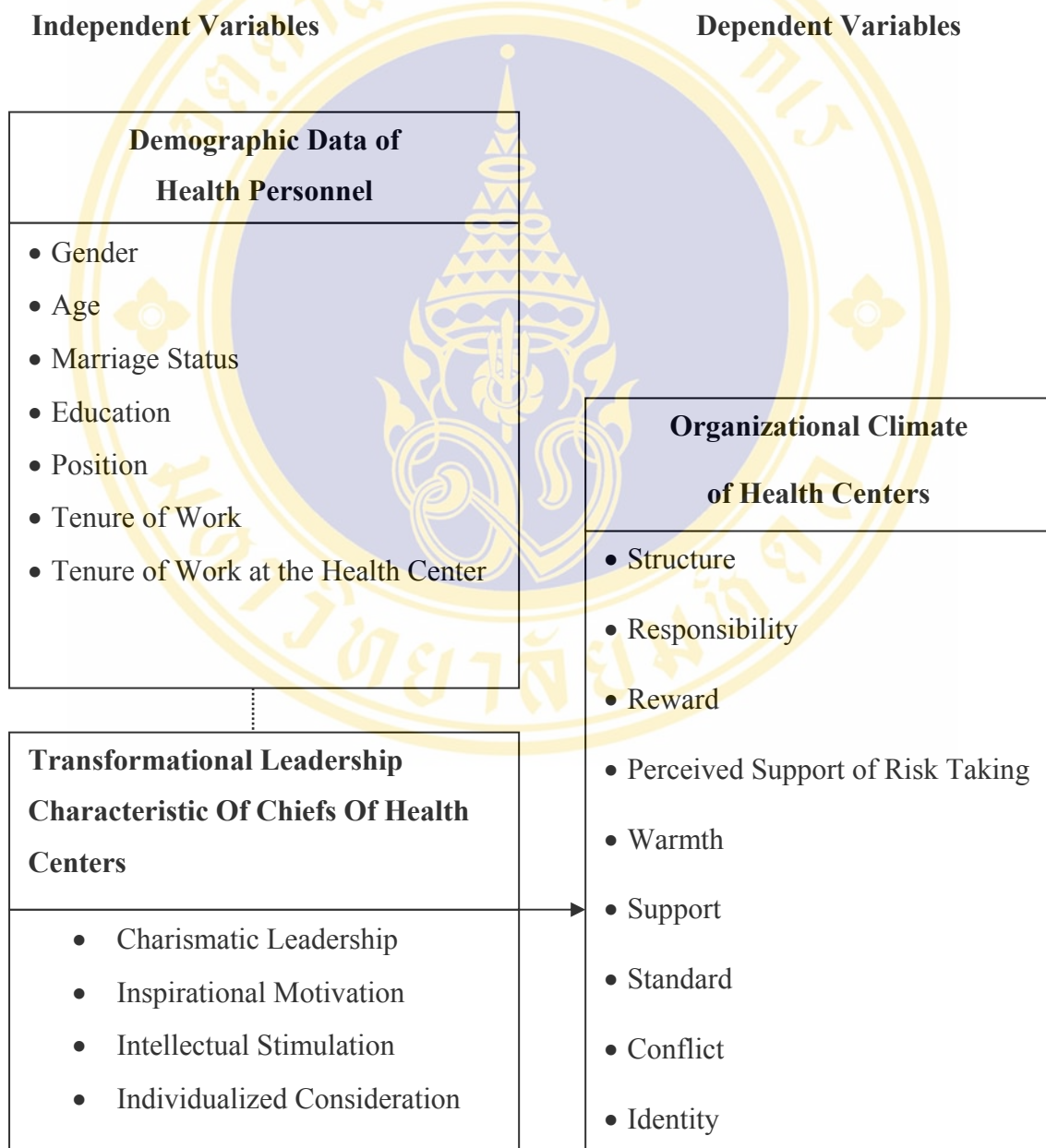


Figure 1 Conceptual Framework.

CHAPTER II

LITERATURE REVIEW

This research was aimed to study the transformational leadership characteristics of chief of health centers affecting organizational climate of health centers in Ratchaburi province. The researcher reviewed concepts, theories and related researches as follows.

1. Operation of Health Center
2. Concepts and theories about organizational climate
3. Concepts and theories about leadership
4. Related researches

1. Operation of Health Center

1.1 Providing health service at Health Center level

Providing health service in Health Center is primary care for people with illness. The responsibility of Health Center is to provide basic treatment and primary medical care. Each unit consists of community health personnel, public health technical personnel, registered nurse and public health administrative officer.

The health service approach at the Health Center level is as follows. (Boonraieng Choochaisangrut et al, 1996: 41)

1. Current medical care and public health as well as the operation of primary health care techniques will promote the public better health.
2. Expansion of the government service to the rural at district area both in terms of quantity and quality enhances the public better health.
3. Rural people can access the nearest health service. An illness beyond the competency of that nearby health care provider will be referred appropriately.

4. Health Center is a connecting point between community and the government service mostly close to the public.

5. Health service at district and village levels is primary service. The service is provided by health personnel, not medical doctors, along with primary health care.

6. Health officers working at district level not only provide health service directly to the public, but also support them for public health improvement and community development.

7. The proportion of Health Center between (1) health promotion and disease prevention and control and (2) medical treatment is 75: 25.

8. Health Center provides integrated service to both family and community. It has specific responsibility.

9. The service of Health Center is not proactive to its community but also reactive at the office. In the past, home visit was major proactive measure. Later, health volunteers become coordinators between villagers and public health personnel.

10. The health personnel working at Health Center are those who have abilities in many aspects.

1.2 Duties and Responsibilities of Health Center

Health Center is a health service unit in a district. Its personnel provide health service to people or village group living in the responsible area. It also arranges health training and guidance to the public for community health development. Outstanding duties of Health Center are following. (Ministry of Public Health, 1999: 143 -146)

1.2.1. Providing integrated or total care to people in responsible areas, including 5 issues:

1.2.1.1 Health promotion means that all target groups in responsible area are provided primary health care. It also concentrates on appropriate proactive development strategy. The service includes:

1) Maternal and Child Health covers maternal pregnancy health care childbearing, maternal-newborn nursing and babyhood care during 0-5 years of growth, nutrition care improvement, disease surveillance and keeping track of nutrition among pregnancy women, 0-5 years babies and school-age children.

2) Family plan is to provide family plan by a health care provider, to follow up and to promote family plan among the target group.

3) Student and youth care is to provide health care to students, to plan and provide health care in schools located in responsible area, to operate health promotion, to provide health treatment and to promote nutrition among students. Quality health is also promoted among youths outside the schools.

4) General individual health is to provide health care to the public, to promote exercise for good health and to provide iodine in the area that faces insufficient iodine problem.

5) Dental health is to provide integrated dental health to people living in responsible area, to promote the public and community to improve public dental care with primary health care, to support academic development and to train health volunteers. In addition, the dental health includes protecting consumers in terms of public health, public relations, and knowledge promotion for standard and safe food, including consumer protection.

1.2.1.2 Health treatment, rehabilitation and treatment for disability according to local background location problems such as backcountry, semi-rural, agriculture. The service has to be in good standard both for on site and outside Health Center. Capacities of performance include treatments in compliance with criterions of general and endemic diseases as followings.

1) Work criterions are to be able to develop health treatment according to local health problem both for general and endemic diseases; to provide primary laboratory service; to triage patients for primary health care and to refer patients with efficiency both for those who have severe condition and those who get serious accident. In addition, Health Center must be able to provide primary care

to patients with chronic diseases and disability and be able to provide appropriate refer.

2) Capacities include abilities to operate, to perform and to provide primary treatment, laboratory, refer patients who need chronic, surgery, maternity and dental treatment.

3) Service ability is to provide health treatment for 207 diseases and treatments refer.

1.2.1.3 Disease prevention and control refers to disease surveillance and disease prevention both for infectious and chronic diseases.

1) Disease prevention and control is to control and prevent infectious diseases approximately in order to decrease prevalence rate and seriousness by surveillance, inspection, vaccination, and elimination of risk and health education. In addition the scope of work includes training people, teachers and students to destroy sources of carriers according to diseases' nature as followings.

- General infectious diseases include food and water transmitted diseases; helminthological diseases, infectious diseases, acute respiratory syndrome in children and transmitted disease between animals and humans.

- Transmitted diseases carried by insects and mosquitoes are malaria, dengue hemorrhagic fever (DHF) Japanese Encephalitis and elephantiasis.

- Diseases that can be transmitted by contacting are Leprosy Tuberculosis, sexual transmitted diseases and AIDS.

- Diseases that can be prevented by vaccination are Diphtheria Pertussis, Polio, Tetanus and so on.

2) Control of preventable chronic disease, prevention and elimination of risk factors as well as health education to improve inappropriate health behaviors and specific target patient group triage in order to provide suitable treatment for general chronic disease and particular non-communicable diseases such as disease from accident behavior, genetics and etc.

3) Environmental Health is to control disease from water, food and air and to develop standard of environmental service in each area by:

- Providing clean water to support clean drinking;
- Providing environmental sanitation with improvement of sanitation by support of Community Health Officer to eliminate disease carrier insects, waste water, to keep accommodation clean and to improve environmental sanitation at houses and offices;
- Control of environment quality, environmental inspection and surveillance such as contamination of chemicals and diseases in water sources and air pollution; and
- Promoting food sanitation to make people aware, understand and realize about (1) importance of clean and safe consuming, (2) right consuming behavior for self-care and benefit protection and (3) promoting clean food sold among entrepreneurs, to follow standards and requirements food sanitation in a community and schools.

4) Occupational health is to promote health among people working in every occupation according to different location and to support the control of accident at work.

1.2.1.4 Rehabilitation and treatment for disability is to provide health treatment and care for chronic patient by performing home health care or rehabilitation at home in order to prevent disability and to support disable people in the responsible community.

1.2.1.5 Other services include health support such as health education, public relations about disease prevention and control, medical treatment, health promotion and rehabilitation by educating target people who visit Health Center for health service, on site or outside to students at schools.

1.2.2 Public Health Support

To cover responsible area and to support community agencies resource, supervision and to provide knowledge about how to solve problems

1) Public health support: to improve people's ability for self-care and to support the community for primary health care.

2) Community development: to analyze community problems and to coordinate with 6 ministries as specified in the plan, to monitor the operation and to assess the work performance

1.2.3 Administrative Work

1) General administration: paper filing, finance, accounting, materials and vehicles, building maintenance and material management

2) Planning and assessment: work plan, report, coordination, diffusion of information and epidemiology

3) Coordination and public relations: to coordinate 6 ministries, local agencies, and private organizations and to promote activities of the organization to be aware at all levels

1.2 4. Academic Development

Basic research to analyze problem condition of health care provider and health status of people in the responsible and researches in that area

1.3 Workforce Frame of Health Center (2003)

Each Health Center has the total of 5 personnel. They are:

- 1 Chief of Health Center (Public Health Administrative Officer);
- 1 Academic Health personnel;
- 2 Community Health personnel; and/or
- 1 Dental Health personnel

1.4 Duties and Responsibilities of Health Center

1.4.1 Chief of Health Center

Chief of Health Center (Public Health Administrative Officer) has to plan workflow, specify work strategy and coach health officers and volunteers for smooth health operation and achievement. Therefore, the Chief of Health Center has to be someone who obtains knowledge, capacity, and experience in health management. The Chief must be able to make decision and solve work problems with

efficiency. Hence, this hard and high quality work demands the health personnel who hold position level 6 to be the Chief of Health Center.

1.4.2 Public Health Technical Officer

Academic health personnel is an officer hold position level 3-5, 6 or 7 The health personnel has to work with knowledge in order to track, watch out healthcare, support rehabilitation and promote health treatment as well as public health service. He/she must study and analyze health and community problems. He/she has to plan health improvement in responsible area, follow up, assess and distribute academic knowledge. The work also includes operation of environmental sanitation, food sanitation, training community volunteers, setting up service system in the responsible area for target families and coordinating with related agencies in order to achieve target and follow policies.

1.4.3 Community Health Personnel

Community Health Personnel (level 2-4 or 5) applies knowledge and experience to support academic work, operate health service including health promotion, health treatment, rehabilitation, treatment for disable people, disease control and prevention, support work for primary health care and treatment, laboratory, care and providing recommendations such as self-care and disease prevention in order to achieve target, mission and work plan.

2. Concept Theory of Organizational Climate

2.1 Definition of Organizational Climate

Many scholars give definition of organizational climate as followings.

Halpin (Halpin, 1966:131) refers organizational climate as organizational nature that comes from behavior perception of personnel in organization towards colleagues and their behavior against the management.

Litwin and Stringer (Litwin & Stringer, 1968: 1) defines that organizational climate is elements of organizational environment that are perceived both directly and indirectly and influence work inspiration and performance.

Miklos (Miklos, 1970: 332) said that organizational climate means qualifications of social relationship from all members of organization and between the organization and related people. It refers to internal process such as attitude, interaction, and behaviors of organization's members.

Dubrin (1973: 331) explains that organizational climate is feeling or nature of organizational environment. Each organization has its personality that can be indicated by work environment. Special qualification of organization comes from social interaction between members in the organization and between organizations.

Hellriegle and Slocum (1979: 289) specify the meaning of organizational climate as some qualification or some sub-elements of organization that can be perceived by personnel. This is similar to Forehand and Gilmer (1964: 361) that organizational climate is qualification describing an organization. It makes the organization differs from others. The climate influences personnel in the organization.

Brow and Moberge (1980: 667) defines organizational climate as qualifications of an organization perceived by its members. The qualifications have to cover:-

1. Description of organizational condition;
2. Indicators of difference between an organization and another one;
3. Sustainable qualification; and
4. Influencing behaviors of personnel in the organization.

Davis (1981:104) said that organizational climate means environment that personnel work in. It cannot be seen or touch but is surrounding.

Dessler (1982: 218) gave the meaning of organizational climate is perception that an individual have towards the organization and feeling in terms of himself/herself for opportunity, structure, reward, care, warmth and compensation.

Redding (1988: 64) explained that organizational climate consists of factors influencing behaviors of organizational personnel. It describes difference between an organization and another one.

Fin and Chen (1995: 494) defines that organizational climate is attitude and belief of overall personnel towards the organization.

Gibson et al (2000: 8) referred that organizational climate means perception of a person, working in an environment, towards the environment. The perception is gained both directly and indirectly. The climate is a major factor influencing behaviors of people working in that environment.

Arun Raktham (1994: 31) points out that organizational climate is the point of value, attitude, and custom that influence the ways people interact each other in order to achieve success.

From the definitions of organizational climate, it can be concluded that organizational climate means elements of organizational environment in the perception of a person about: structure; responsibility; reward, risk, warmth, support, standard, conflict and identity. Those elements have directly and indirectly perceived and impact on behavior and attitude of personnel in organization. This reflects success or failure of organization's objectives.

2.2 Concept of Organizational Climate

Regarding concept of organizational development, scholars on management and organizational theory initially did not pay attention to environment factors but concentrate on management principles such as management Gulick and Urwick's principle, Henre Fayol's principle etc. These principles emphasize on

factors that are not organizational personnel and pay less attention to environment that may impact on effectiveness and efficiency of organization.

Goullder is the first person who thinks of environment and points out that whether public sector exists or not, efficiency mainly depends on work environment. Being interested in the result of study, scholars study organizational systems by taking nature of organizational environment into account. (Arun Raktham, 1994:222 - 223) This internal environment is called by Kurt Lewin as "Organizational Climate". Kurt also points out that organizational behavior comes from relationship between personal personality and organizational environment.

Concept of organizational climate is widely accepted that it can be used to study impacts of personnel behaviors in an organization that result from perception or understanding environment of personnel. (Wudthinun Wimonsin, 1990: 28) Then for improvement of organization, organizational climate gets top priority. Scholars divided Organizational Climate into 2 groups: concrete and abstract or perception as discussed below.

2.2.1 Concrete concept of organizational climate

Scholars in this group were interested in quantity of regulations, organization size, formal scope of authority and other organizational characters that can be measured.

Forehand and Gilmer (1964: 361-382) explained that organizational climate is a character describing image of an organization. The climate is (1) to differentiate that organization to others, (2) long term existing condition and (3) having influence on behavior of personnel working in the organization. Forehand and Gilmer proposed assessment of organization climate in 5 dimensions: size, structure, system relationship, leadership style and organizational target.

However, there were many discussions about disadvantages of concrete concept of organizational climate. Some pointed out that:

1. The study in this concept involved a lot of variables and was too specific for overall interpretation.

2. The study of this organizational particular concrete character did not answer the relationship of work approach of an organization. It was indirect assessment. Actually, personal behaviors were directly resulted from individual's personal perception than from the concrete character of the organization. (Wuttinun Wimonsin, 1990: 29.30)

Lawrence & Lorch and Prien & Roman separated organizational by similar concrete factors such as authority level, quantity of formal regulations, ratio of administrative and production personnel. Those scholars using concrete factors to study organizational climate believed that environment management should be done independently from personal perception. (Wuttinun Wimonsin, 1990:25)

2.2.1.1 Concept of Organizational Climate

Late study of organizational climate concentrated more on perception of members towards organizational condition. Personal perception was psychological state. It was personal interest to respond each motivator existing in environment. It was fundamental to get information of motivators into perception process through sensations: seeing, hearing, feeling, touching and tasting. When sensation information was input into thinking system, an individual would select information system and recognition process then would interpret meaning of existing data. Self qualification of each individual was medium of interpretation process. After making decision and assess value of result from that process, the individual would perform their behavior as they selected. The result of their behavior would be feed back to perception process. Therefore, personal perception was respond process towards motivators that people was interested in and dynamically cared. It related to progressive thoughts at time and surrounding events. (Maghic, 1986: 215-216)

Scholars believed that analysis of this concept would lead to actual impacts of personal behavior closer than analysis of exclusive organization.

That was because in psychology, personal behavior depended on the perception of environment more than the environment itself. Hellriegel and Slocum (1979: 289) explained the study of organizational climate according to concrete concept or perception as followings.

1. Interaction of perception would be more primary descriptive than evaluation.
2. Conclusion of each issue would be more at macro level than micro one.
3. Analysis unit would be either organization or subsystem, not individual.
4. This perception influenced personal behavior.

Climate would be major pressure influencing personal work behavior. (Gibson & Steer, 1973: 314)

Halpin and Croft (1966:150) pointed out that when visiting education institutes, one could feel that each place had particular climate. Some institutes might be active, energetic, interesting and teamwork while others might be phlegmatic, inactive and daunted. These two situations were different.

In this study, the researcher studied abstraction or perception by assessment of organizational climate from perception of chiefs of health centers and public health officers in health centers, Ratchaburi province.

2.3 Elements of Organizational Climate

Study or analysis of organizational climate studied perception of personnel towards elements of organizational climate. Many scholars similarly explained elements of organizational climate as followings.

Knowles (1974: 239) divided organizational climate into 5 dimensions.

1. Policy Framework for HRD Program means issues that the organization promotes for optimum personnel development.

2. Management Philosophy means organizational management under the management concept that concentrates on humans such as participative concept or democratic management.

3. Structure of Organization means strict structure of organization that centralizes or dictates. This structure depletes encouragement of personnel to improve themselves. It also becomes an obstacle for organizational staff to learn and be active.

4. Financial Policy means an organization allocates budget for personnel development. Efficient allocated budget indicates that the organization pays attention to personnel development. When the organization concentrates on self-improvement, its personnel will also do.

5. Reward System is salary increase or job promotion that is fair and appropriate. The system should motivate personnel to learn more experience or self-improvement.

Likert (1976: 73) viewed elements of organizational climate by concentrating on organization's internal information that operators needed to know, decision making participation, authority and influence in the organization as well as adopting new techniques and science and promotion of motivation for personnel satisfaction.

Brown and Moberg (1980: 420-421) classified organizational climate into 4 styles as follows:

1. Power-Oriented Climate has explicit organizational structure chain of command and authority such as promotion and performance consideration. Employees in this organizational climate will fight for personal benefits and compete with colleagues. Subordinates will try to please the supervisor for work advancement.

2. Role-Oriented Climate emphasizes organizational regulation and reason. Competition and conflicts are in the rules. The organizational operation concentrates on security.

3. Task-Oriented Climate focuses on production. Most of authority employment is to achieve the organizational objectives. Regulations may not be important and needed if they do not support a work to reach the target.

4. People-Oriented Climate focuses on people. This kind of organization responds to personal needs and satisfaction. The organization expects its members not to do anything that is against the members' values.

