

**PLOVDIV UNIVERSITY „PAISII HILENDARSKI“
FACULTY OF PEDAGOGY
DEPARTMENT OF PSYCHOLOGY**

**LEADERSHIP STYLES AND FORMING
ORGANIZATIONAL CULTURE IN
HEALTHCARE DURING THE COVID-19 CRISIS**

By

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Abstract of a dissertation

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The dissertation's volume is of 199 pages and structurally consists of introduction, three chapters, inferences, summary, conclusion and a list of the literature used. The first chapter presents the points of view of various researchers about the nature and projections of leadership styles, definitions and concepts of these concepts, as well as their interrelations with personality traits and organizational culture. The characteristics of the "crisis" concept are described and the picture of health care during the Covid-19 pandemic is presented in detail.

The second chapter includes a review and analysis of studies and theories, related to organizational culture: definitions, characteristics, functions and elements of culture, as well as factors influencing its development. The third chapter presents the organization of the empirical study, the results, their interpretation, analysis and discussion. The list of the used literature includes 236 sources in Bulgarian, English and Greek. The dissertation contains 30 tables and 2 figures. The numbers of the tables and figures included in the autoreferate match those of the dissertation.

The doctoral studies were conducted in the Psychology Department of Pedagogy Faculty at Paisiy Hilendarski University – Plovdiv. The dissertation research was carried out in private and state hospitals in the country with respondents from the following cities: Sofia, Plovdiv and Stara Zagora in the period 2021–2022.

The dissertation work has been discussed and scheduled for defense by a scientific unit, including professors from the "Psychology" department of the Faculty of Pedagogy at "Paisiy Hilendarski" University of Plovdiv, held on 15.01.2024.

The defense of the dissertation will take place on 10/05/2024. From 11:00 a.m. in the meeting hall of the New Building, PU "P. Hilendarski".

General characteristics of the dissertation

The majority of scholars recognize organizational culture and leadership as dominant factors affecting the functioning and effectiveness of health services. The successful diagnosis is becoming an increasingly important problem, especially in the field of health care, due to increasingly frequent changes in COVID-19 pandemic conditions and due to complicating unpredictability of hospital institutions. The health care structure is maximally loaded and there is crisis, related to the management of personnel and finances, as well as lack of motivation among health workers in the context of leadership and the proper organization of the medical institution. The stable dominant values and their synchronization towards culture types and leadership styles would provide a large degree of predictability, which is of utmost importance for functioning of the healthcare organization. The research presented in the dissertation is directed precisely in this perspective and emphasizes the understanding of interpersonal interactions in the organization, as the main goal is successfully deal with the challenges of the external and internal environment.

The relevance of the topic is confirmed by numerous studies of leadership styles and organizational culture in the field of health care during the global Covid-19 pandemic (Sheila A., 2022; O'Neill D., De Vries J., Comiskey C., 2021; Vainio M., 2021; Vlassi A., Hamalidis N., Paptzikas D., 2020; Sanusietal., 2021; Taylor Standiford C., Davuluri K., Trupiano N., Portney D., Gruppen L., Vinson A. 2022). Another proof of the relevance of the topic presented in the dissertation work is the coherence of personal and situational perspectives in the field of healthcare in the Covid-19 crisis, emphasizing personality traits, leadership styles and dominant value orientations.

Subject of the study are the organizations in the field of health care – their structure, processes, external and internal connections.

Subject of the study is also the leadership behavior in the organization and the key personal and cultural factors that cause it. The main goal of the dissertation research is to reveal the system of factors determining the different leadership behaviors and the degree of their influence on the dominant value orientations based on theoretical statements by different authors and own empirical studies.

In order to achieve such a formulated goal, the following tasks have been specified:

1. To carry out a detailed theoretical overview of modern theories in the field of leadership styles and organizational culture;
2. To apply psychological tools for studying personality traits, leadership styles, organizational culture, as well as for analyzing, interpreting and summarizing the results from the conducted empirical research;
3. To study the effects of personality influence on organizational behavior and leadership styles by making a one-dimensional distribution of the studied constructs and analyzing their interrelations with reporting specific demographic indicators;
4. To bring out the main dominant value orientations in the specific field of health care;
5. To investigate the significant interrelations and mutual influences between personal prerequisites and situational determinants of the organizational behavior.