Halpin and Croft (1966: 150-151) consider elements of organizational climate by focusing on behavior of executives towards their subordinates and attitudes among colleagues.

Lirtwin and Stringer (1968: 78-80) emphasizes that elements of climate consists of structure, work challenge, support warmth, reward, punishment, conflict, risk and standard.

Halpin and Croft (1966: 150-151) view elements of organizational climate by focusing on behavior of executive toward their subordinates and attitude among colleagues.

Dimensions of Organizational Climate

Organizational climate consists of an organization's qualifications that particularly differentiate it from others and influence behaviors of its members. Forehand mentioned that it comprises size and structure, leadership patterns, system complexity and communication network. Somyod Naweekarn (2001: 194-195) explained each dimension as followings.

1. Sizes and Structure

Bigger organization has more distance between the top management and operators. This is mental wall. Employees feel like they are far away from decision point and may think that are less important. Then the climate is formal and does not concern individual.

2. Leadership Patterns

Executives' performance will directly pressure the climate and influence employees' satisfaction.

3. System complexity

The system complexity will be varied according to systems employed and relation between each system.

4. Goal direction

Difference of goal direction comes from type of organization such as business or public agency.

5. Communication Network

Network or communication link in the organization indicates state of network for chain of command and relationship among communication group from top-down or down-top or horizontal line. It reflects organizational pattern of management.

Likert (1967: 196-221) proposed 8 dimensions of organizational climates:

1. Leadership Process
2. Character of Motivational Forces
3. Communication Process
4. Character of Interaction Influence Process
5. Character of Decision Making Process
6. Character of Goal Setting Ordering
7. Character of Control Ordering
8. Training

From above 8 elements, Likert studied leadership of many organizations and then concluded that the leadership behavior could be divided into 4 styles.

Style 1	Style 2	Style 3	Style 4
Exploitive authoritative	Benevolent authoritative	Consultative	Participative

Figure 2 Leadership behavior styles of Likert.

Source: Rensis Likert *The Human Organization: Its Management Value*, 1967: 14-24

In order to illustrate 4 styles of Likert's leadership behaviors, organization climate is used to compare those leadership behaviors in following table.

Factor	Style 1	Style 2	Style 3	Style 4
Leader	Exploitive authoritative	Benevolent authoritative	Consultative democracy	Participative democracy
Trust and believe in subordinates	Executives do not trust and believe in their subordinates.	Slightly believe in subordinates	High trust and believe in subordinates but reserve the right to make decision	Trust and believe in subordinates for every matter
Subordinates' free feeling	Do not feel free to contact supervisors.	Some freedom to discuss with supervisors about work	Feeling more free to discuss with supervisor about work	Full free to consult with supervisor
Relationship between supervisors & subordinates	Supervisors do not listen.	Sometimes, supervisors listen to subordinates.	Supervisors often listen to subordinates	Supervisors seek for comments of subordinates

Figure 3 Comparison of leadership behavior according to Likert.

Source: Rensis Likert, *The Human Organization: Its Management Value*, 1967: 4)

Later, Liwin and Stringer (1968:45-65) divided dimensions of organizational climate as followings.

1. Structure

Both formal and informal organizational structure affects personal behavior among people and behavior of workforce relating to work.

2. Challenge and Responsibility

Challenge and responsibility involves understanding or perception towards challenge of work quantity and ways to complete the work. Work challenge directly relates to personal development of inspiration motivation for success, which later leads personnel to achieve their goals and take high responsibility. Job satisfaction and work performance also directly relate to self-control or personal mastery, participation and personal freedom at work. In addition, additional assignment increases loyalty, agility and work result.

3. Warmth and Support

Warmth and support is success for promotion instead of punishment. Warmth and support in the organization can decrease stress at work, especially for new comers. Supervision without warmth or people orientation will affect the organization in long term.

4. Reward, Punishment and Approval

Reward, punishment and approval are perception towards reward and punishment, which motivate personnel to succeed and to have loyalty. This also decreases fear against failure and let operators know whether existing behavior is approved or not.

5. Conflict

This is perception of personal conflict. Personnel in an organization always deal with conflicts.

6. Performance Standards and Expectation

This perception concentrates on work performance and clarity of expectation for internal work performance. It defines inspiration for work success.

7. Risks and Risk Taking

Risk and risk taking is perception of operators towards philosophy of management for risk taking. It indicates that a person wanting to succeed at

average rate will stimulate personal need of achievement. In contrast, for the self-protection oriented climate of decision-making, it will lead to failure and discourage need to succeed.

8. Identity

Identity is perception of workforce loyalty. Regarding research, it is found that group loyalty promote identity strength and work efficiency.

Later, Litwin and Stringer (1968: 204-207) revised the study of organizational climate into 9 dimensions: structure, responsibility, reward, risk, warmth, support, standard, conflict and identity.

From those 9 dimensions of Litwin and Stringer's theory (1968: 189-190), the organizational climate can categorized into 3 types.

1. Relative organizational climate consists of 4 major characters.
 - 1.1 Open for teamwork and friendly and sincere relationship.
 - 1.2 Promote and motivate personnel' inspiration.
 - 1.3 Provide freedom at work and loose force in organization's structure.
 - 1.4 Accept personnel as a group's member
2. Authoritative organizational climate consists of 3 major characters.
 - 2.1 Organizational structure is designed by rules, regulations and procedure.
 - 2.2 Personnel have high accountability and respect of authority and their institute.
 - 2.3 There is formal promotion of authority and conflict resolution.
3. Production oriented organizational climate consists of 4 major characters.
 - 3.1 Concentrate on personal responsibility
 - 3.2 Risk evaluation and changes
 - 3.3 Recognition and reward for good work
 - 3.4 Impression of participation of success and team's success

Organizational Climate Assessment

Assessment of organization is to evaluate relation among organizational factors and personal behavior that can be assessed by perception of people in that organization. This assessment is complex. An approach to assess organizational climate is to evaluate organizational climate directly from perception of its personnel. A questionnaire is developed to measure perception of organizational climate including:

1. Organizational climate assessment of Litwin and Stringer;
2. Organizational climate assessment of Halpin and Crofe.

Organizational climate assessment of Litwin and Stringer

Litwin and Stringer (1968: 82-85) developed a questionnaire to assess organizational climate. This tool is called “Revised or Improved Climate Questionnaire (Form B). The questionnaire provides information about 9 dimensions of organizational climate.

1. Structure means perception of personnel towards criteria, regulations and work procedures. It also evaluates degree of strictness, communication and chain of command.
2. Responsibility means perception of personnel towards personal duties and responsibility. It is no need to inspect every decision making. A responsible person has accountability.
3. Reward means perception of reward for work performance responding to the organizational target. The reward system reflects more positive results than punishment. The perception is to evaluate fairness of policy, salary and promotion.
4. Risk means perception of risk and work challenge. An organization concentrates on risk selection for the better operation.
5. Warmth means perception of friendship in an organization. The friendship exists in teamwork, both among colleagues and informal groups.
6. Support means perception of support from management and other operation team. This dimension highlights on support each other both from top-down and down-top.

7. Standard means perception of importance of organizational objectives. It is assessed by clarity, vagueness and work standards to achieve organizational, personal and group's objectives.

8. Conflict means perception of executives and colleagues to accept different comments and to solve problem instead of neglecting.

9. Identity means perception of being part of the organization and value members of team who support others.

Litwin and Stringer (1968: 82-85) defined reliability of Organizational Climate Questionnaire (Form B) by testing with 518 managers; communication officers, specialists and salespersons in many businesses cooperate. The results were analyzed as shown below. (Litwin and Stringer, 1968: 207-208).

1. Relationship among organizational climate dimensions

	1	2	3	4	5	6	7	8	9
1. Structure		.18	.24	.18	.28	.34	.38	.28	.31
2. Responsibility			.50	.52	.46	.47	.42	.30	.51
3. Reward				.48	.54	.49	.29	.39	.54
4. Risk					.41	.43	.49	.44	.42
5. Warmth						.57	.22	.31	.69
6. Support							.33	.48	.59
7. Standard Setting								.34	.41
8. Conflict									.35
9. Identity									

All 9 dimensions of organizational climate relate each other. For example, warmth highly relates identity as of $r = .69$. Support relates identity as of $r = .59$. Warmth highly relates support as of $r = .57$.

2. Dimensional Stability of organizational climate from the Improved Climate Questionnaire (Form B)

Organizational Climate Dimensions	Average Relationship between questions of each dimension
1. Structure	.31
2. Responsibility	.23
3. Reward	.42
4. Risk	.29
5. Warmth	.33
6. Support	.37
7. Standard Setting	.21
8. Conflict	.19
9. Identity	.49

It can be concluded that question for each dimension positively relates each other and can evaluate same thing.

Above concepts of organizational climate are similar. Good organizational climate can inspire or motivates needs of organizational personnel to be consistent with organizational objectives. The study of Litwin and Stringer (1948: 41) pointed out that dimensions of organization relate to needs or inspiration of organizational personnel.

Relationship between Needs and Organizational Climate

Litwin and Stringer (1968: 41-42) explained that organizational climate was a factor between organizational system and efficiency.

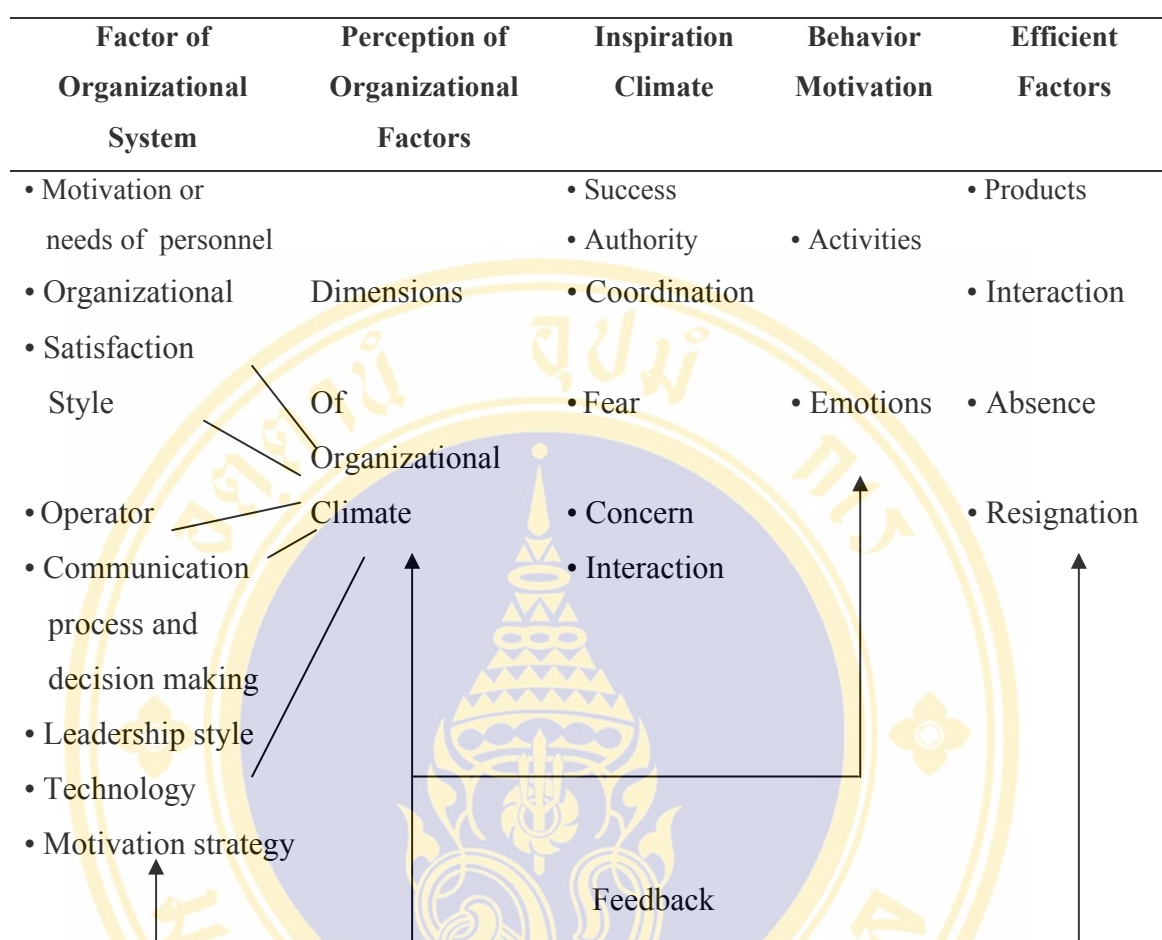


Figure 4 Major elements influencing towards improvement of organizational climate.

Source: Litwin, George M. and Stringer, Robert A., Jr Motivation and Organization Climate. 1968: 41

This study adopted theory of Litwin and Stringer to assess organizational climate. However, since assessment pattern of organizational climate of Litwin and Stringer can be used with organizations at any size and cover personal behavior and organizational process including 9 dimensions of organizational climate: structure, responsibility, reward, risk, warmth, support, standard, conflict and identity

3. Leadership Concepts and Theories

Definitions of Leadership

Hersey and Blanchard (1977: 181) explained that leadership was a process of influence towards personal or group activities to achieve objective set up

for a situation. Leadership here is process, not personnel. In addition, related elements of process are leader, followers and situation.

Koontz et al (1980: 662) defined that leadership was process to use influence and arts to motivate and inspire others to work for group achievement.

Gillies (1984: 333) said that leadership meant social relationship in a group that can influence people in unit. Leader leads the group to perform operation in order to reach the goal.

Green (1988: 3) disclosed leadership was interaction process between a leader and followers. Elements of leadership consist of leader, followers, relationship of leader and followers and context.

Srgiovanni and Moore (1989: 213) said that leadership was a process of persuasion and motivation of leader for good performance. The leadership supports the leader's objective or common target of the leader and followers.

Piyathida Tridech (1997: 156) explained that leadership meant a process to persuade, coach and force subordinates to operate for achievement.

Regarding mentioned leadership behavior, it can be summarized that behavior is a process that a person in an organization use authority or influence to inspire, suggest, or persuade others to perform in order to support the organization to achieve target under a situation.

Style of Leadership

Scholars and theorists studied and analyzed leadership into many theories. They are grouped into 4 as followings.

1. Trait Theory

The theory believes that personality of leader influence subordinates. It is then unique like physical trait and personality trait. However,

studies of this leadership theory cannot conclude that efficient leadership depends on personal trait. It is found that efficient leadership depends on ability of supervisor to command and personality of leaders that is appropriate with the existing situation.

In the past, many scholars tried to study leadership behavior in order to define the best leader by observation and researching on behavior of well known past leaders. Those researchers studied pattern of behavior and respect of individual or group. During 1920-1930, the studies concentrated on trait of successful and famous leaders. It was found that there were many traits such as self-confidence, smart, good speaker, good decision making, good knowledge, good coordinator, firm tone of voice, patience and so on. Therefore, this theory did not much succeed. That is because it cannot point out explicit difference between a leader and followers. (Morrison, 1993)

2. Personal Behavior Theory

This theory believes that an efficient leader does not come from personal trait. Then researcher studied behavior pattern; what efficient leaders do or how is their behavior to achieve objective or goal. The theory assumes that an individual can be trained to have suitable behavior and improved to be efficient leader. Therefore, the theory concentrates on analyzing work of management or administration of the leader. Scholars, who studied the leadership according to the theory, proposed many styles of leadership behavior. Major leadership behaviors are followings.

2.1 Managerial Grid Theory of Blake and Mouton (1978: 271-299) studied leadership behavior based on studies of Ohio University and Michigan University. The managerial grid obtains 2 dimensions: leader who concern for production; and leader who concern for people. This 2 dimensions grid is independent. Each dimension has 9 boxes. The total number then is 81 boxes. Each box represents a style of leadership as shown in Chart 5.

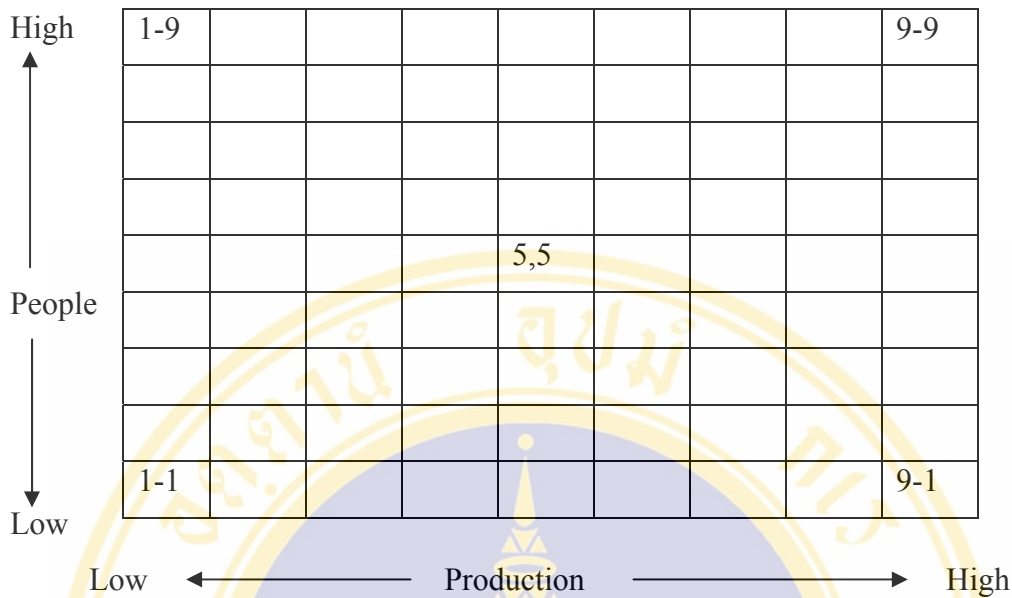


Figure 5 Managerial Grid of Blake & Mouton.

Source: The New Managerial Grid. Blake & Mouton, 1978: 271-299.

Study results of Blake and Mouton defined 5 leadership styles.

1. *Task* (9, 1) is a leader giving priority to work and highlight on work system for efficient results, little interest on human.
2. *CountryClub* (1, 9) is a leader concentrating personal relationship, paying attention toward needs of people and developing organizational climate to be friendly. However, the leader pays little interest to work.
3. *Impoverished* (1,1) is a leader who neither cares personnel nor work administration. The leader is inactive and performs the lowest efficiency.
4. *Team* (9,9) is a leader concentrating both on human and work. It is ideal leader who can make much efficient work.
5. *Middle – of – the – road* (5,5) is a leader who pay attention both on human and work at the average level. The leader leads to balance of desired work and personal encouragement. When satisfaction exists, work will also succeed as it should.

Likert Leadership styles in management system

Likert (1967: 14-26) studied management problems of organizational personnel by using questionnaire to find out information about motivation, communication, decision making, personal interaction, target and organizational control. The studies found that management system or organizational leadership behavior can be divided into 4 patterns that continue from the 1st to the 4th system or from exploitative authoritative to participative group.

1. *Exploitative authoritative* leadership little believes in subordinates. Actually, subordinates do not involve decision-making process. The leader is the only one who makes decision and then order by chain of command for work operation according to standards and work procedures as specified by the management. The executive may threaten and punish subordinate when it is needed in order to achieve objectives. The management less trusts or believes in subordinates. On the other hand, those subordinates are fear of their supervisors. If an informal organization is established, the organization always protests formal organizational objective.

2. *Benevolent authoritative* leadership commands some instruction. The leader accepts and gives work freedom to subordinates. However, although subordinates can make some decisions about something, those decisions have to follow specific requirement. Some rewards and punishment are used to motivate subordinates. If an informal organization is established, the organization will not protest formal organizational objective.

3. *Consultative* leadership more believes and trusts in subordinates. The leader set up goal and command after consulting with subordinates. Although major decisions are made by the top management, subordinates can decide the way to work by themselves. There is two-way communication. The management and subordinates have some common trust and confidence between each other. Reward is used to motivate subordinates. If an informal organization is established, the organization will support or slightly protest against target of formal organization.

4. *Participative group* leadership provides supportive relationship for subordinates. Likert preferred to promote this management style. The leader trust and believed in subordinates in every issue. The management will take feedback and

comments of colleagues into account for work guidelines. Communication is not only downward and upward, but also horizontal, between peer colleagues. Relationship between the management and subordinates is forward direct within friendly climate. The management encourages subordinates to decide on group coordination. This participative leader is the most efficient leader that produces high productivity and satisfaction among the organization's members.

Two-dimension Leadership of Ohio University

Wehrich & Koontz (1993) studied efficiency of leadership behavior in two dimensions. (1993: 187).

1. *Task behavior* indicates scope and role of leader about work in order to achieve the organizational objectives. Most of communication is one-way.
2. *Relationship behavior* is leadership behavior that concentrates on relationship, personal needs, encouragement, support, suggestion and convenience. Communication is two-way as shown in Chart 6.

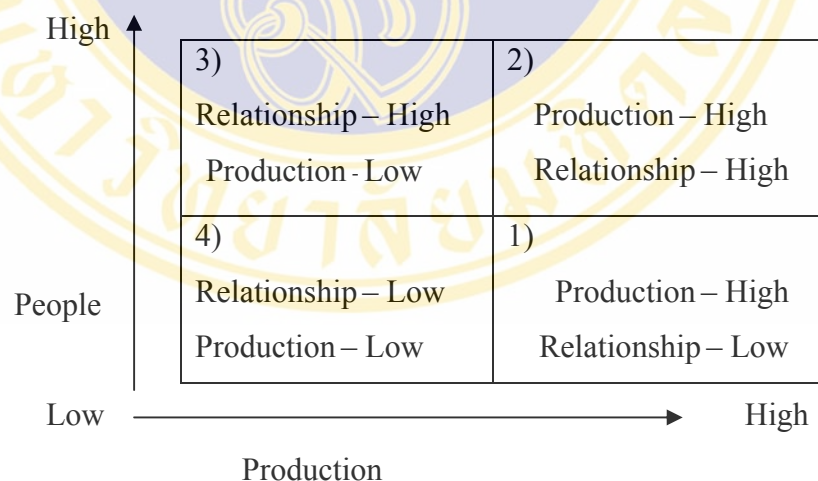


Figure 6 Two- dimensions Leadership of Ohio University.

Source: Management A Global Perspective. Wehrich & Knootz, 1993: 187.

1st Style (high production – low relationship): Leader orders, close supervises and provides all details.

2nd Style (high production – high relationship): Leader is alike of the first style but will consult with colleagues.

3rd Style (high relationship – low production): Leader spends most of the time to listen, talk with colleagues and provide support.

4th Style (low relationship – low production): Leader is busy with administration, discuss or listening. However, finally, subordinates will be assigned to operate by themselves.

Leadership style of Michigan University

Leadership behavior of Michigan University concentrates on either people or production. After studying leadership behavior in government organizations and businesses, it was found that the leadership behavior could divide into 2 styles: production-centered leader and employee-centered leader. Three significant facts of leadership behavior are followings. (Vroom, 1976: 1530 – 1533)

1. Most of successful leaders had good relationship with colleagues.
2. Most of successful leaders rather use decision making by group process than person-to-person.
3. Most of successful leaders has tendency to set up quite high work standard.

3. Situations or Contingency Theory

This theory has a concept that an efficient leader should be the one who can get along with dynamic situation. The theory consists of three elements: situation; followers; and leader's personal value. Among three elements, situation is the most important part because it consists of many variables. The efficient leader needs to adjust the organization to get along with each situation.

In early 1960, Situation or Contingency Theory became popular and widely was studied. Study method pointed out that a leadership behavior depended on a situation. A person might be a good leader in a particular situation.

(Marriner Tomey, 1993) Regarding leadership patterns and situation, there are interesting researches as followings.

Fielder (1967 cited in Kerfoot, 1994) pointed out that, under a situation requiring decision for either people or production management, efficiency depends on following elements.

Relationship between a leader and followers: If followers accept personality and capacity of their leader, the leader will then not need to adopt his/her authority or formal position. On the other hand, when the followers do not trust in their leader, the leader must use order or formal authority in order to reach the goal.

Work structure: If a workflow is well designed, followers will clearly acknowledge what they are expected to do. In contrast, unorganized or vague work will decrease the leader's authority. That is because the followers may disagree or do not trust in the leader style. Some leaders, who possess much authority and power such as approval authority and compensation approval, much influence their followers.

Regarding the study of Fielder (1977), it can be concluded that change of leadership style depends on a situation. When a work is changed, a leader needs to change his/her leadership style.

Hersey and Blanchard (1988) proposed Life-cycle Theory. They believed that the most efficient leadership style would change by seniority of followers. The seniority here means a wish to succeed, a will to take responsibility, capacity and work experience. Therefore, leadership is flexible and changeable. Seniority of followers should be regularly assessed in order to find out a suitable leadership style. The appropriate leadership style does not only motivate followers but also support them to become more seniority.

4. Transformational Leadership Theory

Transformational leadership is process to lead for change instead of stability by accomplish following missions: (1) to motivate personnel to work for more assignments and high targets and to support them to believe in themselves that they can explicitly meet the target; (2) to trigger personnel's attention to aim for organizational benefits; and (3) to be competent leader influencing followers.

Transformational leadership is character of a leader who can lead to major change by changing vision, strategy and organizational culture as well as promoting innovation of products and technology. Transformational leader will not use tangible inspiration to control change with followers but aim at quality such as common vision, value and thoughts. That is to create relationship. This leadership style will change important activities and search change process for followers. (Sanoaw Tiyo, 2001:59)

Bass' Leadership Behavior Theory

Bass (1985) proposed leadership behavior theory that it can be expressed by two shared characters: transformational and transactional leadership. Whether leadership behavior will be seen more as transactional leadership than transformational leadership depends on external and internal environment. External environment is economics, social change, culture and local tradition while internal one is work, colleagues, supervisor, subordinates, organizational culture and personal characters of a leader such as personality, personal abilities and individual interest.

1. Transformational leadership means that a leader can support followers to get higher encouragement and motivation. The leader can promote inspiration at work and lead followers to work more than expectation. Transformational leadership consists of following 4 elements.

1.1 Charismatic Leadership (CL) is a leader's authority that deeply influences followers who will respect, believe and be honest to devote and imitate the leader. (House, 1997 cited in Yukl, 1994: 318)

Max Weber (1947 cited in Yukl, 1994: 317) explained that charisma leadership is a form of influence that neither comes from authority nor tradition. From perception of followers, it is characters of leader that can lead followers to accept listen and believe that their leader can lead them to overcome obstacles.

Bass (1985: 43) found that in perception of subordinates, a leader with charisma leadership is someone who can make them be enthusiastic to carry on assignment and to have loyalty in their organization and who is respected from everyone. The leader can see which genuine important factor is. The leader also has work ideology. The subordinates then truly believe in the leader who is warm. They are proud to work with the leader. It is believed that the leader is a symbol of success.

Bass (1985) conducted a survey with subordinates in the military and industrial factories. It can be concluded that a respected leader is someone who can make his/her subordinates to be active to carry on assignment and to have loyalty in their organization and who is respected from everyone. The leader can thoroughly see which genuine important factor is in each work. The leader promotes the subordinates to share responsibility. More over, in the followers' view, the respected leader is a sign of success guarantee and achievement. Character of respected leader is relationship between the leader and followers. It is not only the leader's personal characters. Such character must be accepted by followers. A situation that promotes this leadership style is ill-structure crisis, when someone can save the organization's crisis. That person will be recognized as "charisma", which is like a Messiah or Idolized Hero. For subordinates, the leader is their inspiration. A leader with that character can motivate work performance, organizational identity and inspiration among subordinates and their tasks, which promote them, to work more than expectation. (Bass, 1985)

In later study, Bass (1990) concluded that charisma leadership character is requisite ability. It is personality of each leader that differently

conveys. It can be seen as behavior, words, attitude and voice tone. The leader with this leadership style is high self-confident. The leader has ability to specify his/her operation concept and approach. The leader learns and deeply understands things very well, not be confused with himself/herself. The leader can well persuade others. The leader processes power and is active at work.

Bass (1985) believes that every transformational leader must have respectable personality. However, that personality can not change followers. Then the leader has to stimulate intellectual of followers and accept individual difference. Therefore, the leader can inspire the followers to try their best in order to reach the achievable goals.

House (1997, cited in Yukl, 1994: 318-319) concluded behavior of charisma leadership by observation as following.

(1) A charisma leader shows his/her belief and discusses about success. This impresses followers and leads them to trust in decision made by their leader. Therefore, they voluntarily follow the leadership.

(2) A charisma leader clearly announces his/her ideology by giving impressed vision for the future. This makes teamwork become more meaningful and inspires followers to be active and enthusiastic.

(3) A charisma leader leads by acting. He/she will do as a good sample. More impression on a leader, more imitation followers will do. They will follow both belief and value.

(4) A charisma leader conveys high expectation by show his/her trust in followers.

(5) A charisma leader uses created behavior and increases inspiration of followers in order to achieve the group's mission and success such as giving challenge and complex assignment. The followers are given chances to think creatively and to have good relationship.

According to Bass's theory (1985, cited in Yukl, 1994: 352), requisite charisma for change is essential element of transformational

leadership. It can be explained by Bandura's social learning theory (1977, cited in Marriner, 1993: 114). Bandura mentioned that personal behavior comes from social learning process. An individual will observe others' behavior and then think about his/her behavior. The experience will be guideline for later behavior. Likewise, in organizational social learning process, subordinates observe their leader's behavior and then possibly imitate that behavior. Since the leader possesses higher position, influence and experience, when leaning learn that the leader also has ability and success; subordinates more possibly follow their supervisor. (Weiss, 1977 cited in Marriner, 1993: 120)

Only charismatic leadership cannot change followers. Therefore, transformational leadership requires other elements such as intellectual stimulation, individualized consideration and inspiration motivation. As a result, followers will devote themselves for organizational success as the leader expects. (Bass, 1985: 51-52)

1.2 Inspirational Motivation (IM) means that a leader use words and actions to comfort encourage and stimulate subordinates to be cheerful, lively and enthusiastic. Hence, subordinates devote themselves for organizational benefits more than their personal ones, and even more than they are expected. They will do for the group and commit to the leader's objectives.

Bass (1985: 66) explained inspiration motivation of leader as followings.

Practice consists of following behavior.

(1) To stimulate subordinates to launch trial projects or challenge work.

(2) To provide subordinates volunteer work in order to prove their competence and responsibility. Work achievement will bring self-pride and self-confidence.

(3) To set up policy that promotes innovative learning to solve organizational problems.

(4) To create climate of open internal communication and trust between each other.

(5) To use short memo instead of report or long memo.

(6) To create trust that is source of big power of mind strength when subordinates face stress, difficulties or work risk.

A leader has to make his/her subordinates trust in work such as trust in teamwork and themselves. When believing, the subordinates will have encouragement and especially devote themselves for organizational objectives.

To create trust in ideal destination is very great importance. Personnel have to believe that the ideology is right and value for devotion. When believing in their competence and rightful of their work ideology, the personnel devote themselves to achieve organizational objectives and success. (Bess, 1985: 70)

In conclusion, for the efficient organizational management, leadership is a major mechanical factor. Therefore, a leader should develop his/her own leadership and select the most appropriate behavior for the organization and environment. A leadership behavior style may have positive result in a situation. However, that style may turn out negative effects in another situation.

This research assessed leadership from leadership behavior of head of health center according to Bess' transformational leadership theory. (Bass: 1985)

1.3 Intellectual Stimulation (IS) means to make followers be active and change their awareness about problems and solution. A leader rather stimulates the followers to think and select belief and value than search for immediate change. Intellectual stimulation causes the followers to get concept, understand and be able to see through existing problems as well as how to solve those ones. Typically, the followers then think before do. (Bass, 1985: 99)

Intellectual stimulation consists of reasons and excellence. To stimulate intellectual by reasons, a leader will motivate followers by success. The leader concentrates on formal work structure. The leader's decision

begins from little information, mainly on speed and efficiency of problem solution. Concentrating on survival, the leader is interested in increase of security, trust and teamwork. He/she uses informal process and believe that intellectual will exist when human interact with environment. Therefore, the leader is a decision maker who integrates a lot of data and solves problems by many methods.

These leadership styles search out solutions by experience. The solution is set into steps and based on a lot of information in order to define the best answer for improvement of security, safety and organizational existence.

Aiming at the excellence, a leader concentrates on growth, self-adaptation, learning, variety and creativity. Making decision styles is flexible. This kind of leader uses some of information to make decision. However, additional data will be continuously collected. If needed, new problem solving solution is defined. It can be seen that the leader takes risk and invents innovations.

Competence of a leader on intellectual stimulation is seen through his/her followers who fast change in thoughts, use intellectual ability, learn to adopt the leader ideology, use of judgment to solve existing problem and how to solve problem.

Bass (1990, cited in Kamonthip Tunglungmunkong, 1996) specified that intellectual stimulation of a leader begins when the leader provide challenge climate by stimulating followers to realize problem and try to find new way to solve that problem. Since the leader motivates the followers to think creatively under his/her coaching and mentoring, therefore, the leader must process high intellectual enough to be able to analyze, define problem, select solution and stimulate intellectual of the followers to see the problem clearer and can make decision for the right solution.

In order to stimulate intellectual, transformational leader promote problem awareness and problem solving methods among followers by giving them information. The leader guides practical way to solve problem and specify values, destination, motto, and sign that are easy understandable. Hence, the followers become interested in, understand and accept problem solving. In addition,

the leader questions about current situation in order to encourage the followers to think and criticize what they are doing and reasons of that doing. (Bass, 1985)

To distinguish transformational leadership from transactional leadership is to consider intellectual stimulation. For transformational leadership, followers are promoted to develop intellectual, to think how to solve old problem by a new method, to create new idea and to have vision in work. On the other hand, transactional leadership is not pleased current status and tries to find out a new way of operation in order to achieve success as much as possible. Transformational leader still concentrate on existing work operation for day-by-day achievement and stable and continuous success.

1.4 Individualized Consideration (IC) means that transactional leadership search a way to respond follows by individual's needs. A leader supports, promoter, and improve experience of followers. (Bass, 1985 cited in Yukl, 1994: 352) The leader accepts difference of each subordinate by assigning job according to competence and needs. Also individual identity and interest, even family background, are accepted. (Curtin, 1995: 8)

Bass (1985: 85) pointed out that individualized consideration is important relationship character between a leader and subordinates. It affects the subordinates' satisfaction towards their leader and their production competence. Individualized consideration concentrates on participation management. The leader is interested in finding way to respond his/her subordinates' need of career advancement and participation of decision making that affects their work and careers.

Individualized consideration can be explained as followings.

Bass (1985) and Bass and Avolio (1994) explained behavior and individualized consideration of transformational leadership that it concentrates on improvement. Regarding behavior of improvement, transformational leadership has to assess subordinates' potential both for current work and future assignments. (Hays and Thomas (1967: 196, cited in Bass, 1985: 85) A leader set a sample for subordinates and assigns work in order to promote their abilities and to

respond their motivation. Transformational leadership emphasizes on personal improvement.

Regarding the study of Morse and Wagner (1978) on improvement behavior, it was found that perception of subordinates consists of consulting about job operation, close observation, work progress record and additional training promotion.

Bass and Avolio (1994: 45) explained that work assignment promotes authority and negotiation power to subordinates. This influences job satisfaction and production competence. The subordinates that receive high authority can operate good performance. They also participate in changing and actively create innovation. Individualized orientation increases organizational loyalty. It includes following behavior: (1) promoting friendly and casual discuss; (2) one-by-one contact in person or by phone; (3) walk-around-management; and (4) two-way communication. The subordinates then learn problem and enable to solve that problem before it expands. This also provides correct and fast information circulation. Therefore, making work decision becomes more appropriate. (Peter and Waterman, 1982, cited in Baker, 1992: 100).

Getting needed and related updated information and data and being treated, as an individual makes subordinate's value themselves. Especially, when a leader informs news by himself/herself, either in person or by phone is better than sending memorandum, the subordinates have chance to ask for more information in order to get better understanding. At the same time, the leader can observe their interaction and interest.

To pay attention to each subordinate's personality is to find out what is the best motivation is and how to improve individual's potential competence to the optimum degree. When a leader considers his/her subordinates one-by-one, each will acknowledge that he/she is respected and accepted. As a result, the leader will also receive their respect in return. (Meyer, 1980: 4-9, cited in Bass, 1985: 88)

Bass and Avolio (1994: 74) mentioned that a leader should remember that each subordinate has unique abilities both at work and general matter as well as need for relationship and success. Therefore, everyone will not get

same motivation or inspiration. As a result, how to treat individual subordinate by considering personal identity is important. The leader has to use consult skill to provide individual consulting that emphasize on listening and finding problem. Subordinates may come with both personal problem and work obstacle as well as career advancement. The leader provides support by listening, giving them sympathy and asking them leading question to release their pressure. Also, the leader helps them to search for alternatives or suggests support from others.

Mentoring is to have a senior executive to give advice to an individual new executive. (Bass, 1985: 90) It may be to have a professional as a sample, to coach, to train and to provide suggestion to a novice. (Vance, 1977, cited in Holloran, 1993: 49) Being a mentor is a major role of an executive. A mentor needs to use his/her a lot of knowledge and experience as well as his/her position to improve subordinates. The key point of mentoring is teaching and learning process including supervision. Therefore, the leader is responsible for mentoring his/her subordinates to become the next executives.

It can conclude that transformational leadership is important for new management style that emphasizes improving of individual potential. Since the transformational leadership theory concentrates on subordinates' potential improvement, the researcher then adopted Bass's concept and theory in this study.

2. Transactional Leadership, from the view of Bass (1985), means that a leader knows what subordinates have to do in order to achieve target. Role and job description is clearly specified. The leader acknowledges the subordinates' needs and how to respond. Their needs will be responded only when work performance turns out as it is mutually predefined. As a result, the subordinates satisfy and try to increase their competence in order to acquire desirable response.

Transactional leader defines a need to get success. When followers can achieve objective, they will get compensation or a reward as promised. Transactional leadership has following characters.

(1) A leader knows what followers want from work and try to let them get what they need when their performance is on the standard.

(2) It is a conditional reward and promise for followers' effort.

(3) It is to respond need or benefit to followers once they can deliver needed result or work achievement.

Transactional leadership consists of two sides.

2.1 Contingent Reward is support from a leader to motivate followers to have some behavior as the leader wants. The stimulator here is inspired thing or compensation. Bass (1985) suggested that giving conditional reward according to Sims' study (1977, cited in Bass, 1985) can be done in 2 ways: recognition when the work is completed; and proposed reward by compensation increase, bonus or promotion. This is to motivate the followers to achieve objective. They are expected to work for a reward given by quantity of performance.

Klimoski and Hayes (1980, cited in Bass, 1985) conducted a survey on conditional reward and relationship between motivation and satisfaction. From 231 respondents, it showed that they would like to have their supervisors as someone who: (1) is sure and clear; (2) support and help; (3) allow them to participate in setting up work standards; and (4) have stability and consistence. These characteristics lead subordinates to ensure that their effort will bring up work success and then provide them return reward. Therefore, a reward is not only tangible objects but also in forms of recognition, compliment, acceptance and respect. It causes satisfaction and effort to work.

Conditional reward provides both value of a reward and acknowledgement of effort. It is to let everyone know that no work is waste. Therefore, personnel more commit in work. However, there is disadvantage when a person feels that value of received reward is too little and insufficient for need or that giving the reward is not fair. In such situation, no effort exists.

Moreover, a leader in this style concentrates on daily achievement for provided reward exchange regardless long-term success, vision, creativity and work value. Therefore, work quality is not the best work that followers can do.

2.2 Management by Exception refers to a leader who manages an organization by being interested in errors, not carefully studying original problem, and often making decision based on experience, regulations or organizational expectation. As long as the existing work pattern can continue operation, the leader in this management style will not try to change anything. Everything will be the same until someone violates rules and regulations or fail work target. Punishment will then be used. It can be accomplished in many forms such as verbal warning, fine, temporary compulsory leave without paid, no support from the leader or even the serious measure that is to being fired. The punishment is considered when there is an operation mistake or failure from the target or set standards. (Bass, 1985: 135-136)

Blanchard and Johnson (1982, cited in Bass, 1985: 141) suggested that verbal warning and recognition should be used appropriately. A supervisor has to let his/her subordinates know when they do something wrong. The supervisor should let them know how he/she feels. In addition, the warning should include comments on how to improve operation. They also proposed that when subordinates do mistakes, a supervisor should review objectives and work procedure. Once reproving is done, it must be over. Therefore the subordinates are encouraged to continue working.

Regarding the study of Podsakoff et. al., (1982, cited in Bass, 1985: 139), it was found that the management by exception would reflect less results than conditional reward. The conditional reward motivates subordinates to accomplish procedure and have satisfaction. Hence, the production is high. On the other hand, the management by exception freezes subordinates from doing and causes dissatisfaction.