A combination of the following research methods was applied for model verification:

- Questionnaire of Donelan and colleagues (The Mini-IPIP – International Personality Item Pool)
Methodology of B. Bass and B. Avolio “Multifactor Leadership Questionnaire”
- Method of K. Cameron and R. Quinn for measuring and evaluating the organizational culture

The dissertation research is carried out under the assumption that if the personality prerequisites and situational determinants of the organizational behavior of the employees are known, the activity of the organization could be optimized, and the results, which are fruit of their joint activity, could be maximized.

Dissertation structure

The dissertation’s volume is of 164 pages and structurally it consists of introduction, three chapters, conclusions, summary, conclusion and a list of the literature used.

The first chapter of the dissertation describes the points of view of various researchers about the nature and projections of leadership styles, definitions and characteristics of “crisis” concept and the picture of healthcare during the Covid-19 pandemic is presented in detail.

The second chapter includes review and analysis of studies and theories, related to organizational culture, definitions, characteristics, functions and elements of culture, as well as factors influencing its development. Details and characteristics of the organizational culture in the field of health care in Bulgaria during the period of the Covid-19 pandemic are presented.

The third chapter presents data from the conducted empirical research at the level of leadership styles in the field of health care in the Covid-19 crisis, the dominant cultural types, as well as the influence of gender, age, position in the organization and other demographic factors and personality traits on these phenomena. The research concept is based on the interdisciplinary, integral nature of the problem and its psychological focus (G. Hofstede, M. Porter, Bass & Avolio, 1993; Bersonetal., 2008; Hartnell, Ou, & Kinicki, 2011; Ogbonna & Harris, 2000; Hartnell, Kinicki, Schurer-Lambert, Fugate and Doyle-Corner, 2016; Sarrosetal., 2008; Xenikou A., 2019; S. Ilieva, G. Karastoyanov, G. Petkov, S. Karabelyova, A. Velichkov, M Radoslavova, M. Mitevka, 2017, etc.).

The interferences and the conclusion summarize the results of the overall work of the author

The bibliography contains all sources used and cited.

SUMMARY OF THE DISSERTATION CONTENTS

FIRST CHAPTER: THEORETICAL POSITIONS OF LEADERSHIP STYLES

1. Leadership, competence and management style defining leadership

Substance and characteristics of leadership

The topic of leadership is one of the most exploited in scientific researches and this is due to global objective circumstances – rapid growth rate of business in the service sector, changes in the business environment, radical transformations in national economies and the global economics, etc. (Stoyanova S., 2020). The existing leadership definitions could be divided into three directions with the key characteristic – exercising influence:

- defining leadership as a property;
- defining leadership as a process;
- defining leadership both as a property and a process (Filipov A., 2021);

Blake & Mouton (1970) state that leaders shape organizational culture, designing the corporate vision, and other authors define as oratory ability and persuasion of the crowd through charisma, symbols and other emotional competences (Alvesson & Svingen, 2003). Despite the rich variety of definitions of the leadership phenomenon, some trends with similar features could be noted, which state that leadership is characterized by influencing the attitudes, behaviors, beliefs, and feelings of followers.

2. Conceptual Models of Leadership Styles

The conceptual leadership models are classified as universal and situational and study the most effective leadership style as a set of stable personality traits or as a behavior, respectively, while the situational approaches emphasize the fact that there is no single most effective leadership style, applicable to all situations at the same time (Karabelova, S., 2011).

2.1. Concept of the leader's distinctive features

The concepts of distinctive features are based on the assumption that the person is more important than the situation. Recent researches using modern statistical techniques to analyze old database have found that most of leadership behavior types could be attributed to stable personality traits (Lord, R., De Valder, C., Alliger, G., 1986). According to the last assumption in the distinctive features theory, anyone can be an effective leader if he/she demonstrates behavior depending on the situation rather than based on behavioral characteristics (Handy, C. 1999).

2.2. Behavioral approaches to researching leadership styles

Psychological research in this area is directed to studying behaviors by which the effective leader can be distinguished from the ineffective one, as the focus is on the leader-follower communication process. There are presented concepts by Kurt Lewin,

Ronald Lippitt and Ralph White, R. Tannenbaum and W. Schmidt, and studies by scientists from Michigan and Ohio Universities in the USA: Robert Blake and Jane Mutton (Lewin, K., Lippett, R., White, R., 1939); Tannenbaum, R., Schmidt, W., 1973; Robbins, 1991; Blake & Mouton, 1982).