Hater and Bass (1988) commented that management based on regulations both providing advantages and disadvantage. Regarding advantage, using regulations is punishment before an error will bring up bigger problem in the future. The regulations can be used as standard for monitoring followers whether they follow the predefined regulations. The consequent disadvantage was that the leader be reluctant to make decision or avoid doing anything until a mistake would happen. That was too late. Moreover, it might cause

false report by followers. They might report as the organization expected in order to prevent them selves from punishment

Transactional leadership is always considered as daily routine administration. That is because transactional leadership will obtain optimum efficiency under quite fixed environment. Dunham & Klafehn (1990) studied leadership behavior according to Bass's theory and found that change readership will based on system and then tried to change people or work flow to get along with work system. Therefore when the management adopt transactional leadership, they is on the way of goal achievement by perform daily efficient. Change management is insufficient to lead the organization against cooperate challenges under dynamic and complex environment.

Bass (1990) added more that in the initial stage, the management did not fully adopted transactional leadership. However, time pressure, inefficiency assessment, unsure of proposed reward, inconvenient at work for both the leader and followers, and lack of management skill, all are influences affecting on the used of transactional leadership. Consequence disadvantages is when the reward is not satisfied or insufficient for personal needs, change leader will immediately get failure because the leader will be no more accepted.

This research did not use transactional leadership because a leader gives reward with conditions. Both the leader and followers agree that the followers will receive their wanted reward if they can successfully achieve the target. However, reward is not enough. There also is no trust for possible reward. Management with exception that pays attention only mistakes does not carefully discuss on original problems. Making decision often mainly depends on experience, regulations or organizational expectation. Transactional leadership then is fail because the leader is not accepted.

This research assessed Leadership by leadership behavior of chiefs of health centers according to Bass's theory of transformational leadership (Bass: 1985), consisting of 4 elements: charisma leadership, inspiration motivation, intellectual stimulation and individualized consideration.

4. Related Researches

4.1 Related Leadership Researches

Roberts (1984) conducted a case study research of transformational leadership of school education officers and personnel to study charisma leadership, individualized consideration, inspiration motivation and intellectual stimulation. The study found that education officers developed education innovations and promoted support climate at school by inspiration motivation and intellectual stimulation. Analyze and criticize was adopted at initial stage. Then the school improved insufficient work as suggested in criticized process. Vision was established among personnel as to share identity goal. As a result, the organization possessed innovative thoughts, work plan, new project and consistent organizational and personal target.

Hater and Bass (1988: 87) studied transformational leadership and transactional leadership of management from assessment of supervisor according to perception of subordinates. Samples of the study were 28 executives who got excellent mark from assessment and their 306 subordinates who would evaluate the leadership. The result showed that transformational leadership of excellent executives in the perception of those subordinates was higher than general executives, especially in dimensions of charisma leadership and individualized consideration. Transformational leadership factor was a better predictor of work performance and satisfaction than transactional leadership one.

Dunhum and Klafehn (1990:28) studied leadership of 80 executives in hospitals that had different size and number of beds according to Bass' theory. It was found that leadership between perception of those executives and that of their subordinates were different. The executives perceived their own leadership higher than their subordinates both in terms of change and transformation.

Liang (1991) studied relationship between leadership behavior and efficiency of professional education executives. Samples were 510 students of 34 technical schools in Minnesota. It was found that elements of transformational

leadership including charisma leadership, intellectual stimulation, individualized consideration and inspiration motivation high positively related with perception of leadership efficiency ($r = 0.80-0.88$). Elements of charisma leadership, individualized consideration and inspiration motivation were appropriate to analyze variance of leadership efficiency (0.89). Leadership high related to leadership efficiency perception of statistical significance (0.56-0.82).

Mcdaniel and Wolf (1992: 60) conducted a research on leadership of 11 nursing administration executives and 77 registered nurses according to Bass's theory. The study found that the result of self-assessment by the top management executives was higher than the result assessed by the middle management both in terms of transformation and change. Meanwhile, self-assessment of the middle management was also higher than the result assessed by those registered nurses both for transformational and transactional leadership.

Kamonthip Tanglakmunkong (1996) studied leadership behavior of chief of nursing section, community hospitals in the 6th area. Samples consisted of 36 heads of nurse and 170 registered nurses. The research found that the heads of nurse perceived their leadership behavior in transformation higher than change. Registered nurses had perception of leadership behavior of head of nurse, nursing section, transformational leadership higher than transactional leadership.

Sukphawun Suwunnasid (1996: 85-86) defined influence organizational climate towards work performance of health promotion officers in community hospitals at the South. It was found that leadership behavior of heads of Health Promotion Department, in good classified group, had higher consultative leadership behavior than others. The consultative leadership behavior affected work performance of health promotion department of community hospitals that were in good classified group of statistical significance ($P < 0.05$).

Wundee Chookaan (1997) studied relationship among transformational leadership of director, job satisfaction, personal factor and organizational loyalty of

teachers in a college of nursing. It was found that director of college of nursing had transformational leadership at average level. The director's transformational leadership had statistical significant positive relationship with organizational loyalty.

Anchalee Makboonsong (1997: 96) studied relationship between transformational leadership of head of nurse and efficiency of nursing work from perception of head wards in general hospitals, Ministry of Public Health. The research reflected that transformational leadership of head of nurse had positive relationship with efficiency of overall nursing work.

Sumalee Hengsuwun (1998: 74-75) conducted a study on management affecting registered nurses, chief of delivery room, in center hospitals and general hospitals, Office of the Permanent Secretary for Public Health. The study found that decision making, flexibility, personal relation skills, leadership, persuasion, negotiation and teamwork had statistical significant positive relationship with performance of the chiefs of delivery rooms ($P < 0.001$).

Supharn Rodthanom (1999) studied relationship between transformational leadership and participative management of the Director of Nurse College and organizational efficiency from perception of 303 teachers in the Nurse College, Ministry of Public Health. The study indicated that intellectual stimulation, decentralization, decision authority, vision development, vision transfer and value establishment were co-variables that could predict organizational efficiency of statistical significance.

Keerati Rungjaeng (2000) studied relationship between leadership of district public health officers and job satisfaction of chiefs of health centers in Supunburi province. It was found that transformational leadership of district public health officers had overall average relationship ($r = 0.6140$, $p\text{-value} < 0.001$). Every dimension had average relationship: individualized consideration, inspiration motivation, intellectual stimulation and charisma leadership ($r = 0.593, 0.570, 0.566$ and 0.564 , $P < 0.001$ respectively).

4.2 Related Organizational Climate Researches

Garcia (1980: 2375-A) studied relationship between perception of teachers on organizational climate and efficiency of assessment process by using questionnaire to measure organizational climate. The samples were teachers in 66 primary schools in Iowa. The research found that there was high positive relationship between good perception of organizational climate and efficiency of assessment process.

Medea (1980: 795) conducted a research on organizational climate of professional nursing service in order to define relationship between organizational climate and professional nursing qualifications from samples of 1,694 nurses, 12 hospitals. The results disclosed that 6 dimensions of organizational climate significantly related to professional nursing qualifications. Demographic factors also had statistical significant relationship with organizational climate and professional qualification.

Stratton (1990) studied relationship between organizational climate, organizational culture, freedom of nursing work and results received by patients in a university hospital. The research tool was an OCDQ questionnaire. It was found that freedom of work and participation in decision making of nurses got positive relationship with organizational climate.

Wright (1993) analyzed relationship between perception of hospital climate and work performance of nurses by studying overall climate perception of the hospital and each unit's organizational climate. It was found that age reflected on overall climate perception towards the hospital and unit's climate. Position, tenure of work and work shift did not affect the perception. In addition, the nurses perceived climate in the unit at satisfaction level higher than overall climate of the hospital.

Stetzer, Adam, Morgeson, Frederick (1997) studied organizational climate and inefficiency: evidence data of employees in 25 companies. It was found

that organizational climate with quality and cooperation related decrease of accident and employees' absence rate.

Pedrich (1998) studied influence of organizational climate towards employees, customers and corporate performance. The research found out that there was positive relationship between (1) job satisfaction and work loyalty and (2) work loyalty and customers' perception on quality service. When customers acknowledged good service, corporate performance would also become good.

Chinho Lin (1999) studied relationship between organizational climate and practice of quality management in middle and small factories. It was found that corporate size affected on organizational structure that further affected quality management.

Altman (2000) conducted a study on predicting organizational climate. The researcher thought that a survey on organizational climate would lead to many benefits. For example, regarding employees' loyalty against the organization, employees having corporate loyalty would obtain job satisfaction. Organizational climate related with motivation, resignation, work performance and corporate performance. Surveying organizational climate would help to indicate weak point in order to solve problem in time.

Kularb Rattanasutjatham (1993) studied factors influencing organizational efficiency of related health science faculties in government universities. Samples were 27 deans and 263 heads of department. The research found direct influence on efficiency of faculty level with statistical significance ($p < 0.001$). The faculty climate had the most influence.

Sukphawun Suwannasit (1996: 85-86) conducted a research on influence of organizational climate towards work performance of health promotion officers in community hospitals at the South. Samples were 96 heads of Health Promotion Department in community hospitals who had worked at least 1 year. The

results from questionnaire disclosed that outstanding group of health promotion officers agreed that organizational climate was appropriate at the top level whilst general heads thought that organizational climate was in average level. Organizational climate in dimension of warmth was high from opinions of both outstanding and general groups. Variables in organizational climate affecting results of work performance of health promotion department and prediction of work performance were: identity, support, responsibility and risk.

Pharuhut Pornwonglert (1998:113-136) studied factors affecting efficiency of management improvement of health centers in Suphanburi province. It was found that perception of organizational climate had positive relationship with efficiency of service improvement of health centers at statistical significance ($P < 0.05$). Organizational structure related with efficiency of service improvement of health centers at statistical significance ($P < 0.05$).

4.3 Related researches about leadership organizational climate

Cook (1966: 345-346A) conducted a research on management's leadership behavior and organizational climate of 20 primary schools in Camdern, Newjersy, USA. The results from 303 samples indicated that the management's leadership behavior of primary schools defined the school climate. At the same time leadership behavior of the management was varied by each school climate.

King (1991: 2329A) studied transformational leadership and transactional leadership affecting influence, satisfaction and organizational climate of K-12 and higher education. The research concept came from present discussion about charisma leadership theory and transformational leadership. The study suggested that charisma leadership or this trait obtained explicit quality differently from general leadership. According to the style, Bass divided the leader into 2 types: transformational leadership and transactional leadership. Charisma leadership was one element of transformational leadership. He then studied criterion variable of 208 samples in K-12 and higher education. The results disclosed that transformational leadership affected on forecast of satisfaction and obtained higher influence than

transactional leadership. It could predict development and control pressures better than transactional leadership. It was also found transformational leadership better use at higher education than K-12.

Jeumjun Detpun (1990) studied behavior of the Chiefs of Nursing Department and organizational climate in provincial community hospitals in the north. It was found that leadership behavior of the Chiefs in the nurses' perception was in the middle way and teamwork. Regarding the organizational climate in the Nursing Department, the perception of those permanent nurses was varied by leadership behavior of the Chiefs at statistical significance or p-value of 0.01.

Upsornsuda Kaew-on (2001) studied on leadership perception and organizational climate perception: a case study of 245 employees of Circuit Electronics Industries Public Co., Ltd. The study indicated that workforce had perception against their supervisors' transformational leadership at average level. Those employees with different marriage status had different statistical significance perception of transformational leadership. In addition, it was found that transformational leadership perception had positive relationship with organizational climate perception.

CHAPTER III

MATERIALS AND METHODS

The researcher had used the variables from Chapter II to design materials and methods for the study as the follows.

1. Research Design
2. Population and Sample
3. Research Instruments
4. Instrument Testing
5. Data Collection
6. Research Ethics
7. Data Analysis

1. Research Design

This cross-sectional analysis research was aimed to study the relationships between transformational leadership of chiefs of health centers and organizational climate of health centers in Ratchaburi province.

2. Population and Sample

Population was the health personnel working at health centers in Ratchaburi province.

The samples of this study were health personnel working at health centers at least 1 year. The sample size was calculated by using the following formula. (Chaweewan Bunsuya, 1997: 17)

From the formula

$$n_{srs} = \frac{Z^2 \cdot p \cdot (1-p)}{d^2}$$

$$n = \frac{n_{srs}}{1 + \frac{n_{srs}}{N}}$$

$$n = \text{Sample size}$$

$$Z_{\alpha/2} = 1.96 \text{ (the value of area under normal distribution curve at 95 \% of confident interval)}$$

$$P = 0.669 \text{ (the proportion estimated from organizational climate at a good level of the health centers in Suphumburi (Puruehus Pornvonglert, 1998:113)}$$

$$N = 162 \text{ (the total number of health centers in Ratchaburi province.)}$$

$$d = \text{The acceptable result error} = 0.05$$

Substitute in the formula

$$n_{srs} = \frac{(1.96)^2 (0.669) (0.331)}{(0.05)^2}$$

$$N_{srs} = 340.27$$

$$n = \frac{340}{1 + \frac{340}{162}}$$

$$n = 109.67$$

From substituting in the formula above, the sample size was 110. To prevent the loss of returned questionnaires, an extra of 30% was added, Thus the total number of samples was 143.

Sampling

The Simple Random Sampling was used with no replacement (Tavatchai, 2000:286). The names of each health center were written in a piece of paper, one each and then they were put into a box. After that, mixed it together and took one piece each until the numbers of samples is enough (143 health centers). Then filled the names of participants and performed data collection. By including all health personnel according to designed criteria. The total health personnel from 143 health centers was 270. Details are shown in Appendix.

3. Research Instruments

The research instrument was the questionnaires constructed by the researcher based on reviewed documents, concepts, theories, and relevant researches. The questionnaire in this researcher was made for the health personnel who were working in the selected health centers.

The questionnaires for health personnel

Part 1: It was consisted of the data on organizational climate according to the feelings of the participants. In this research, the research instrument was adapted from the instrument of Litwin and Stringer (1968: 204-207). Form B (The Revised or Improved Climate Questionnaire) was selected with rating scales. This section had covered 50 questions covering 9 dimensions of organizational climate as follows.

Dimensions	Number of questions	Questions
Organizational structure	7	1-7
Responsibility	8	8-15
Reward	6	16-21
Dimensions	Number of questions	Questions
Risk	5	22-26
Warmth	5	27-31
Supporting	5	32-36

Standard of work performance	6	37-42
Conflicts	4	43-46
Unity	4	47-50

The natures of questions are covered 27 positive and 23 negatives questions as follows:

The positive question number were 1,3,4,11,12,13,16,17,18,23,25,26,27,28, 31,33,35,36,38,39,40,43,44,45,46,47,48
The negative question number were 2,5,6,7,8,9,10,14,15,19,20,21,22,24,29,30, 32,34,37,41,42,49,50

Scoring

Statements	Positive statement (points)	Negative statement (points)
Strongly agree	5	1
Agree	4	2
Uncertain	3	3
Disagree	2	4
Strongly disagree	1	5

Classification criteria

The mean of organizational climate was be interpreted by using the following ranges. (Litwin & Stringer, 1968:145)

Average score		Level of organizational climate
4.50-5.00	=	Very high
3.50-4.99	=	High
2.50-3.49	=	Moderate
1.50-2.49	=	Low
1.00-1.49	=	Very low

Part 2: The researcher applied the questionnaire on transformational leadership translated by Prasert Sompongthum (1995: 179), from the Multifactor Leadership Questionnaire Form 5x of Bass and Avolio (1991). It was tested for

quality from the Center for Leadership Studies /School Management Binghamton University by the Distinguished Professor Emeritus Bernard M. Bass, Ph.D, a director of the institute. In this study, the researcher had adjusted some words due to the suggestions of the experts but maintained its content. A total of 47 questions were about leaderships of the chiefs of the health centers in Ratchaburi province. The 5 rating scale was used to measure the level of Transformational Leadership. The numbers of questions are as follows:

Topics	Number of questions	Items
1.1 Charisma Leadership: CL	18	1-18
1.2 Inspirational Motivation :IM	10	19-28
1.3 Intellectual Stimulation :IS	10	29-38
1.4 Individualized Consideration :IC	9	39-47

Scoring criteria

The scores of questions were rated by using 5 Rating Scale as follows:

Very Often	=	4	points
Often	=	3	points
Sometimes	=	2	points
Seldom	=	1	Point
Never	=	0	Point

Score Interpretation

The mean of leaderships would be interpreted by using the following ranges. (Prasert Sompongthum, 1995:179)

Average score		Level of transformational leadership
3.50-4.00	=	Very high
2.50-3.49	=	High
1.50-2.49	=	Moderate
0.50-1.49	=	Low

0.00-0.49 = Very low

Part 3: It contained the questions about demographic characteristics of the samples such as sex, age, marital status, educational level, current position, numbers of working years, and duration of working in the current public health center. The answers were provided in forms of choices and filling words in the blank, it covered 7 questions.

4. Instrument Testing

Instrument testing consisted of;

4.1 Validity

Three experts and three research committees assessed the questionnaires (see the Appendix) in order to examine the coverage of content, the structure and content validity and to check clarity of languages and relevance of the issues. Some statements were corrected to match the Content Validity by using the opinion of 2 from 3 experts as a solution. After that, the researcher had improved the questionnaire for appropriateness due to the recommendations of the experts.

4.2 Reliability

The questionnaire was tried out to 30 public health personnel at Amphur Sampan, Nakornpratom province who had similar characteristics to the study population. The reliability was measured by using Cronbach's Coefficient of Alpha. The reliability of the research instrument should be more than 0.7 in order to reach the acceptable criteria.

The questionnaire about organizational atmosphere was tried out and the test of reliability of all questions was 0.75. The value by items showed the Correlation Item- Total Correlation less than 0.2, which included question number 2, 5, 8, 10, 11, 12, 13, 15, 17, 18, 19, 20, 22, 24, 29, 36, 37, 38, 39, 41, 44, and 50 (details are shown in Appendix). The researcher had corrected some wording in questionnaires according to recommendations of the advisor so that the statements in

each question could be easily understood and match the target population but maintaining the same meaning.

The questionnaire about transformation leadership by Prasert Sompongthum (1995: 179) had been translated from the Multifactor Leadership Questionnaire Form 5x of Bass and Avolio (1991). The average of reliability of the whole piece was 0.98. Whereas Rattikorn Jongvisal (2000: 72) had applied this questionnaires cited in his research, indicated that the total reliability of the whole questionnaires was 0.94. The researcher had also tested this questionnaire and found that the average reliability was 0.97.

5. Data Collection

5.1 The researcher gave the letter from the Faculty of Graduate to the Provincial Public Health Office and to District Health Office in order to inform the process of data collection.

5.2 The questionnaires were sent to the health personnel who were working in health centers. The researcher asked for cooperation in returning the questionnaires back through the charge District Health Office.

Health Personnel answered within 2 weeks. After that the researcher had follow up for the feedback. If the questionnaires were not returned in the limited time or were back in a small numbers. The researcher then contacted the District Health Office again and asked for cooperation about sending the questionnaire back to the researcher.

6. Research Ethics

The questionnaires about the transformational leadership that affect an organizational climate of health centers in Ratchaburi province

As this questionnaire was focused on feelings and opinion of the participants, some questions may affect the mind of the respondents. Therefore, the

researcher realized that the right of the participants was most important. The researcher had followed the ethical issues of the World Medical Association Declaration of Helsinki (1999) by using the following criteria.

1. Respect for person: The researcher respects decision made by the public health personnel of Ratchaburi province that were the study samples. The participants were asked to answer questionnaires with their consents.

2. Benefits or risk: This research used non-hazardous substance or forced the participants to do any risks. The information of the participants such as name, surname and address were kept confidential.

3. Justice: All participants were appropriately treated with respect according to the ethical principle.

Ethics in the process of conducting the research

1. The ethical committees approved the questionnaires before processing the data collection.

2. The researcher asked for approval from the Provincial Public Health Physician before conducting data collection.

3. Data were collected from participants with their consent, however they had the right to refuse or cancel their participation whenever they wanted. The researcher had informed about research objectives to all participants.

4. The researcher realized that the received data must be kept confidential; there were no name and address indicated.

5. The research results will be presented as a whole picture and will have no effects to any person.

6. The research results will be used to develop the work of public health.

7. Data Analysis

7.1 Content analysis

The steps of data analysis are as follows:

1. Check the completeness of questionnaires.

2. Construct a code instruction
3. Fill all data and do the coding form
4. Use SPSS for analyzing data
5. Indicate statistical level of significance at 0.05

(Daniel, 1991: 198)

7.2 Statistical analysis

The Statistics used in this research are as follows:

7.2.1 Descriptive Statistics such as frequency, percentage, mean, and standard deviation were used to describe the population characteristics, the contingency leaderships and the organizational atmosphere.

7.2.2 Inferential Statistics

Pearson's Product Moment Correlation Coefficient was used to test the relationships between the transformational leadership characteristics of chiefs of health centers and organizational climate of health centers in Ratchaburi province.

CHAPTER IV

RESULTS

In the research on “Transformational leadership characteristics of chiefs of health centers affecting organizational climate of health centers in Ratchaburi province, the researcher distributed 270 questionnaires to the samples (health personnel, except chiefs of each centers). Data were collected from October, 3 2003 to November 6, 2003. A total of 222 complete questionnaires or 82.22% were used in the analyzing process. The results were presented in four parts as follows:

- Part 1: demographic data of the health personnel
- Part 2: Data about transformational leadership
- Part 3: Data about organizational climate
- Part 4: The analysis of transformational leadership of chiefs of health centers in Ratchaburi province

Part 1: Demographic Data of health personnel

The results on the distribution of demographic data of the health personnel who answered the questionnaires about transformational leadership of the health centers such as sex, age, marital status, educational level, position, work experience and duration of working in the recent public health center can be concluded as follows:

Sex: it was found that more than half of health personnel or 62.3% were female only 38.7% were male.

Age: most health personnel were mostly aged between 25-29 years or about 27.5 %, and aged between 45-49 years the least or 3.6%. An average age was 33.89, the highest was 58 years and the lowest was 21 years.

Marital status: about a half of them or 57.2% were married, only 37.8% were single and 5.0 were widow/divorced/separated.

Education: it showed that most of them held bachelor degree (59.0%), followed by diploma 38.3 % and higher than bachelor degree 2.7%.

Current position: most of them were in the position of community health personnel (63.5%), followed by the public health technical officer (27.5%) and dental care personnel (5.0%) respectively.

Period of official employment: it was found that most of health personnel had the most period of employment between 6-10 years (33.3%), followed by 11-15 years (24.8%) and the average period of employment was 12.46 years.

Duration of working in the recent health centers: most of them worked at the recent health centers ranged from 1-5 years (58.6%), followed by 6-10 years (24.8%) and the average duration was 5.93 years as shown in Table 1.

Table 1 Number and percentage of health personnel in health centers of Ratchaburi province by demographic data.

Demographic Data	Number	Percentage
Number of samples	222	100.0
Sex		
Male	86	37.7
Female	136	61.3
Age		
< 25	18	8.1
25-29	61	27.5
30-34	59	26.6
35-39	29	13.1
40-44	38	17.1
45-49	8	3.6
> 50	9	4.0

Table 1 Number and percentage of health personnel in health centers of Ratchaburi province by General characteristics (Continued).

Demographic characteristics	Number	Percentage
Average age 33.89 years S.D.= 7.41 years		
Minimum age = 21 years, Maximum age =58 years		
Marital status		
Single	84	37.8
Married	127	57.2
Widow/Divorce/Separate	11	5.0
Educational level		
Diploma	85	38.3
Bachelor degree	131	59.0
> Bachelor degree	6	2.7
Current position		
Community health personnel	141	63.5
Public health technical officer	61	27.5
Registered nurse	9	4.0
Dental care personnel	11	5.0
Period of official employment (years)		
1-5	27	12.2
6-10	74	33.3
11-15	55	24.8
16-20	34	15.3
21-25	22	9.9
26-30	6	20.7
> 30	4	1.8
An average period of official employment = 12.46 years, S.D. = 6.95,		
Minimum period =1 year and Maximum period = 34 years		

Table 1 Number and percentage of health personnel in health centers of Ratchaburi province by General characteristics (Continued).

Demographic characteristics	Number	Percentage
Duration of working in the recent health center		
1-5	130	58.5
6-10	55	24.8
11-15	29	13.1
16-20	5	2.3
21-25	2	0.9
> 25	1	0.4
An average duration of working in the recent public health center = 5.93 years, S.D.= 4.60 years. Minimum duration =1 year and Maximum duration = 26 years		

Part 2: Data about transformational leadership of chief of the health centers in Ratchaburi province

Research results showed that the chiefs of the health centers had Transformational Leadership at a moderate level (Mean =2.29). When considering by items, it indicated that the transformational leadership at all items were at moderate level. The Charismatic Leadership had the highest mean (2.43), followed by Inspirational Motivation (2.34) and Intellectual Stimulation (2.17) and Individualized Consideration (2.08). Details are shown in Table 2.

Table 2 Mean, S.D. and level of transformational leaderships of Chiefs of Health Centers in Ratchaburi province (N=222).

Transformation leaderships	Mean	S.D.	Level
Charismatic Leadership	2.43	0.71	Moderate
Inspirational Motivation	2.34	0.74	Moderate
Transformational Leadership	2.29	0.77	Moderate
Intellectual Stimulation	2.17	0.86	Moderate
Individualized Consideration	2.08	0.85	Moderate

From Table 3, chiefs of the health centers according to the perception of the health personnel had Transformational Leadership at moderate level(43.7%), followed by a high level (38.7%), and highest level (3.6%).

When considering by items, it showed that Charisma Leadership was at a high level (49.1%), followed by at a moderate level (38.3%) and at the lowest level (7.2%). The level of Transformational Leaderships was high by items about working to enhance advantages for the others. Decision-making concerned more about the ethical results or outcome. It made the colleagues felt proud when working with them at a high level. On the other hand, the least behavior was about talking to the colleagues about the importance of the value and beliefs.

Inspirational Motivation of the chiefs of the health centers were at a high level (50%), followed by the behavior that showed the high achievement of a group (31.5%) was at moderate level and encouraging the colleagues was at the low level(12.2%).

Intellectual Stimulation leadership was at the moderate level (41.1%), they had behavior of listening to the colleagues' stories with intention at a high level

(35.1%) and 14.0% of them had a low level on helping colleagues to solve problems in many aspects.

Individualized Consideration leaderships was at a moderate level (45.9%) such as listening to colleagues' story carefully, followed by at the high level (28.4%) and at the low level (18.0%). From Table 3, it was found that the transformational leadership of the chiefs of the health centers in Ratchaburi province could be concluded as the followings.

1. The Charismatic Leadership that contained an average score at a high level were (1) working and creating advantages for the others (2) decision making based on the ethical outcomes or results, (3) talking to motivate co-workers to trust each other and encouraging them to achieve all barriers, and (4) performing according to their own value.

2. Inspirational Motivation that contained mean score at a moderate level were (1) how confidence that a group will achieve the goal, (2) making co-workers to focus on work achievement, and (3) being optimism.

3. Intellectual Stimulation were (1) encouraging co-workers to talk about the possibility problems, (2) analyzing cause of work problems by using the evidence base, (3) teaching co-workers to realize about individual's differences.

4. Individualized Consideration contained the least transformational leadership; it was focused on priority as follows; (1) listening to the story of a co-worker with concentration, (2) supporting the colleagues to show the ability to develop their good point, and (3) teaching co-workers to realize about individual's differences.

It can be concluded that the samples had Transformational Leadership at a moderated level. When considering by items, it was found that, the 'Charismatic Leadership' was the highest, followed by 'Inspirational Motivation' and 'Intellectual Stimulation'. On the other hand the 'Individualized Consideration' was the least interesting among the samples.

Table 3 Number and percentage of transformational leadership of chiefs of health centers in Ratchaburi province (N=222).

Transformational leadership	Level of behavior				
	Very often	Often	Some Times	Seldom	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
Overall	8	86	97	25	6
Transformational leadership	(3.6)	(38.7)	(43.7)	(11.3)	(2.7)
Charismatic Leadership	10	109	85	16	2
	(4.5)	(49.1)	(38.3)	(7.2)	(0.9)
1. Work and create advantages for the others.	33 (14.9)	103 (46.4)	65 (29.3)	18 (8.1)	3 (1.3)
2. Talk to colleague about value and belief, which is thought most important.	15 (6.8)	34 (35.6)	83 (37.4)	34 (15.3)	11 (4.9)
3. Have emotional control during the crisis situation.	20 (9.0)	91 (41.0)	79 (35.6)	21 (9.5)	11 (4.9)
4. Emphasize about the importance of ideal and value.	12 (5.4)	69 (31.1)	102 (45.9)	26 (11.7)	13 (5.9)
5. Make colleagues proud when working with.	17 (7.7)	100 (45.0)	66 (29.7)	22 (9.9)	17 (7.7)
6. Indicate the importance of having obviously work target.	16 (7.2)	107 (48.2)	70 (31.5)	16 (7.2)	13 (5.9)
7. Sacrifice own interest for the group.	24 (10.8)	89 (40.1)	67 (30.2)	29 (13.1)	13 (5.8)
8. Decision making based on the ethical outcomes or results.	16 (7.2)	116 (52.3)	65 (29.3)	17 (7.7)	8 (3.6)
9. Confirm with the co-workers to achieve all difficulties.	9 (4.0)	103 (46.4)	83 (37.4)	20 (9.0)	7 (3.2)
10. Show the intention of ideal, beliefs and value in working	21 (9.5)	77 (34.7)	91 (41.0)	24 (10.8)	9 (4.0)
11. Co-workers accept working ability	20 (9.0)	108 (48.7)	72 (32.4)	16 (7.2)	6 (2.7)

Table 3 Number and percentage of transformational leadership of chiefs of health centers in Ratchaburi province (Continued).

Transformational leadership	Level of behavior				
	Very often	Often	Some Times	Seldom	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
12. Show the obvious standing point to discuss about the conflict.	21 (9.5)	93 (41.9)	76 (34.2)	24 (10.8)	8 (3.6)
13. Behavior that make co-workers respect.	21 (9.5)	100 (45.0)	75 (33.8)	16 (7.2)	10 (4.5)
14. Obviously indicate the main work objectives.	16 (7.2)	89 (40.0)	87 (39.2)	23 (10.4)	7 (3.2)
15. Be able to show own self-confidence.	22 (9.9)	103 (46.4)	72 (32.4)	18 (8.1)	7 (3.2)
16. Talk to motivate co-works to trust each other and encourage them to achieve all barriers.	23 (10.4)	109 (49.1)	63 (28.4)	18 (8.1)	9 (4.0)
17. Emphasize about how important to devote for the shared mission.	19 (8.6)	102 (45.9)	63 (28.4)	32 (14.4)	6 (2.7)
18. Perform according to your own value.	23 (10.4)	107 (48.2)	72 (32.4)	16 (7.2)	4 (1.8)
Inspirational Motivation	9 (4.0)	111 (50.0)	70 (31.5)	27 (12.2)	5 (2.3)
19. Set the high standard of work.	10 (4.5)	71 (32.0)	99 (44.6)	35 (15.8)	7 (3.1)
20. Look forward to the new possibility.	15 (6.7)	87 (39.2)	81 (36.5)	27 (12.2)	12 (5.4)
21. Be optimism.	14 (6.4)	104 (46.8)	70 (31.5)	28 (12.6)	6 (2.7)
22. How confidence that a group will achieve the goal.	17 (7.7)	112 (50.5)	60 (27.0)	28 (12.6)	5 (2.2)
23. Encourage co-workers.	20 (9.0)	101 (45.4)	61 (27.5)	28 (12.6)	12 (5.4)

Table 3 Number and percentage of transformational leadership of chiefs of health centers in Ratchaburi province (Continued).

Transformational leadership	Level of behavior				
	Very often	Often	Some Times	Seldom	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
24. Make co-workers to focus on work achievement.	14 (6.3)	102 (46.0)	70 (31.5)	24 (10.8)	12 (5.4)
25. Enthusiastically talk about work target.	11 (5.0)	100 (45.0)	73 (32.9)	28 (12.6)	10 (4.5)
26. Encourage co-workers to realize about the important thing which should be considered.	13 (5.9)	96 (43.2)	76 (34.2)	27 (12.2)	10 (4.5)
27. Clearly talk about future target regarding obvious working.	13 (5.8)	89 (40.1)	79 (35.6)	25 (11.3)	16 (7.2)
28. Show strong attention for finish the job on time.	16 (7.2)	92 (41.4)	77 (34.7)	25 (11.3)	12 (5.4)
Intellectual Stimulation	11 (5.0)	78 (35.1)	92 (41.4)	31 (14.0)	10 (4.5)
29. Focus on questioning that lead to the sharing ideas of the co-worker.	11 (5.0)	76 (34.2)	87 (39.2)	32 (14.4)	16 (7.2)
30. Analyze cause of work problems by using the evidencebase.	9 (4.1)	88 (39.6)	76 (34.2)	33 (14.9)	16 (7.2)
31. Encourage co-workers to talk about the possibility problems.	13 (5.9)	96 (43.2)	72 (32.4)	34 (15.3)	7 (3.2)
32. Always improve the old working style to have better results.	17 (7.7)	76 (34.2)	74 (33.3)	35 (15.8)	20 (9.0)
33. Find out many aspects for problem solving.	14 (6.3)	74 (33.3)	80 (36.0)	37 (16.7)	17 (7.7)

Table 3 Number and percentage of transformational leadership of chiefs of health centers in Ratchaburi province (Continued).

Transformational leadership	Level of behavior				
	Very often	Often	Some Times	Seldom	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
34. Offer new method of work to a group.	12 (5.4)	73 (32.9)	82 (36.9)	35 (15.8)	20 (9.0)
35. Encourage co-workers to express ideas during working.	13 (5.9)	96 (43.2)	71 (32.0)	33 (14.9)	9 (4.0)
36. Support the new method to solve the previous problem.	9 (4.1)	86 (38.7)	78 (35.1)	36 (16.2)	13 (5.9)
37. Stimulate co-worker to perceive problems in all directions.	10 (4.5)	61 (27.5)	103 (46.4)	27 (12.2)	21 (9.4)
38. Promote the way to indicate problem logically.	12 (5.4)	67 (30.2)	87 (39.2)	39 (17.6)	17 (7.6)
Individualized Consideration	7 (3.2)	63 (28.4)	102 (45.9)	40 (18.0)	10 (4.5)
39. Perform to a co-worker as individual more than only a group member.	13 (5.8)	79 (35.6)	83 (37.4)	33 (14.9)	14 (6.3)
40. Give advice to a co-worker about work advancement individually.	11 (5.0)	78 (35.1)	74 (33.3)	35 (15.8)	24 (10.8)
41. Listen to the story of a co-worker with concentration.	18 (8.1)	103 (46.4)	60 (27.0)	33 (14.9)	8 (3.6)
42. Support the colleagues to show ability to develop their good point. Support the colleagues to show the ability to develop their good point.	9 (4.1)	89 (40.1)	81 (36.5)	24 (10.8)	19 (8.5)

Table 3 Number and percentage of transformational leadership of chiefs of health centers in Ratchaburi province (Continued).

Transformational leadership	Level of behavior				
	Very often	Often	Some Times	Seldom	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
43. Devote time to suggest the guideline of working to each colleague.	11 (5.0)	61 (27.4)	84 (37.8)	39 (17.6)	27 (12.2)
44. Work with colleagues by considering the difference of each individual.	12 (5.4)	74 (33.3)	80 (36.0)	37 (16.7)	19 (8.6)
45. Perform to co-workers regarding the difference of each person.	7 (3.2)	57 (25.7)	76 (34.2)	48 (21.6)	34 (15.3)
46. Teach co-workers to realize about individual's differences.	11 (5.0)	88 (39.6)	79 (35.6)	33 (14.8)	11 (5.0)
47. Pay attention to a member who does not receive any attention.	6 (2.7)	46 (20.7)	92 (41.5)	44 (19.8)	34 (15.3)

Part 3: Data about organizational climate.

From the data analysis about the organizational climate of the health centers as shown in Table 4, it was found that the samples had the warmth organizational climate at a high level; an average was 3.53, followed up risk with an average of 3.51. For the overall organizational climate was at a high level with an average of 3.50. The lowest part is about reward, which was at a moderate level with an average of 2.86.

Table 4 Mean, Standard deviation and level of organizational climate of the health centers in Ratchaburi province (N=222).

Determinants of Organizational climate	Mean	S.D.	Level
Warmth	3.53	0.41	High
Risk	3.51	0.46	High
Overall organizational climate	3.50	0.37	High
Conflict	3.45	0.55	Moderate
Structure	3.32	0.43	Moderate
Performance standard	3.25	0.57	Moderate
Responsibility	3.20	0.47	Moderate
Support	3.09	0.36	Moderate
Identity	3.05	0.44	Moderate
Reward	2.86	0.49	Moderate