2.3. Situational approaches to leadership research

In situational theories, variables such as relations between leader and follower, work task order, clarity of the subordinate role, power position of the leader, access to information, group norms, acceptance of managerial decisions and maturity of the subordinates are considered. The current dissertation presents models by Fred Fiedler, P. Hersey and C. Blanchard, Robert House, W. Vroom and F. Yetton (Fiedler, F., 1977; Fiedler, F. 1995; Hersey, R., Blanchard, K., 1996; House, R., 1971; Victor Vroom & Philip Yetton, 1973).

2.4. The new paradigm, the theory of charismatic leadership, the transformational leadership

The theory of charismatic leadership defines the leader as a person with exceptional abilities, inspiring his followers and provoking their loyalty, emphasizing on the interpersonal relationship leader-follower, where the leader exhibits behavior models, maintaining effective relations, thanks to which, according to B. Nanus, human potential unleashes and the common goal is preserved (Nanus, B., 1992).

“Transformational leadership” is a term, introduced by G. Burns (Burns, 1978, cited in Judge & Bono, 2000) and characterizes the leader's ability to change the beliefs and attitudes of his followers, to create an inspiring vision for the future and to be attentive to the developmental needs of each of them, prompting them to look beyond their personal interests for the organization welfare (Burns, 1978, cited in Judge & Bono, 2000; Bass, 1985, cited in Chan & Chan, 2005).

2.5. Further Leadership Perspectives

G. Graen and colleagues have developed a theoretical model of leader-member exchange (LME), later renamed “Vertical Dyadic Relationship Theory” (Graen & Uhl-Bien, 1995), according to which leaders develop relations of variable quality with each of their subordinates. There are opinions in scientific circles that situational variables can replace, neutralize or change the effects of leadership, known in specialized literature as leadership substitutes, which could neutralize leadership behavior (S. Karabelova, 2011). The “servant leadership theory” is more philosophically grounded than empirically proven. The term was proposed by R. Greenleaf, who believed that great leaders act as servants, putting the needs of others above their own ones (Spears, I., 1995). “Superleaders” are coaches and teachers, but but they are by no means dictators or autocrats, whose behavior strengthens followers' self-control and internal motivation.

3. Management or leadership – leadership as a function of management

The “management” or “leadership” dilemma is a result of time-imposed ideas, beliefs and stereotypes of equating the two concepts and could represent two separate disciplinary

and practical areas on the one hand, but on the other hand, distinguishing the two concepts is almost impossible. The managers and leaders are expected to work effectively in various situations, not constrained by their traditional roles – standpoint, supported by Bass and Avolio, who believe that the effective leadership reflects an optimal combination of different styles, including management and leadership practices (Bass B., 1998). It can be summed up that the distinction between management and leadership arises from the differences in roles and functions, i.e. the role is often unconsciously chosen and is not specified in the organization (Heinrich C. J. & Marschke G., 2010).

4. Key leadership competencies in healthcare

Worldwide researches, identifying key leadership competencies in healthcare, are presented (Nilsson S., Alvinus A. & Enander A., 2016; Prins J., Bakker A., Jacobs B., Heijden F., Hockstra-Weeber J., Garendam-Donofrio S., 2010; Balkanska P., Georgiev N., 2010; Vakola, M., & Bouradas D., 2005; Bakracheva M., Kolarova Ts., Zamfirov M., Sofronieva E., 2020, etc.), on whose ground we could summarize that the effective leadership is inextricably linked with the ability to communicate, since communication in the healthcare organization is an integral part of cooperation; the managers are in daily contact with the employees, helping to solve problems related to constantly changing situations. In this way, the effective leadership promotes the high-quality work environment and is a prerequisite for positive atmosphere and safety, both for patients and employees.

5. Definition and characteristics of the “crisis” concept

There are different definitions of the “crisis” concept in the specialized literature. This is a situation, allowing critical review of all details, critical thinking on behalf of leaders, making immediate decisions and taking actions. Any emergency situation can be described as a “crisis” in the organization, but the “crisis” cannot be characterized as an emergency situation (Kasoulidis, I., 2011; Norman, A., 2009). In the context of the organization, the “crisis” concept is more comprehensive than usual communication or administrative problems, for example (Viskers J., Renand F., 2015). The “crisis” is a turning point where the organization cannot continue existing for a long time, as this can lead to a permanent imbalance. According to Ducharme, Cumming and Wong (2018), the “crisis” is a real threat to the organization survival in lack of adequate response and poor management (Wong C. A., Cummings G. G., Ducharme L., 2018).

6. Leadership in “crisis” management; essence of interactions between leadership and organizational culture

Each crisis has a direct impact on the leader and his orientation, behavior and success of his role, as it is characterized by pressure and limited reaction time. Studies on the interaction between organizational culture and leadership are also presented, as the majority of them consider the leadership as a hypothetical antecedent of organizational culture, so it is evidence for the effects of this interaction in different dimensions, and the coexistence of different cultures and leadership styles within the organization is recognized as a key element of organizational effectiveness (Podsakoff MacKenzie, Paine

& Bachrach, 2000; Dvir, Eden, Avolio & Shamir, 2002; Simosi & Xenikou, 2010; Jugge & Piccolo, 2004; Koek & Sivasubramanian, 1996; Wang, Oh, Courtright & Colbert, 2011; Walumbweetal., 2008; Bass & Avolio, 1993; Berson et al., 2008. 2008; Hartnell, O & Kinicki, 2011; Hartnell, Kinicki, Schurer-Lambert, Fugate, & Doyle-Corner, 2016; Ogbonna & Harris, 2000; Sarrosetal, 2008; Schein, 2010; Waldman & Yammarino, 1999; Xenikou & Furnham, 2013; Xenikou & Simosi, 2006).

SECOND CHAPTER: THEORETICAL POSITIONS OF ORGANIZATIONAL CULTURE

1. “Organizational culture” definition

The “culture” concept aims to denote simultaneously building the originality of human communities and determining the specificity between them. This process is constant and more clearly expressed in heterogeneous ethnic, religious and cultural groups historically separated on a common geographical territory. The “culture” concept also supports the idea that there is a pattern, a cultural matrix of ideas, rules, norms and experiences, uniting a group of people and giving it an identity as a community. The cultural identification organizes social life and creates order, consistency and security, and many elements of this “cultural programming” are contained mainly in human behavior without being realized (Silgidzhan H., Karabelova S., Gerganov E., 2003; Craipo R., 2003).

1.1. Uprise and development of ideas about organizational culture. Historical theoretical-research review

A historical theoretical-research review is presented, describing the uprise and development of ideas about organizational culture, including authors such as McGregor, Ouchi, Dale Kennedy, Petersey Waterman, etc. We could summarize that the organizational culture is defined as a cross-disciplinary concept covering different aspects of organizational psychology, anthropology, sociology, management and culture, and it is also an important component of the social control because it includes visible and invisible manifestations provoking specific behavior types. (Mitevaska, M., 2017).

1.2. Organizational Culture Definitions

The organizational culture is a complicated and widespread element in any working environment and is closely related to managers and followers – a system of symbols, knowledge and interactions (Peters & Waterman, 1982). Schein and Hofstede define it as a means of explaining and understanding the human behavior in the organization (Schein, 1985; Hofstede, 1998) and as a valuable resource for understanding organizational systems (Wills, 1999; Weick, 1985). According to Davis, corporate culture is a model of shared beliefs and values that shapes the importance of an institution for its members and provides them with the behavior rules in the organization (Davis, 1984). Other authors define culture as the essence of behavior, beliefs and thoughts associated with the members of the organization (Cooke & Rousseau, 1988; Casey, 1999).

2. Organizational culture elements

Considering the universal essence of culture, it is very difficult, even impossible, to list its elements thoroughly. The descriptions of the organizational culture components according to H. Hofstede (Hofstede, 2001), E. Schein (Schein E., 1985), K. Cameron and R. Quinn (K. Cameron and R. Quinn, 2012), etc. are presented.

3. Characteristics and functions of organizational culture

3.1. Characteristics of organizational culture

According to K. Cameron and R. Quinn, the **power of culture** is expressed in the ability of people to be together and overcome the challenges of the external environment and it is the competitive advantage of organizations, general mutual agreement, the integrative network of perceptions, memories, values, attitudes and beliefs. T. Deal and A. Kennedy think in the same way and emphasize the integrative function of culture, which is basic for the management of internal environment of the organization (Deal T., Kennedy A., 1983).