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (N=222).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Overall organizational climate	0 (0.0)	118 (53.2)	104 (46.8)	0 (0.0)	0 (0.0)
Structure	3 (1.4)	72 (32.4)	141 (63.5)	6 (2.7)	0 (0.0)
1. The jobs are clearly defined and logically structured.	43 (19.4)	142 (64.0)	12 (5.4)	17 (7.6)	8 (3.6)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	N (%)	n (%)	n (%)	n (%)	n (%)
2. The formal authority to make a decision is clear. *	6 (2.7)	58 (26.1)	41 (18.5)	98 (44.1)	19 (8.6)
3. The policies and organization structure have been clearly explained.	29 (13.1)	132 (59.4)	31 (14.0)	27 (12.2)	3 (1.3)
4. Red-tape is kept to minimum.	24 (10.8)	138 (62.2)	30 (13.5)	24 (10.8)	6 (2.7)
5. Excessive rules, administrative details, and red-tape make it difficult for new and original ideas to receive consideration. *	20 (9.0)	130 (58.5)	28 (12.6)	33 (14.9)	11 (5.0)
6. Our productivity sometimes suffers from lack of organization and planning.	7 (3.2)	47 (21.2)	24 (10.8)	108 (48.6)	36 (16.2)
7. In some of the projects I've been on, but not sure exactly who was my boss.	27 (12.2)	101 (45.5)	22 (9.9)	58 (26.1)	14 (6.3)
Responsibility	2 (0.9)	75 (33.8)	138 (62.2)	7 (3.1)	0 (0.0)
8. Our management isn't so concerned about formal organization and authority, but concentrates instead on getting the right people together to do the job. *	12 (5.4)	68 (30.6)	44 (19.8)	88 (39.7)	10 (4.5)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	N (%)	n (%)	n (%)	n (%)	n (%)
9. We don't rely too heavily on individual judgment in this organization; almost everything is double-checked.	40 (18.0)	114 (51.4)	32 (14.4)	30 (13.5)	6 (2.7)
10. Management resents your checking everything with them; if you think you've got the right approach you just go ahead. *	27 (12.1)	93 (41.9)	45 (20.3)	47 (21.2)	10 (4.5)
11. Supervision in this organization is mainly a matter of setting guidelines for subordinates; you let them take responsibility for the job.	28 (12.6)	145 (65.3)	28 (12.6)	221 (9.5)	0 (0.0)
12. You won't get ahead in this organization unless you stick your neck out and try things on your own sometime.	73 (32.9)	123 (55.4)	17 (7.7)	7 (3.1)	2 (0.9)
13. Our philosophy emphasizes that people should solve their problems by themselves.	52 (23.4)	138 (62.2)	16 (7.2)	16 (7.2)	0 (0.0)
14. There are lots of awful excuses around here when somebody makes a mistake.*	22 (9.9)	82 (37.0)	40 (18.0)	62 (27.9)	16 (7.2)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
15. One of the problems in this organization is that individual won't take responsibility. *	39 (17.6)	98 (44.1)	37 (16.7)	45 (20.3)	3 (1.3)
Reward	1 (0.4)	20 (9.0)	166 (74.8)	35 (15.8)	0 (0.0)
16. We have a promotion system here that helps the best man to rise to the top.	21 (9.5)	93 (41.9)	54 (24.3)	34 (15.3)	20 (9.0)
17. In this organization the reward and encouragements usually outweigh the threats and the criticism.	13 (5.9)	42 (18.9)	5 (2.2)	97 (43.7)	14 (6.3)
18. In this organization people are rewarded in proportion to the excellence of their job performance.	25 (11.2)	81 (36.5)	57 (25.7)	31 (14.0)	28 (12.6)
19. There is a great deal of criticism in this organization.	26 (11.7)	97 (43.7)	51 (23.0)	45 (20.3)	3 (1.3)
20. There is not enough reward and recognition given in this organization for doing good work. *	37 (16.7)	119 (53.6)	38 (17.1)	22 (9.9)	6 (2.7)
21. There is a punishment for all mistakes in this organization. *	29 (13.0)	83 (37.4)	59 (26.6)	49 (22.1)	2 (0.9)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Risk	9	118	88	7	0
	(4.1)	(53.2)	(39.5)	(3.2)	(0.0)
22. The philosophy of our management is the long run we get ahead faster by playing it slowly, safe, and sure.	5 (2.2)	34 (15.3)	33 (14.9)	127 (57.2)	23 (10.4)
23. Our business has been built up by taking calculated risks at the right time.	23 (10.4)	98 (44.1)	40 (18.0)	44 (19.8)	17 (7.7)
24. Decision-making in this organization is too cautious for maximum effectiveness.*	4 (1.8)	75 (33.8)	68 (30.6)	66 (29.7)	9 (4.1)
25. Our management is willing to take a chance on a good idea.	50 (22.5)	127 (57.2)	27 (12.2)	14 (6.3)	4 (1.8)
26. We have to take some pretty big risks occasionally to keep ahead of the competition in the business we're in.	20 (9.0)	152 (68.5)	27 (12.2)	16 (7.2)	7 (3.1)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Warmth	1	121	96	4	0
	(0.5)	(54.5)	(43.2)	(1.8)	(0.0)
27. A friendly atmosphere prevails among the people in this organization.	62 (27.9)	132 (59.5)	17 (7.7)	9 (4.0)	2 (0.9)
28. This Organization is characterized by a relaxed, easy-going working climate.	55 (24.8)	131 (59.0)	20 (9.0)	13 (5.9)	3 (1.3)
29. It's very hard to get to know people in this organization. *	10 (4.5)	41 (18.4)	43 (19.4)	97 (43.7)	31 (14.0)
30. People in this organization tend to be cool and aloof toward each other. *	44 (19.8)	95 (42.8)	35 (15.8)	42 (18.9)	6 (2.7)
31. There is a lot of warmth in the relationships between management and workers in this organization.	37 (16.7)	117 (52.7)	44 (19.8)	14 (6.3)	10 (4.5)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Support	1 (0.5)	16 (7.2)	191 (86.0)	14 (6.3)	0 (0.0)
32. You don't get much sympathy from higher-ups in this organization. *	45 (20.3)	106 (47.7)	44 (19.8)	24 (10.8)	3 (1.4)
33. Management makes an effort to talk with you about your career aspirations within the organization.	28 (12.6)	114 (51.3)	38 (17.1)	29 (13.1)	13 (5.9)
34. People in this organization don't really trust each other enough. *	50 (22.5)	88 (39.6)	53 (23.9)	22 (9.9)	9 (4.1)
35. The philosophy of our management emphasizes the human factor, how people feel, etc.	14 (6.3)	94 (42.4)	72 (32.4)	34 (15.3)	8 (3.6)
36. When being on a difficult assignment, I can usually count on getting assistance from my boss and co-workers .	53 (23.9)	128 (57.6)	32 (23.4)	6 (2.7)	3 (1.4)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Standards of work	3	82	127	7	3
	(1.4)	(36.9)	(57.2)	(3.2)	(1.3)
37. In this Organization we set very high standards for performance.	13 (5.9)	101 (45.5)	44 (19.8)	56 (25.2)	8 (3.6)
38. Our management believes that no job is so well done that it couldn't be done better.	58 (26.1)	125 (56.3)	18 (8.1)	14 (6.3)	7 (3.2)
39. Around here there is a feeling of pressure to continually improve our personal and group performance.	16 (7.2)	70 (31.5)	40 (18.0)	89 (40.1)	7 (3.2)
40. Management believes that if the people are happy, productivity will take care of itself.	69 (31.1)	137 (61.7)	13 (5.9)	2 (0.9)	1 (0.4)
41. To get ahead in this organization it's more important to get along than it is to be high producer. *	19 (8.6)	61 (27.4)	50 (22.5)	59 (26.6)	33 (14.9)
42. In this organization people don't seem to take much pride in their performance. *	23 (10.4)	121 (54.5)	40 (18.0)	32 (14.4)	6 (2.7)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Conflict	9	118	88	7	0
	(4.1)	(53.2)	(39.5)	(3.2)	(0.0)
43. The best way to make a good impression around here is to open arguments and disagreements.	29 (13.1)	94 (42.3)	29 (13.1)	63 (28.4)	7 (3.1)
44. The attitude of our management is that conflict between competing units and individuals can be very healthy.	16 (7.2)	86 (38.7)	55 (24.8)	45 (20.3)	20 (9.0)
45. We are encouraged to speak out, even if it means disagreeing with our superiors.	16 (7.2)	138 (62.2)	39 (17.6)	22 (9.9)	7 (3.1)
46. In management meetings the goal is to arrive at a decision as smoothly and quickly as possible.	24 (10.8)	139 (62.6)	32 (14.4)	26 (11.7)	1 (0.5)

Table 5 Number and percentage of organizational climate of the health centers in Ratchaburi province (Continued).

Statements	Strongly agree	Agree	Uncertain	Dis agree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Identity	3	40	175	5	0
	(1.3)	(18.0)	(78.4)	(2.3)	(0.0)
47. People are proud of belonging to this organization.	37	158	22	2	3
	(16.7)	(71.2)	(9.9)	(0.9)	(1.3)
48. I feel that I am a member of a well functioning team.	37	153	26	4	2
	(16.7)	(68.9)	(11.7)	(1.8)	(0.9)
49. As far as I can see, there isn't very much personal loyalty to the company. *	46	115	40	16	5
	(20.7)	(51.8)	(18.0)	(7.2)	(2.3)
50. In this organization people pretty much look out for their own interests.*	75	93	32	20	2
	(33.8)	(41.9)	(14.4)	(9.0)	(0.9)

* Negative questions

Level of Organizational Climate of Health Center in Ratchaburi province

1.Organizational climate level of Health Center in Ratchaburi province is studied from perception of health personnel for 9 dimensions. It was found that overall organizational climate of health centers is at high level. The mean is 3.50. When considering by dimensions, it was found that warmth and risks contained high means of 3.53 and 3.51 respectively. Other dimensions had perceived at a moderate level. Organizational climate of health centers by dimensions are shown belows.

2. *Structure* was perceived to be at an average level. The mean was 3.32. Reviewing by items with high level of organizational climate, it was found that job description was clearly specified. Policy and organization structure was clearly explained to personnel. Also the use of authority on decision-making was clear. Unnecessary procedures were removed. Regulations and rules were minimized. Too strict operation may be obstacles for creative thinking. Structure that low organizational climate lacked of organizing and planning. Therefore, authority of decision-making was not clear.

3. *Responsibility* in overall was at moderate level. The mean was 3.20. When considering by items, it was found that career advancement depends on responsibility, abilities and innovation were at high level. Self-problem solving was promoted. Job orientation was mostly for setting up work guidelines. Employees had to be responsible for work themselves. They did not accept their mistake and take responsibility of their work.

4. *Reward* was found to be at moderate level of organizational climate. The mean was 2.86. There was no acceptance from colleagues. A person with good performance would get more opportunity than others. However, the person with good performance was not accepted from colleagues. For reward dimension that had high organizational climate showed critiques of performance assessment. When there was a mistake, there was default detection and punishment.

5. *Risks* were found to be at a high level. The mean was 3.51. Activity with high organizational climate level was a chief of health center opening for creativity of personnel. There was shortcut process or exemption for quick operation. The item with low level was the management philosophy to move the health center forward quickly by slow, safe and sure operation.

6. *Warmth* was at a high level with a means of 3.53. The items with high level were friendly atmosphere, relaxed work environment, and warm relationship between executives and subordinates.

7. *Support* was at an average level with a means of 3.08. The item with high level was to be assigned with hard assignment. Support can be asked from supervisors and colleagues. However, there is no sympathy for a mistake.

8. *Performance standards* was an average level with a means of 3.25. It was found that a person who maintains good relationship with a supervisor got more job advancement than a person with good performance. Objectives and work standards were improved and set at high criteria. Personnel were proud of work performance. Hence, job satisfaction increased productivity.

9. *Conflicts* was an average level with a means of 3.45. The item with high organizational climate was to set up objective of meeting to smoothly and fast achieve decision making as possible. There was encouragement to openly share comments although that was different from chiefs of health centers' view.

10. *Identity* was at moderate level mean was with a means 3.04. The item with high level of organizational climate was to be proud of being a member of a health center. Personnel feel that they were members of a good team. Also, they aimed at personal benefits.

It can be concluded the overall organizational climate was at a high level with a mean of 3.50. When considering each dimensions, it was found that most of organizational climate had average mean scores between 3.05-3.45. The dimensions with high level were warmth and risks with a mean of 3.53 and 3.51 respectively. The lowest level of organizational climate was reward that had moderate level with a mean of 2.86.

Part 4: Relationships between Transformational Leadership and Organizational Climate of Health Centers in Ratchaburi province.

According to an analysis of relationships between transformational leadership and organizational climate of health centers in Ratchaburi province by Pearson's Product moment correlation coefficient, it was found that transformational leadership had statistically significant with a positive relationship at an average level with organizational climate ($r=0.52$ $p\text{-value} < .001$). It means that transformational leadership partly affects organizational climate of health centers in Ratchaburi Province. When considering by elements, it showed that charismatic leadership had a

moderate relationship. The second and third ranks were intellectual stimulation and individualized consideration. The lowest relationship was an inspirational motivation.

From result analysis according to the hypothesis, transformational leadership possessed statistical significant positive relationship at moderate level with organizational climate.

When considering by dimensions, it was found that transformational leadership on charisma leadership had positive statistical significant relationship at moderate level with organizational climate in dimensions of warmth ($r = 0.34$ p-value $< .001$), support ($r = 0.27$ p-value $< .001$), risk ($r = 0.24$ p-value $< .001$), performance standards ($r = -0.24$ p-value $< .001$), responsibility ($r = -0.29$ p-value $< .001$). It meant that transformational leadership of supervisor on charisma leadership would influence organizational climate in terms of warmth, support, risks, performance standard and responsibility at moderate level.

Transformational leadership on inspiration motivation had positive relationship with organizational climate in dimensions of support ($r = 0.31$ in overall at p-value $< .001$), warmth ($r = 0.28$ p-value $< .001$), risks ($r = 0.25$ p-value $< .001$), responsibility ($r = -0.27$ p-value $< .001$) and performance standards ($r = -0.24$ p-value $< .001$).

Transformational leadership on intellectual stimulation had positive relationship with organizational climate in dimensions of support ($r = 0.36$, p-value $< .001$), risks ($r = 0.31$, p-value $< .001$), warmth ($r = 0.30$, p-value $< .001$), performance standard ($r = -0.23$, p-value $< .001$), responsibility ($r = -0.27$, p-value $< .001$) and reward ($r = -0.16$, p-value < 0.05). It meant that transformational leadership of supervisor on intellectual stimulation would promote colleagues to discuss or consider possible problems, support colleagues to share comments and encourage existing problem solving by innovative methods. This then positively affected organizational climate in terms of support, risk taking and warmth. On the other hand, it may also cause negative result on performance standards and reward.

Transformational leadership on individualized consideration had positive relationship with organizational climate for support ($r = 0.35$, $p\text{-value} < .001$), warmth ($r = 0.31$, $p\text{-value} < .001$), risks ($r = 0.23$, $p\text{-value} < .001$), responsibility ($r = -0.24$, $p\text{-value} < .001$), performance standards ($r = -0.29$, $p\text{-value} < .001$), reward ($r = 0.14$, $p\text{-value} < 0.05$) and conflicts ($r = 0.14$, $p\text{-value} < 0.05$). It meant that a supervisor who had individualized consideration intently listened to colleagues, promoted self-improvement and encouraged colleagues to improve personal strengths. This would have positive effects on organizational climate in dimensions of support, warmth, risk taking and reward response. On the other hand, it might cause same negative results on conflicts, performance standard and responsibility.

Transformational leadership in overall was not related to organizational climate for dimensions of reward, conflicts, structure and identity. It implied that transformational leadership of supervisor might not affect organizational climate in terms of reward, conflicts, structure and identity.

Transformational leadership on charismatic leadership was not related to organizational climate in dimensions of conflicts, reward, structure and identity. It signified that transformational leadership of supervisor on charismatic leadership might not have any effects on organizational climate in terms of conflicts, reward, structure and identity.

Transformational leadership on intellectual stimulation was not related to organizational climate in dimensions of conflicts, identity and warmth. It indicated that transformational leadership of supervisor on intellectual stimulation did not affect organizational climate in terms of conflicts and identity.

Transformational leadership on individualized consideration was not related to organizational climate for structure and identity. It implied that transformational leadership of supervisor on individualized consideration did not affect organizational climate in terms of structure and identity.

Table 6 Pearson's Product Moment Correlation Coefficient between transformational leadership of chiefs of health centers and organizational climate of health centers (n=222).

	Y	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
X	0.52**	0.01	-0.29**	0.11	0.27**	0.33**	0.34**	-0.26**	0.11	0.02
	0.00	0.88	0.00	0.09	0.00	0.00	0.00	0.00	0.12	0.82
X1	0.53**	-0.02	-0.29**	0.06	0.24**	0.34**	0.27**	-0.24**	0.11	-0.01
	0.00	0.73	0.00	0.35	0.00	0.00	0.00	0.00	0.09	0.85
X2	0.44**	-0.01	-0.27**	0.09	0.25**	0.28**	0.31**	-0.22**	0.04	-0.01
	0.00	0.84	0.00	0.17	0.00	0.00	0.00	0.00	0.57	0.85
X3	0.48**	0.03	-0.27**	0.16*	0.31**	0.30**	0.36**	-0.23**	0.10	0.05
	0.00	0.68	0.00	0.02	0.00	0.00	0.00	0.00	0.15	0.47
X4	0.47**	0.07	-0.24**	0.14*	0.23**	0.31**	0.35**	-0.29**	0.14*	0.06
	0.00	0.31	0.00	0.04	0.00	0.00	0.00	0.00	0.03	0.39

* = Significant at the 0.05 level ** = significant at the 0.01 level

X = Transformational Leadership Y = Organizational Climate Y5 = Warmth

X1 = Charismatic Leadership Y1 = Structure Y6 = Support

X2 = Inspirational Motivation Y2 = Responsibility Y7 = Standards

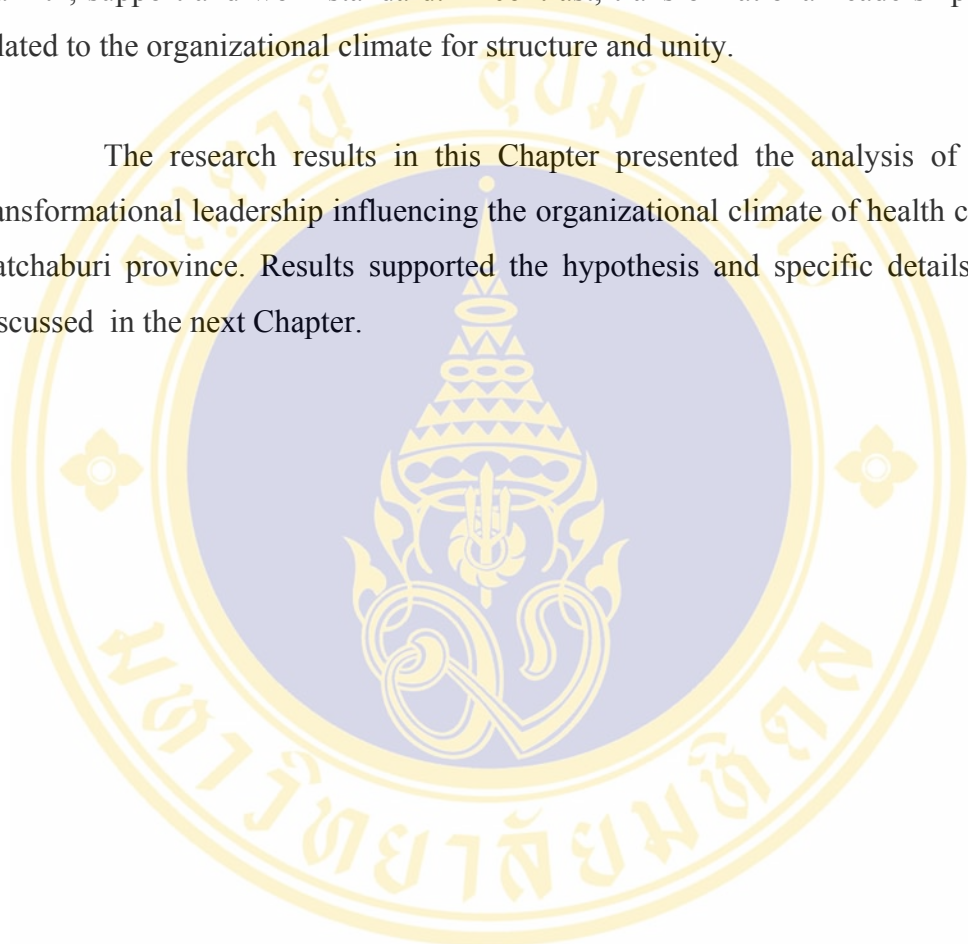
X3 = Intellectual Stimulation Y3 = Reward Y8 = Conflict

X4 = Individualized Consideration Y4 = Risk Y9 = Identity

* = Significant at the 0.05 level ** = significant at the 0.01 level

It can be concluded that transformational leadership was positively related to organizational climate of health centers at a moderate level. When considering the organizational climate by items, it was found that the overall transformational leadership and those four styles of leaderships were related to responsibility, risk, warmth, support and work standard. In contrast, transformational leadership was not related to the organizational climate for structure and unity.

The research results in this Chapter presented the analysis of level of transformational leadership influencing the organizational climate of health centers in Ratchaburi province. Results supported the hypothesis and specific details will be discussed in the next Chapter.



CHAPTER V

DISCUSSION

According to the research analysis of the transformational leadership characteristics of chiefs of health centers affecting organizational climate of the health centers in Ratchaburi province, the description report was presented in Chapter 4. In this chapter, the researcher will discuss on following analyzed results respectively.

1. Characteristics of the sample classified by demographic data, factors of transformational leadership of chiefs of health centers and organizational climate factors.
2. Relationships between transformational leadership and organizational climate.

1. Characteristics of the samples classified by demographic data, factors of transformational leadership of Chiefs of Health Centers and organizational climate factors

1.1 Demographic data

It was found that most of health personnel (61.3 %) at the health centers in Ratchaburi province were female. One-quarters of the samples (27.5%) were aged 25-29 years with an average age of 33.89 years. More than a half of personnel were married and held bachelor degree, 57.2 and 59.0 % respectively. Most of them (63.5 %) were holding a position of “Community Health Officer”. Majority of them (33.3 %) had tenure of work at 6-10 years. Average tenure of work was 12.46 years. More than a half of them (58.6 %) had worked at health center for 1-5 years. Average working years at health center was 5.93 years.

1.2 Factors of transformational leadership of Chiefs of Health Centers

The study discovered that transformational leadership of chiefs of health centers perceived by the health personnel in overall, intellectual stimulation and individualized consideration had average percentage of 43.7, 41.4 and 45.9 respectively. Charismatic leadership and inspirational motivation showed higher percentage at result of 49.1 and 50.0 respectively.

Regarding average scores of overall and each dimension of transformational leadership, it is found that the mean scores were 2.29, 2.66, 2.34, 2.17 and 2.08 respectively.

The first top 3 items specified by health personnel for each dimensions of transformational leadership were found as listed below.

Charismatic leadership: (1) Work and create advantages for the others; (2) Decision making based on the ethical outcomes or results.; and Talking to motivate co-works to trust each other and encourage them to achieve all barriers ;and(3) Performing according to your own value.

Inspirational motivation: (1) How confidence that a group will achieve the goal; (2) Encourage co-workers; and (3) Being optimism.

Intellectual stimulation: (1) Encourage co-workers to talk about the possibility problems; (2) Analyze cause of work problems by using the evidence base; and (3) Support the new method for solving the previous problem.

Individualized consideration: ((1) Listen to the story of a co-worker with concentration; (2) Support the colleagues to show the ability to develop their good point. Support the colleagues to show the ability to develop their good point, and (3) Teach co-workers to realize about individual's differences.

The study result showed that transformational leadership of chiefs of health centers perceived by health personnel had an average score of 2.29. Charisma leadership possessed the highest mean score of 2.43. This agreed with the study of Upsornsuda Kaew-on (2001), Perception of Employees of Circuit Electronics Industries PCL towards Organizational Climate, which indicated that the employees

thought that their supervisors' transformational leadership was at moderate level. The result also agreed with the study of Wandee Chookarn (1997), Transformational Leadership of Director: Job Satisfaction, Personal Factors and Organizational Loyalty of Nurse Teachers, that the director of College of Nursing had transformational leadership at the moderate level. In addition, it was consistent with the study of Suphaporn Rodthanom (1999) on Transformational Leadership of the Director of College of Nursing that transformational leadership was also at a moderate level. On the other hand, the result was disagreed with the study of Hater and Bass (1988: 87) because they found that transformational leadership perceives by of subordinates on charismatic leadership and individualized consideration of the excellent executives were higher than general ones. Keerati Rungjaeng (2000) also stated in her study that transformational leadership both in overall and each element were at high level.