Joe Kotter accepts as the most important criterion for success the adaptability to the external environment of the organization and emphasizes the characteristics of the new leadership type in organizations by stating that the main function of leadership is to initiate changes, which in itself implies the acceptance of certain risks and motivation (Kotter, J., 1990).

3.2. Organizational culture functions; factors affecting management and organizational culture change

E. Schein considers culture as combining both trends important for the survival of the organization, which ensure its vitality, and thus emphasizes the intra-organizational ones, which are most strongly related to efficiency and individual performance: system-forming, socializing, communicative, identifying, integrative, educational, adaptive power-role, and genetic functions (Schein, 1990). Definitions of the basic regulatory function, meaning-forming and value functions are presented (Schein, 1989; Johnev, S., 2014; Ilieva, S., 2006, etc.). In conclusion, it can be said that the main purpose of organizational culture is to establish dominant values and thus direct the behavior of employees through guidance from the management, acting as a mediator between both parties – a channel for re-transmission of values and creation of continuity.

4. Organizational culture models

Models of Heert Hofstede, R. Harrison and H. Stokes, O'Reilly, D. Chatman and D. Caldwell, Terence Deal and Alan Kennedy, Roger Harrison and Charles Handy, are presented. Despite the lack of unity around the theoretical justification of the organizational culture construct, there are many studies, on whose grounds, its various typologies or dimensions are distinguished and are carried out mainly based on the content of the organizational culture, the structure of the organization, relations with the external environment, power and the leadership type expressed.

5. Organizational culture in health care; subcultures in the health care organization

The components and characteristics of organizational culture and subcultures in the field of health care are presented, and their advantages and disadvantages in the context of organizational effectiveness are described in detail.

6. Organizational culture researches in the field of health care worldwide – a brief theoretical overview

The importance of organizational culture in providing high-quality health services gains increasing recognition, related to psychology through experiences, beliefs, personal and cultural values, teamwork, communication and leadership – key elements that potentially affect both staff and patients. In this regard, studies by various authors worldwide are indicated (Glassdoor Mission & Culture Survey 2019; Izamirneetal., 2007; Carney, 2011; Alharbi, 2014; Mannionetal., 2005; Odwasny, 2005; Nancarrow and Borthwick, 2005).

THIRD CHAPTER: DESIGNS – EMPIRICAL RESEARCH RESULTS

1. Objectives of the conducted research

The main study objective is to trace the significant role of personality at the organizational level, as well as the different leadership styles, as factors for organizational behavior and, more specifically, the interrelationship between them.

The realization of the set goal was achieved by solving the following tasks:

1. To carry out a detailed theoretical overview of modern theories in leadership styles and organizational culture;
2. To apply psychological tools for studying personality traits, leadership styles, organizational culture, as well as for analyzing, interpreting and summarizing the results of the conducted empirical research;
3. To study the effects of personality influence on organizational behavior and leadership styles by making single-dimensional distribution of the studied constructs and analyzing their interrelationships with reporting specific demographic indicators;
4. To derive the main dominant value orientations in the specific field of health care;
5. To study the significant interrelationships and mutual influences between personal prerequisites and situational determinants of organizational behavior

2. Scientific methods; scientific research toolkit

The empirical research was carried out in the period 2021–2022 by filling in self-assessment google questionnaires platform in Sofia, Plovdiv and Stara Zagora. The goals and tasks of the present empirical study, as well as the nature of the expected interrelationships between the studied phenomena, are key factors in choosing methods for processing the obtained results. Such statistical-mathematical methods as descriptive statistics, calculation of average values, dispersion, correlation, regression

and comparative analysis were used. The data were analyzed using the computer program SPSS (version-21).

Scientific research toolkit

A combination of the following main complementary research methods was used:

Donelan and colleagues questionnaire

(The Mini-IPIP – International Personality Item Pool)

To analyze the influence of personality characteristics, the questionnaire of Donnellan and colleagues (TheMini-IPIP – International Personality Item Pool) was used, which contains twenty items with a five-point Likert rating scale (Donnellan, Oswald, Baird, Lucas, 2006). The scale is among the most famous and frequently used instruments in the world, based on the so-called “five-factor model of personality”. This instrument measures characteristic personality traits and has proven useful in both clinical and scientific studies. The full version of the questionnaire consists of 50 statements. When using the tool in a different sociocultural context, high internal consistency, test-retest reliability, and overlapping with the main facets of the five-factor theory: convergent, discriminant and validity criteria, were established, which allows the assessment of the five basic personality dimensions: extraversion, openness to innovations, cooperation, goal orientation, and neuroticism.

Methodology of B. Bass and B. Avolio

(“Multifactor Leadership Questionnaire”)

The methodology of B. Bass and B. Avolio – “Multifactor Leadership Questionnaire”, has also been used. It is standardized for Bulgarian conditions by S. Karabelyova (Karabelyova, 2011). The instrument shows high construct validity ($\alpha = 0.74$) and content validity ($\alpha = 0.94$). The internal consistency of the Multifactor Leadership Questionnaire is also very good – $\alpha = 0.70$ for all scales (Bass & Avolio, 2004). The original factor structure in the questionnaire is as follows:

1. Four dimensions describing the transformational (charismatic) leadership style: idealized influence, inspirational motivation, intellectual stimulation, and individualized attention;
2. Two dimensions describing the transactional leadership style: conditional rewards and exception management;
3. One dimension, related to the avoidant (liberal) leadership style:

A Method of Measuring and Evaluating Organizational Culture by C. Cameron and R. Quinn

The methodology of C. Cameron and R. Quinn is unique because of its ability to identify the main characteristics of organizational culture – strength, conformity and type. The questionnaire developed by the authors is based on six dimensions: dominant characteristics of the organization; management of employees and work environment; organizational solder (connecting mechanisms, which unite the organization), strategic goals and success criteria. These content dimensions reflect the main cultural values and implicit assumptions about how the organization works.

The method of measuring and evaluating the organizational culture by C. Cameron and R. Quinn is built on the so-called “Competing Values Framework” of Edgar Schein and can be used in diagnosing and facilitating the organizational culture changes, derived on the grounds of empirical researches with high validity, which helps to integrate many dimensions proposed by different authors. Two main dimensions are outlined, organized in four main clusters, defining the essential values, on whose basis an assessment of what guides the organization's activity is made. The opposite values are defined in the framework of competing values, such as clan, adhocratic, hierarchical and market cultures.

3. Hypotheses, subject of the empirical study

It is assumed that the leadership styles, which are characterized by initiative and commitment to the activities in the organization, would have a direct impact on the personality's behavior in the working reality.

The following **hypotheses** arise:

- 1) Personality traits and leadership styles are factors in building organizational behavior;
- 2) Leadership styles and personality traits are interrelated, and certain styles are influenced to various degrees by personality traits;
- 3) It is accepted that leadership styles vary depending on the organization type and are influenced by individual variables: demographic – gender and age, related to the status in the organization, total length of service, length of service in the specific organization;
- 4) Different cultural types are assumed to be sources of change in the organizational culture;
- 5) The organizational culture has different manifestations depending on the studied demographic variables, i.e. variation sources in the organizational culture types are: gender, age, location, organization type, position, total length of service, length of service in the organization and residence;

Subject of the empirical study

Frequency distribution of the demographic characteristics of the respondents was carried out – gender, age, position, nests, organization type, residence, position, total length of service, length of service in the specific organization and length of service in the position. 376 people from three health facilities in the country were covered: state and private, for the period February – April 2021. The frequency distribution shows that there are 157 (41.8%) men and 219 (58.2%) women. Regarding age, the participants fall into the following categories: under 30 – 65 people (17.3%), from 30 to 50 – 188 (50.0%) and over 50 – 123 (32.7%). There are 29 (7.7%) respondents living in the capital, 213 (56.6%) in a big city, 134 (35.6%) in a small town and village. There are 177 (47.1%) working in a state hospital and 199 (52.9%) – in a private one. The distribution by position factor is as follows: in the position of a doctor – 231 people (61.4%), nurse – 55 (14.6%); administration – 48 (12.8%) and other staff – 42 people (11.2%). After the frequency distribution, it was found that there are 106 people (28.2%) in managerial positions and 270 (72.8%) in executive positions. The studied people are distributed, as follows: according to the total length of service: up to 6 years – 71 people (18.9%), from 6 to 30 years – 251 (66.8%) and over 30 years – 54 people (14.4%); according to the length of service in the organization: up to 2 years – 59 people (15.7%), from 2 to 19 years – 261 (69.4%) and over 19 years – 56 (14.9%); according to the length of service in the specific position: up to 2 years – 68 people (18.1%), from 2 to 10 years – 258 (68.6%) and over 10 years – 50 people (13.3%). There were also two studied nests, consisting of 147 individuals (60.9%) and 229 individuals (9.6%), respectively.