It could be explained that the chiefs of health centers in Ratchaburi province had a mean score of charismatic leadership at a high level in regard to behaving to provide other people's benefits in compliance with personal values, abilities accepted by colleagues and being able to make colleagues trust in each other and overcome obstacles as well as ethical and moral make decision.

Charismatic leader is someone who can encourage his/her subordinates to be enthusiastic at assigned work. Everyone respects this kind of leader. He/she can see genuine important things and have work ideology. The subordinates trust in the leader. They feel warm and proud to work closely with the leader. They also believe that the leader is the sign of success for followers.

According to Bass (1985: 43), subordinates will observe behavior of their leader and likely imitate that behavior because the leader has higher influence position and experience. When the leader has competence and succeeds, the subordinates are likely to follow their leader. (Weiss, 1977 cited in Marriner, 1993:120).

The second point was about inspirational motivation. It includes trusting that the team will achieve its ideal target, having positive thinking and encouraging colleagues to be self-confident as well as devoting themselves for organizational success. (Bass, 1985: 70)

Another interesting issue was that 22.5 percent of the samples considered that leader had less individual concerns. The mean score was at the lowest point among those 4 dimensions. The perception was assessed through behavior of chiefs of health centers, by intently listening, promoting self-development and support individual strongpoint improvement. Less seen behavior was attention given to personal members and coaching colleagues to analyze different individual needs.

Therefore, the leaders should improve their behavior to be interested in colleagues or around people. They should express their personal sympathy and accept individual difference. In addition, the leaders should coach their colleagues to analyze individual different needs and provide each colleague proper time for recommendations. Further more, the colleagues and followers should receive opportunity to employ their maximum unique ability.

However, a few limitations of the study on transformational leadership of chiefs of health centers were found that chiefs of health centers did not show such behaviors.

1.3 Organizational climate of Health Center

This research showed that the samples had organizational climate in overall and by dimensions as the following. Risks, warmth and conflicts were at a high level with 53.2%, 55.4% and 54.5% respectively. Structure, responsibility, reward, support, performance standards and identity were at a moderate level with 63.5%, 62.2%, 74.8%, 86.0%, 57.2% and 78.4% respectively.

Considering the average value in overall and by dimensions of organizational climate, it was found that risk and warmth were at a high level with the mean scores of 3.50, 3.51 and 3.53 respectively.

Regarding the mean scores of each dimension, it was found that structure; responsibility, reward, support, performance standards and identity were at moderate level with the mean scores of 3.32, 3.20, 2.86, 3.09, 3.25 and 3.05 respectively.

The first 3 top items for each dimension of organizational climate were as follows:

Structure:

- (1) To specify clear job description for each position;
- (2) To clearly explain policy and organization structure;and
- (3) To minimize regulations and rules by removing unnecessary procedures.

Responsibility:

- (1) Work advancement depends on responsibility, ability and innovation;
- (2) Personnel are supported to solve work problems themselves; and
- (3) Job orientation mostly is to specify work guidelines.

Rewards:

- (1) Management is willing to take a chance on a good ideas;
- (2) Colleagues accept a person who had good performance; and
- (3) Promotion system helps the best man to rise to the top.

Risks:

- (1) The management provides chances for creative people;

(2) Take some pretty big risks occasionally to keep ahead of the competition in the business we're in; and

(3) Additional assignment is considered by alternatives and proper time.

Warmth:

- (1) Friendly atmosphere;
- (2) Relax work environment; and
- (3) Warm relationship between management and personnel.

Support:

- (1) Assignment that is hard to get help from the supervisors and subordinates;
- (2) No sympathy for mistakes; and
- (3) Management makes an effort to talk with you about your career aspirations within the organization.

Performance standards:

- (1) Personnel have job satisfaction to increase productively;
- (2) Objectives and work standards are high improved and set up; and
- (3) Personnel proud of work performance.

Conflicts:

- (1) The objective of meeting is to achieve fast and smooth decision-making;
- (2) The personnel are encouraged to comment; and
- (3) To avoid disputes or different comments for good work environment.

Identity:

- (1) Proud to be a member;
- (2) Feel like a member of good team;and
- (3) Organizational loyalty.

The research was conducted on 222 health personnel at health centers in Ratchaburi province. It was found that 53.2 % of the samples perceived that health centers had a high level of good organizational climate that could stimulate inspiration or need of personnel within an organization to have their own objectives in consistent with the organization's objectives. It meant that the organizational climate of health centers was related to personnel's needs or motivation. This agrees with the study of Litwin and Stringer (1968:41).

An overall organizational climate of health centers was at a high level, with a mean score of 3.50. Considering by items, it was found that most of organizational climate were at moderate levels except warmth and risks that had high level with means scores of 3.53 and 3.51 respectively. Other dimensions were at moderate levels with mean scores between 3.05-3.45. This result was in contrast with the study of Janenara Sithreanchai (1993). Janenara found that the organizational climate of nursing colleges, Ministry of Public Health, perceived by of nursing teachers was at a moderate level. The result was also different from the study of Jones. (1980)

Other dimensions were perceived to have average level with means scores between 3.05-3.45. It again disagreed with the study of Janenara Sithreanchai (1993), which found that the overall organizational climate and by dimensions of colleges of nursing, Ministry of Public Health, were at average level. This result also differs from Jones' study. (1980) which was found that nurses in hospitals had perceived a climate of conflicts and identity at a low level.

It could be discussed that health centers were a primary care unit, affiliated with the Provincial Health Office, the Office of the Permanent Secretary for

Public Health, Ministry of Public Health. Its duties were to provide treatment, health promotion, rehabilitation and disease control. Organizational management would depend on the strategic plan of the Ministry of Public Health. Overall elements were organized as to create explicit organizational structure of personal responsibility, support, reward, warmth, conflicts, performance standards, risks and identity.

The results of the study on perception of health personnel towards organizational climate by each dimension are discussed belows.

Structure: It was found that overall organizational climate was at a moderate level with a mean score of 3.32. When considering the items with high level of organizational climate, it was found that job description, explanation of policy and organization chart were obviously clarified—the use of authority and decision-making was clear. Unnecessary procedures were removed from rules and regulations in order to minimize that compulsory framework. Too strict work regulations can discourage creativity of personnel. Structure had low organizational climate and lacked of well organizing and planning. It then had no clarity of authority for decision making. Structure of health centers may be specified by the Ministry of Public Health. Work system, chain of command, management and operation then follow the same policy and target of bureaucracy model. The bureaucracy covers chain of command, supervision and regulations. However, it may cause unsmooth operation because bureaucracy management is top-down only. In each health center, the policy is adopted differently. As a result, the personnel working there have different perception of organizational climate. Therefore, perception of organizational climate on this dimension is of average value.

Responsibility: It showed that overall organizational climate was at a moderate level with mean score of 3.20. Considering by items, it was found that high points for organizational climate were gained from work advancement depending on responsibility and ability demonstration or innovation supporting problem solving. For individual work, most of job orientation was to define guidelines in practice and let the personnel be responsible for the work themselves. However, the personnel did not accept their mistakes. They had no responsibility on their own work.

Reward: It is found that organizational climate was at moderate level with mean score of 2.86. There was no acceptance from colleagues. A person who had good performance would get more chance for career advancement. However, his/her colleagues did not accept the person with outstanding performance. A reward with high organizational climate possesses criticizing of performance assessment. If a mistake was occurred at work, there would be detection and punishment.

Risk: Organizational climate was at a high level with a mean score of 3.51. Activity found with high organizational climate was that chiefs of health centers provided creative subordinates chances. There was shortcut or exemption of regulations for quick operation. An item that got low point for organizational climate was the philosophy of management in health centers to fast move forward with slow, safe and sure operation.

Warmth: This dimension held high level of organizational climate with a mean score of 3.53. It had a high point in overall and for each item, which were friendly atmosphere, relaxed working environment and warm relationship between the management and personnel. The health centers were a small organization, then people knew each other and were friendly.

Support: Level of organizational climate was at a moderate level. Its mean score was 3.05. The item that received high organizational climate was being assigned with an assignment that could get help from the supervisor and colleagues but no sympathy given if a mistake occurred. According to the study of Pedrich (1998), organizational climate had positive relationship with job satisfaction.

Performance standards: It was found that organizational climate was at a moderate level with a mean score of 3.25. A person who had good relationship with the supervisor would get more work advancement than another person who had only good performance. Target and work standard were improved and high set up. The personnel were proud of work performance. Job satisfaction can

increase productivity. Organizational climate directly influenced efficiency of organization. (Kularb Rattanasutjatham, 1993)

Conflicts: Organizational climate was at a moderate level with a mean score of 3.45. The items that got high points were that the objective of meeting was to achieve smooth and fast decision making as possible and that there was encouragement to openly share comments although they may not agree with the opinion of chiefs of health centers. Organizational climate influenced works performance. (Suphawun Suwannasid, 1996: 85-86)

Identity: Organizational climate was at a moderate level with a mean score of 3.04. The item with high point was to be proud of being a member of this health center. The personnel felt like they were members of good team. Each personnel concentrated on personal benefits. Organizational climate was related with professional characteristics of nursing services. (Medea, 1980: 795).

It can conclude that the samples perceived organizational climate at a high level with a mean score of 3.50 point. Considering by elements, it was found that most of organizational climate had average value between 3.05-3.45. The top one was warmth and risk that possessed average point of 3.53 and 3.51 respectively. The lowest dimension was reward that had mean score 2.86. Those personnel perceived organizational climate of their unit at satisfied level more than that of overall. This agreed with the study of Wright (1993). According to the study of Pharuhut Pornwonglert (1998, 113-136), perception of organizational climate had positive relationship with efficiency of service improvement of health centers.

2. Relationships between transformational leadership and organizational climate

Regarding analysis of transformational leadership of chiefs of health centers and perception organizational climate of health centers both in overall and by each element; it was found that transformation leadership had positive statistical

significant relationship of moderate level (p-value <0.001). Table 6 showed the result being consistent with predefined hypothesis.

The result was conformable to the study of Upsornsuda Kaew-on (2001), *Perception of Leadership and Organizational Climate: a Case Study of Circuit Electronics Industries PCL*. The research was conducted to 245 employees to discover the perception of personnel on transformational leadership of their supervisors; the result was at a moderate level.

Regarding charismatic leadership, it showed positive statistical significant relationships between transformational leadership and organizational climate on dimensions of warmth, risk, responsibility, standards (p-value <0.001).

For inspirational motivation, it indicated positive statistical significant relationships between transformational leadership and organizational climate on dimensions of warmth, risk, responsibility and standards (p-value <0.001).

Regarding intellectual stimulation, it showed positive statistical significant relationships between transformational leadership and organizational climate on dimensions of support, risk, warmth, performance standards, responsibility and reward.

For individualized consideration, there was positive statistical significant relationships between transformational leadership and organizational climate on dimensions of support, warmth, risk, responsibility, performance standards, reward and conflicts (p-value <0.05).

It can be explained that challenge and responsibility involved understanding or perception about challenge of required work quantity and way to complete for success. Work challenge is directly related to personnel's work inspiration improvement. More over, motivation of success can lead personnel to succeed and maintain high responsibility. Meanwhile, job satisfaction and work performance are

directly related to self-expression, self-control, participation, responsibility and individual work freedom. In addition, assigning additional responsibility can lead organizational loyalty, work smoothness and productive performance.

Warm and Support is success of promotion instead of punishment. Existing warmth and support in an organization can decrease stress at work, especially for new comers. Chain of command without support or people concern will affect the organization in long-term.

Reward and punishment and approval are perception of importance of reward and punishment that can stimulate success motivation and organizational loyalty. It also decreases fear of work failure and let personnel know whether existing behavior is agreed or not.

Conflict is perception of interpersonal conflict among working units. It is always seen.

Performance standards and expectation is to perceive importance of performance and clarity of expectation for internal performance. It defines success motivation.

Risk and risk taking is perception of employees towards philosophy of management for risk taking. It indicated that personal need of success that takes average risk could promote personnel's need of success. Meanwhile, organizational climate that provides self-protection after making decision can cause disappoint and discourage needs of success.

Identity is perception about loyalty of operation team. The research discovers that group loyalty can promote more identity and efficiency. (Litwin and Stringer, 1968: 45-65)

Considering 4 dimensions of transformational leadership, it is found that the leadership does not relate to organizational climate in terms of structure and identity. It can explain that the bigger size and structure, the farther between top management and operators. It then causes mental obstacle. An employee, who does not involve with decision-making, may see himself or herself less importance. This brings up formal climate regardless of individualized consideration. (Somyod Naweeakarn, 2001: 194-195).

The study indicates that the transformational leadership and each dimension has statistical significant positive relationship with overall organizational climate and each dimension at moderate level. Only structure and identity did not relate to 4 elements of transformational leadership. Therefore, it is strongly recommended to enhance the transformational leadership to reach maximum efficiency especially for charismatic leadership, intellectual stimulation, individualized consideration and inspirational motivation respectively.

CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

This Cross Sectional Analysis research was to study relationships between transformational leadership of chiefs of health centers and organizational climate of health center in Ratchaburi province. The study assessed level of transformational leadership as well as of organizational climate and defined relationships between transformational leadership, character of chiefs of health centers and organizational climate of health centers. Research populations were health personnel except chiefs of health centers.

The questionnaire was used as a tool to collect data from district public health personnel. The organizational assessment was modified from the Revised or Improved Climate Questionnaire Form B developed by Litwin and Stringer. (1968: 204-207) The questionnaire was based on the Transformational Leadership Questionnaire of Prasert Somphongtham (1995: 23). The original was translated from Multifactor Leadership Questionnaire form 5x-Rater: MLQ Form 5x by Bass and Avolio (1991). Language was revised to be appropriated with the target group but maintained the existing content. After that 3 specialists had tested the questionnaire in terms of informative content and language use. It had been tested with population whose similar qualifications.

Cronbach's Coefficient of Alpha was used to analyze accuracy of the transformational leadership questionnaire. The coefficient was 0.97 and the organizational climate was 0.75. Data collection was started from October 3, 2003 to November 6, 2003. The researcher sent out 270 questionnaires but received complete and analyzed only 222 or 82.22 percents.

Data was analyzed by instant programming program. Statistics used in the research were percentage, frequency, mean, standard deviation and Pearson's Product Moment Correlation Coefficient.

1. Conclusion of Research Results

1.1 Demographic Data

Regarding demographic data of health personnel in health center, it was found that more than a half or 61.3% were female, aged 25-29 years and married (57.2%). They held bachelor degree (59.0%) and had current position as community health officer, public health technical officer, and dental personnel at 63.5%, 27.5% and 5.0% respectively. Most of them (33.3%) had tenure of work of 6-10 years. A number of working experience years at health center of almost two –third of percents 58.6 percents was 1-5 years.

1.2 Data of Transformational Leadership of Health Center in Ratchaburi province

It was found that less than a half (43.7%) of chiefs of health centers in Ratchaburi province had a moderate level of transformational leadership, followed by high level (38.7%) and highest (3.6%) level. Considering leadership by dimensions, it showed that charismatic leadership was at a high level (49.1%), followed by moderate level (38.3%), and (7.2%). For inspirational motivation a half of them (50.0%) were at a high level, followed by a moderate level (31.5%), and a low level (12.2%). Regarding intellectual stimulation, the majority (41.1%) was at a moderate level, followed by a high level (35.1%), and a low level (14.0%). For individualized consideration it was found that 45.9 percent of them was at an average level a high level (28.4%), followed by a low level (18.0%). According to an overall assessment of transformational leadership, the samples perceived that chief of health centers had a moderate level of leadership with a mean score of 2.29.

When considering each element of transformational leadership, it was found that all elements had the same level at the moderate level. Charismatic

leadership obtained the highest mean score of 2.43. followed by inspirational motivation with the mean score of 2.34. Intellectual stimulation had the mean s of 2.17. Individualized consideration possessed the lowest mean score of 2.08. For overall of transformational leadership, it was at the moderate level. Analysis by dimensions, it was found that behavior of charismatic leadership was at the top. The second was behavior of inspirational motivation. It then was followed by intellectual stimulation, and individualized consideration.

1.3 Level of Organizational Climate of Health Center in Ratchaburi province

According to the perception of health personnel, the level of organizational climate of health centers in Ratchaburi province was high (53.2%). When considering by dimensions, it was found that risks, warmth and conflicts were at a high level, 55.4%, 54.5% and 52.3 % respectively. Other dimensions were at a moderate level including support, identity, reward, structure, and responsibility and performance standards 86.0%, 78.4%, 74.8%, 63.5%, 62.2% and 53.2% respectively.

The overall organizational climate was mean a high level with a mean same of 3.50. Considering by dimensions, it was found that warmth and risks were at a high level with the means scores of 3.53 and 3.51 respectively. Other dimensions were at a moderate level.

1.4 Test of Hypothesis

According to the analysis of relationships between transformational leadership and organizational climate of health centers in Ratchaburi province by Pearson's Product Moment Correlation Coefficient, it was found that transformational leadership had statistically significantly relation at a level with organizational climate ($r=0.52$ $p\text{-value} < .001$). This followed the predefined hypothesis.

Considering by dimensions, it indicated that charismatic leadership had a moderate relationship, followed by intellectual stimulation and individualized

consideration with the organizational climate of health centers the least relationship was the inspirational motivation.

2. Recommendation form Research

Policy Recommendation

1. Promote holistic personnel potentials and adept the point of view of all personnel to participate in organizational management, encourage desirable leadership and organizational climate.
2. Promote community participation, assess results of leaderships and create desirable organizational climate, by setting the training course of transformational leadership.
3. Promote policy of management training improvement, position promotion of chiefs of health center-bottom management, middle management or integrate management for chiefs of health centers.

Academic Recommendation

1. Develop a handbook for self-improvement in leadership to provide knowledge about transformational leadership for better understanding and concrete information.
2. Develop a handbook for training chiefs of health centers or bottom management, especially the handbook for the development of transformational leadership and creation of organizational climate
3. Brain storm and provide an expert to train and improve proper and suitable skills, competency and personality for chiefs of health centers in order to make them aware of leadership practice.

Workshop Recommendation

1. Arrange training for chiefs of health centers on leadership paradigm especially transformational leadership: charismatic leadership; inspirational motivation; intellectual stimulation; and individualized consideration
2. Create good organizational climate by organizational development

3. Promote organizational climate with reward motivation by establishing reward system for maintainix good performance

4. Arrange an annual provincial contest or recognition for good chiefs of health centers who possesses outstanding leadership as role model for other chiefs of health center, junior public health administrative officers and health personnel.

5. Utilize information on qualifications on, abilities and competency of chiefs of health centers from studies, and assessments on leadership skills in following issues:

5.1 Support vision, mission and strategy for the improvement of health centers.

5.2 Use as a framework for creating good organizational climate and good organization culture of health centers.

5.3 Use as a tool of management and improvement of bottom management and human resources of health centers such as

- Recruitment
- Training improvement
- Career promotion
- Job transfer
- Performance assessment
- Compensation management

6. Major management competence of chiefs of health centers that should be improved are as follows:

6.1 Leadership

- Team leadership
- Competency improvement
- Organization management and organizational development
- Strategic thinking

6.2 Problem solving

- Environment and organizational climate survey
- Analytical thinking
- Conceptual thinking
- Systematic and integrated thinking

6.3 Transformational ability

6.4 Personal effectiveness

6.5 Interpersonal effectiveness

Recommendation for Further Research

1. This research studied only health personnel in health centers excluding chiefs of health centers. Therefore, it should include both executives and subordinates for further study.

2. Only some factors were studied in this research. Other factors should be considered as well. For better results, the qualitative study is recommended to define effects of those factors against organizational climate such as honesty, commitment, success, sustainability and self-confidence.

3. This research was based on the perception of health personnel in health centers towards leadership of chiefs of health centers. Future research should consider studying chief of health centers directly.

4. This research was focused only on relationships between transformational leadership and organizational climate of health center in Ratchaburi province. The future research should include the transactional leadership as well because chiefs of health centers are normally using both transformational and transactional leadership in their routine work.

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APPENDIX A

LIST OF EXPERTS

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1. Mr.Rungreung Dendungchai Public Health Technical Officer 8
Head of Disease Control Department
and Health Environment, Ratchaburi
Provincial Health Office.
2. Mr.Pisut Kongkam Public Health Technical Officer 7
Section of Health Strategy and Plan
Development, Ratchaburi Provincial
Health Office.
3. Mr. Kiatkajorn Paisalnun Public Health Technical Officer 7
Acting District Health Officer, Maung
Ratchaburi District Health Office.

APPENDIX B

QUESTIONNAIRE

Questionnaire

Transformational leadership characteristics of chiefs of health affecting organizational climate of health centers in Ratchaburi province

I Miss Nopparat morsup, am a M.Sc. student at the department of Health Administration, Faculty of Public Health, Mahidol University. I have received permission to conduct research for my thesis entitled “Transformational leadership characteristics of chiefs of health affecting organizational climate of health centers in Ratchaburi province” The objective of this study is to study relationship between transformational leadership of chief of health center and organizational climate of health center in Ratchaburi province. this questionnaire is divide into three parts as follows:

Part 1: Organizational Climate due to the feelings of the participants of Personnel officer.

Part 2: Transformation Leadership characteristics of chiefs of health centers.

Part 3: Personal characteristics.

Please read instruction before answer the questionnaire and that will take your time of about 30 minutes.

Please answer the questions truthfully and your opinion for the result is accurately and completely. Your answers are kept confidential and will be presented in a general format and use in research only. Thus, it does not affect your work. The result will be guideline to Transformational leadership characteristics of chiefs of health, organizational climate of health centers. Health personnel work at the health center that is answer the questions.

This research complies with the principles of human rights. Participants were informed consent form and the right to withdraw forms the study anytime. Thus, the researcher would like to ask you read before sign consent form.

Thank you very much for your participation with this study.

Nopparat Morsup

Informed Consent Form

Project title: Transformational leadership characteristics of chiefs of health affecting organizational climate of health centers in Ratchaburi province.

Project director: Nopparat Morsup , department of Health Administration, Faculty of Public Health, Mahidol University. Date of consent (Day / Month / Year)

.....

Before I signed this Informed. I had been clearly informed regarding to the objectives, methodology, and institutional affiliations of researcher, the anticipated benefit and potential or possible risk that may occur upon my participation in this research with understanding.

All the questions about the research project were answered to my satisfaction.

Researcher agrees to answer and to explain any question, which may arise during my participation in research.

I have the right to abstain from participation or withdraw consent at anytime without any reprisal.

Signature Consented Participant
(.....)

Signature Witness
(.....)

Signature Witness
(.....)

Part 1: Measurement of Organizational Climate.

Instruction: Please check ✓ in the blank on the right of statement. Choose one answer for each statement. Each choice has the following meaning.

Strongly agree	Means	If you feel the statement is true.
Agree	Means	If you feel that the statement is more true than false.
Undecided	Means	If you cannot make up your mind about the statement.
Disagree	Means	If you feel that the statement is more false than true.
Strongly Disagree	Means	If you feel that the statement is definitely false

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
Structure					
1. The jobs in this organization are clearly defined and logically structured.					
2. In this organization it is sometimes unclear who has the formal authority to make a decision.					
3. The policies and organization structure of the organization have been clearly explained.					
4. Red-tape is kept to minimum in this organization.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
5. Excessive rules, administrative details, and red-tape make it difficult for new and original ideas to receive consideration.					
6. Our productivity sometimes suffers from lack of organization and planning.					
7. In some of the projects I've been on, but not been sure exactly who was my boss.					
8. Our management isn't so concerned about formal organization and authority, but concentrates instead on getting the right people together to do the job.					
Responsibility					
9. We don't rely too heavily on individual judgment in this organization; almost everything is double – checked.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
10. Around here management resents your checking everything with them; if you think you've got the right approach you've got the right approach you just go ahead.					
11. Supervision in this organization is mainly a matter of setting guidelines for your subordinates; you let them take responsibility for the job.					
12. You won't get ahead in this organization unless you stick your neck out and try things on your own sometime.					
13. Our philosophy emphasizes that people should solve their problems by themselves.					
14. There are an awful lot of excuses around here when some body makes a mistake.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
15. One of the problems in this organization is that individual won't take responsibility.					
Reward					
16. We have a promotion system here that helps the best man to rise to the top.					
17. In this organization the reward and encouragements you get usually outweigh the threats and the criticism.					
18. In this organization people are rewarded in proportion to the excellence of their job performance.					
19. There is a great deal of criticism in this organization.					
20. There is not enough reward and recognition given in this organization for doing good work.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
21. If you make a mistake in this organization you will be punished.					
Risk 22. The philosophy of our management is the long run we get ahead faster by playing it slow, safe, and sure.					
23. Our business has been built up by taking calculated risks at the right time.					
24. Decision making in this organization is too cautious for maximum effectiveness.					
25. Our management is willing to take a chance on a good idea.					
26. We have to take some pretty big risks occasionally to keep ahead of the competition in the business we're in.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
Warmth					
27. A friendly atmosphere prevails among the people in this organization.					
28. This organization is characterized by a relaxed, easy-going working climate.					
29. It's very hard to get to know people in this organization.					
30. People in this organization tend to be cool and aloof toward each other.					
31. There is a lot of Warmth in the relationships between management and workers in this organization.					
Support					
32. You don't get much sympathy from higher-ups in this organization.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
33. Management makes an effort to talk with you about your career aspirations within the organization.					
34. People in this organization don't really trust each other enough.					
36. When I am on a difficult assignment I can usually count on getting assistance from me boss and co-workers.					
Standards					
37. In this organization we set very high standards for performance.					
38. Our management believes that no job is so well done that it couldn't be done better.					
39. Around here there is a feeling of pressure to continually improve our personal and group performance.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
40. Management believes that if the people are happy, productivity will take care of itself.					
41. Management believes that if the people are happy, productivity will take care of itself.					
42. To get ahead in this organization it's more important to get along than it is to be high producer.					
43. In this organization people don't seem to take much pride in their performance.					
Conflict					
43. The best way to make a good impression around here is to open arguments and disagreements.					
44. The attitude of our management is that conflict between competing units and individuals can be very healthy.					

Statement	Level of Behavior				
	Strongly Agree	Agree	Un Decided	Disagree	Strongly Disagree
45. We are encouraged to speak out, even if it means disagreeing with our superiors.					
46. In management meetings the goal is to arrive at a decision as smoothly and quickly as possible.					
Identity					
47. People are proud of belonging to this organization.					
48. I feel that I am a member of a well functioning team.					
49. As far as I can see, there isn't very much personal loyalty to the company.					
50. In this organization people pretty much look out for their own interests.					

Part 2: Measurement of Transformational Leadership.

Instruction: Please check ✓ in the blank on the right of statement. Choose one answer for each statement. Each choice has the following meaning.

Very Often	Means	The behavior or action occurs Very Often
Often	Means	The behavior or action occurs Often
Sometimes	Means	The behavior or action occurs Sometimes
Seldom	Means	The behavior or action occurs once in a while
Never	Means	The behavior or action occurs Never

Statement	Level of Behavior				
	Very Often	Often	Sometimes	Seldom	Never
1. Work and create advantages for the others.					
2. Talk to colleague about value and belief, which is thought most important.					
3. Have emotional control during the crisis situation.					
4. Emphasize about the importance of ideal and value.					
5. Make colleagues proud when working with.					
6. Indicate the importance of having obviously work target.					
7. Sacrifice own interest for the group.					
8. Decision making based on the ethical outcomes or results.					

Statement	Level of Behavior				
	Very Often	Often	Some-times	Seldom	Never
9. Make confirm with the co-workers to achieve all difficulties.					
10. Show the intention of ideal, beliefs and value in working.					
11. Co-workers accept working ability.					
12. Show the obvious standing point to discuss about the conflict.					
13. Behavior that make co-workers respect.					
14. Indicate the main objectives of work obviously.					
15. Be able to show own self-confidence.					
16. Talk to motivate co-works to trust each other and encourage them to achieve all barriers.					
17. Emphasize about how important to devote for the shared mission.					
18. Perform according to your own value.					
19. Set the high standard of work					
20. Look forward to the new possibility.					
21. Optimism.					

Statement	Level of Behavior				
	Very Often	Often	Some-times	Seldom	Never
22. How confidence that a group will achieve the goal.					
23. Encourage co-workers.					
24. Make co-workers to focus on work achievement.					
25. Enthusiastically talk about work target.					
26. Encourage co-workers to realize about the important thing, which should be considered.					
27. Clearly talk about future target regarding obvious working.					
28. Show strong attention for finish the job on time.					
29. Focus on questioning that lead to the sharing ideas of the co-worker.					
30. Analyze cause of work problems by using the evidence base.					
31. Encourage co-workers to talk about the possibility problems.					
32. Always improve the old working style to have better results.					

Statement	Level of Behavior				
	Very Often	Often	Some-times	Seldom	Never
33. Find out many aspects for problem solving.					
34. Offer new method of work to a group.					
35. Encourage co-workers to express ideas during working.					
36. Support the new method for solving the previous problem.					
37. Stimulate co-worker to perceive problems in all directions.					
38. Promote the way to indicate problem logically.					
39. Perform to a co-worker as individual more than only a group member.					
40. Give advice to a co-worker about work advancement individually.					
41. Listen to the story of a co-worker with concentration.					
42. Support the colleagues to show the ability to develop their good point. Support the colleagues to show the ability to develop their good point.					

Statement	Level of Behavior				
	Very Often	Often	Some-times	Seldom	Never
43. Devote time to suggest the guideline of working to each colleague.					
44. Work with colleagues by considering the difference of each individual.					
45. Perform to co-workers regarding the difference of each person.					
46. Teach co-workers to realize about individual's differences.					
47. Pay attention to a member who does not receive any attention.					

Part 3: Personal characteristic.

Instruction: Please complete your detail check ✓ in the each item and to add more detail in the blank.

1. Gender

() 1. Male

() 2. Female

2. Age years (full amount)

3. Marriage Status

() 1. Single

() 2. Married

() 3. widow / Divorce / Separate

4. Education

() 1. Diploma

() 2. Bachelor and Equivalent Bachelor

() 3. Master

5. Position

() 1. Community Health officer

() 2. Public Health technical officer

() 3. Registered Nurse

() 4. Technical Nurse

() 5. Dental Health officer

() 6. other, (Please, specify).....

6. Tenure of work. Years (Full)

7. Tenure of work at the health center..... Years. (Full)

8. In this Organization people pretty much look out for their own interests.

APPENDIX C

LIST OF SAMPLE

Table 7 List of sample (N = 143).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
1.	Muang	Angthong	Ahngthong Health Center	3
2.	Muang	Koongnumwon	Koongnumwon Health Center	2
3.	Muang	Gauplubplaa	Gauplubplaa Health Center	1
4.	Muang	Gauplubplaa	Banggauly Health Center	3
5.	Muang	Bangpha	Bangpha Health Center	4
6.	Muang	Pikulthong	Pikulthong Health Center	2
7.	Muang	Kubua	Bang Kubua Health Center	2
8.	Muang	Kubua	Chalermpragied60punsanamintrachini Health Center	2
9.	Muang	Kokmau	Kokmau Health Center	2
10.	Muang	Kaorang	Kaorang Health Center	2
11.	Muang	Huay pai	Huay pai Health Center	2
12.	Muang	Dontakoh	Dontakoh Health Center	1
13.	Muang	Numpu	Numpu Health Center	2
14.	Muang	Nongklangna	Nongklangna Health Center	2
15.	Muang	Pongsawai	Pongsawai Health Center	3
16.	Muang	Loomdin	Loomdin Health Center	2
17.	Muang	Banrai	Banrai Health Center	3
18.	Muang	Chedehak	Banhuaymoo Health Center	3
19.	Muang	Koongkatin	Koongkatin Health Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
20.	Muang	Koongkatin	Bangseepet Health Center	1
21.	Muang	Samruan	Samruan Health Center	1
22.	Muang	Banyuan	Banyuan Health Center	1
23.	Muang	Hinkong	Hinkong Health Center	3
24.	Ban Pong	Nongplamo	Nongplamo Health Center	2
25.	Ban Pong	Nongplamo	Bansatakoh Health Center	1
26.	Ban Pong	Boekphrai	Boekphrai Health Center	1
27.	Ban Pong	Krupyai	Krupyai Health Center	4
28.	Ban Pong	Krupyai	Nongklangdhan Health Center	2
29.	Ban Pong	Nong O	Nong O Health Center	2
30.	Ban Pong	Nong O	Nongbon Health Center	2
31.	Ban Pong	Khaokhueang	Khaokhueang Health Center	5
32.	Ban Pong	Khaokhueang	Nongkaikun Health Center	1
33.	Ban Pong	Donkrabueang	Donkrabueang HealthCenter	2
34.	Ban Pong	Nongkop	Nongkop Health Center	5
35.	Ban Pong	Pakraet	Pakraet Health Center	2
36.	Ban Pong	Pakraet	Bangyang Health Center	2
37.	Ban Pong	Thapha	Thapha Health Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
38.	Ban Pong	Thapha	Bankrok Health Center	3
39.	Ban Pong	Nakronchu	Nakron Chu Health Center	1
40.	Ban Pong	Nakronchu	Bantapa Health Center	1
41.	Ban Pong	Banmuang	Banmuang Health Center	1
42.	Ban Pong	Latbuakhao	Latbuakhao Health Center	2
43.	Ban Pong	koongpayaum	koongpayaum Health Center	2
44.	Ban Pong	Suangkluy	Suankluy Health Center	2
45.	Photharam	Nongpo	Nongpo Health Center	4
46.	Photharam	Banlear	Banlerk Health Center	2
47.	Photharam	Banlear	Nong ree Health Center	2
48.	Photharam	Bankong	Bankong Health Center	2
49.	Photharam	Bankong	Bangow Health Center	1
50.	Photharam	Bansing	Bansing Health Center	2
51.	Photharam	Bansing	Bang kradoo Health Center	2
52.	Photharam	Donsai	Donsai Health Center	3
53.	Photharam	Klaungkoi	Klaungkoi Health Center	2
54.	Photharam	Klaungtakot	Banrai Health Center	2
55.	Photharam	Soyfar	Soyfar Health Center	2
56.	Photharam	Tummasen	Tummasen Health Center	2
57.	Photharam	Tummasen	Bannongtaputt Health Center	1

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
58.	Photharam	Bangtanote	Bangtanote Health Center	2
59.	Photharam	Bangtanote	Bannumtok Health Center	1
60.	Photharam	Nonggwarng	Nonggwarng Health Center	1
61.	Photharam	Nonggwarng	Nongyaibua Health Center	1
62.	Photharam	Naanggaow	Naanggaow Health Center	2
63.	Photharam	Taopoon	Taopoon Health Center	1
64.	Photharam	Taopoon	Bankaorab Health Center	2
65.	Photharam	Chumrae	Chumrae Health Center	1
66.	Photharam	Chumrae	Bannongsonghong Health Center	2
67.	Photharam	Chumrae	Banwatchairat Health Center	1
68.	Photharam	Daunchalap	Daunchalap Health Center	2
69.	Photharam	kowchangoom	kowchangoom Health Center	2
70.	Photharam	kowchangoom	BankaolamHealth Center	2
71.	Dumnoen Saduak	Dumnoen Saduak	Dumnoensaduak Health Center	1
72.	Dumnoen Saduak	Khunphithak	KhunphithakHealth Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
73.	Dumnoen Saduak	Khunphithak	Banranghatumluean Health Center	1
74.	Dumnoen Saduak	Taluang	Taluang Health Center	1
75.	Dumnoen Saduak	Prasatsit	Prasatsit Health Center	3
76.	Dumnoen Saduak	Donkruai	Donkruai Health Center	2
77.	Dumnoen Saduak	Donkruai	Nongsalid Health Center	2
78.	Dumnoen Saduak	Banrai	Banrai Health Center	4
79.	Dumnoen Saduak	Phaengphuai	PhaengphuaiHealth Center	2
80.	Dumnoen Saduak	Si muen	Simuen Health Center	1
81.	Dumnoen Saduak	Simuen	KuhasawanHealth Center	2
82.	Dumnoen Saduak	Thanat	Thanat Health Center	2
83.	Dumnoen Saduak	Sisurat	Sisurat Health Center	2
84.	Dumnoen Saduak	Donphai	Donphai Health Center	2
85.	Dumnoen Saduak	Buangam	Banbuangam-Pohad Health Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
86.	Dumnoen Saduak	Buangam	Buangam Health Center	1
87.	Dumnoen Saduak	Banrai	Banwansala Health Center	2
88.	Dumnoen Saduak	Phaengphuai	Banpakklong Health Center	1
89.	Pak Tho	Toongluang	Toongluang Health Center	3
90.	Pak Tho	Toongluang	Nongrai Health Center	1
91.	Pak Tho	Toongluang	Nongwuodum Health Center	1
92.	Pak Tho	Borkradaan	Borkradaan Health Center	2
93.	Pak Tho	Phakai	Phakai Health Center	1
94.	Pak Tho	Watyangngam	Banwatyangngam Health Center	1
95.	Pak Tho	Donsai	Donsai Health Center	3
96.	Pak Tho	Wangmanow	Wangmanow Health Center	2
97.	Pak Tho	Yanghak	Yanghak Health Center	1
98.	Pak Tho	Yanghak	Thaiprajun Health Center	1
99.	Pak Tho	Yanghak	Hinsri Health Center	1
100.	Pak Tho	Yanghak	Wangprachon Health Center	1
101.	Pak Tho	Wandown	Wandown Health Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
102.	Pak Tho	Huayyangtone	Huayyangtone Health Center	1
103.	Pak Tho	Auanghin	Nakork Health Center	2
104.	Pak Tho	Nongkratum	Nongkratum Health Center	1
105.	Pak Tho	Nongkratum	Bankaodin Health Center	1
106.	Bang Phae	Pohak	Banwongkum Health Center	2
107.	Bang Phae	Wangyen	Wangyen Health Center	3
108.	Bang Phae	Donyai	Tumbondonyai Health Center	1
109.	Bang Phae	Donyai	Bandonyai Health Center	1
110.	Bang Phae	Watgaow	Watgaow Health Center	5
111.	Bang Phae	Haupo	Haupo Health Center	3
112.	Bang Phae	Donkha	Donkha Health Center	2
113.	Wat Phleng	Gausahnpra	Gausahnpra Health Center	3
114.	Wat Phleng	Gausahnpra	Wiengtoon Health Center	2
115.	Wat Phleng	Chompratad	Chompratad Health Center	3
116.	Wat Phleng	Chom pratad	Paksar Health Center	3
117.	Chombueng	Rangbua	Rangbua Health Center	3
118.	Chombueng	Rangbua	Nongpai Health Center	1
119.	Chombueng	Rangbua	Nongnokkarean Health Center	2
120.	Chombueng	Kham On	Kham On Health Center	2

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
121.	Chombueng	Kham On	Toongfag Health Center	2
122.	Chombueng	Kham On	Rankae Health Center	2
123.	Chombueng	Pakchong	Pakchong Health Center	2
124.	Chombueng	Pakchong	Kowpeung Health Center	1
125.	Chombueng	Pakchong	Kowprinthon Health Center	2
126.	Chombueng	Berkpai	Tumbon Berkpai Health Center	1
127.	Chombueng	Berkpai	Banberkpai Health Center	1
128.	Chombueng	Darntuptakoh	Hoopprig Health Center	1
129.	Chombueng	Darntuptakoh	Nongseenuan Health Center	1
130.	Chombueng	Darntuptakoh	groksingkorn Health Center	2
131.	Suan Phung	Suanphung	Suanphung Health Center	3
132.	Suan Phung	Suanphung	Paapokkarngkow Health Center	1
133.	Suan Phung	Tanoysri	Bauwee Health Center	2
134.	Suan Phung	Takae	Takae Health Center	1
135.	Suan Phung	Pahwai	Pahwai Health Center	1
136.	Suan Phung	Pahwai	Bankluy Health Center	1
137.	Ban Kha	Bankha	Ban kha Health Center	2
138.	Ban Kha	Bankha	Pong jed Health Center	1
139.	Ban Kha	Bankha	Nongnumkoon Health Center	1

Table 7 List of sample (continued).

No	Amphur	Tumbon	Name of Health Center	Number of Health Personnel
140.	Ban Kha	Banbueng	Banbueng Health Center	2
141.	Ban Kha	Banbueng	Pongkra thing Lang Health Center	1
142.	Ban Kha	Nongpunjun	Nongpunjun Health Center	2
143.	Ban Kha	Nongpunjun	Ban nong Jog Health Center	1

BIOGRAPHY

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