4. Testing the hypotheses and discussing the obtained results

4.1. Description of leadership styles in the studied organizations

Table 2. Average values, standard deviation, minimum and maximum of leadership styles

Leadership styles	N	X	SD	Skewness		Kurtosis	
Idealized influence, charisma	376	10.92	2.35	-0.25	0.13	-0.46	0.25
Inspirational motivation	376	10.81	2.29	-0.15	0.13	-0.49	0.25
Intellectual motivation	376	10.37	2.54	-0.10	0.13	-0.36	0.25
Individualized attention	376	10.95	2.28	-0.09	0.13	-0.60	0.25
Conditional awards	376	10.67	2.44	-0.47	0.13	0.15	0.25
Exception Management	376	11.32	2.25	-0.52	0.13	-0.02	0.25
Liberal leadership	376	10.22	2.04	-0.22	0.13	-0.18	0.25

After an analysis of the average values and standard deviations (Table 2), high values were found for all dimensions, both of transformational and charismatic leadership, with the most significant being the “exception management” dimension ($x = 11.32$; $s.d. = 2.25$). The “individualized attention” ($x = 10.95$; $s.d. = 2.28$) and “idealized influence” ($x = 10.92$; $sd = 2.35$) dimensions are ranked second. Leaders strive to increase their followers' awareness of what is good for the whole group by applying proactive measures ($x = 10.81$; $sd = 2.29$) and define the tasks, requested to be com-

pleted, offering rewards only in cases of a result commensurate with the set standard ($x = 10.67$; $sd = 2.44$).

On the grounds of the obtained results, it could be noted that it is of prime importance for the leaders in the organizations studied to promote the general sense of connectedness. In this way, the derived specifics of leadership styles fit into the characteristics of the transformational and charismatic style of management within the “New Paradigm” framework, with a sense of mission, skills, motivation and consistency. The conclusion that can be drawn, related to the dominant leadership styles in the researched healthcare organizations is that leadership builds more meaningful work experience for employees, giving them sense of belonging, and the trust that is essential for positive organizational culture and experience of healthcare workers, is fostered in atmosphere of openness, where workers take responsibility for their actions, feel confidence, make experiments and share ideas.

4.2. Description of personality traits in the studied organizations, according to the “Big Five” model

To determine the personal characteristics of the respondents in the researched healthcare organizations, an analysis of the average values and standard deviations is presented in Table 3. The leading role of conscientiousness ($x = 13.66$; $sd = 3.22$), as a personality trait, according to “BIG Five” is established, followed by benevolence ($x = 13.11$; $sd = 3.13$), openness to new experiences ($x = 12.76$; $sd = 2.50$), extraversion ($x = 12.30$; $sd = 2.71$) and lastly, neuroticism ($x = 12.04$; $sd = 2.84$).

4.3. Differences in leadership styles according to gender, age, residence, length of service, position held, ownership type and nest studied

Table 14. Effects of demographic variables on leadership styles – significant differences – summary table

Leadership styles	Idealized influence, charisma	Inspirational motivation	Intellectual motivation	Individualized attention
Gender	F=4.031; p=0.045	F=0.001; p=0.977	F=0.157; p=0.692	F=1.198; p=0.274
Age	F=4.578; p=0.011	F=8.010; p=0.000	F=5.176; p=0.006	F=8.458; p=0.000
Location	F=0.096; p=0.909	F=0.073; p=0.93	F=2.117; p=0.122	F=0.322; p=0.725
Ownership	F=0.062; p=0.804	F=2.412; p=0.121	F=0.059; p=0.808	F=0.018; p=0.892
Position	F=5.868; p=0.001	F=11.707; p=0.000	F=10.764; p=0.047	F=8.745; p=0.000
Total length of service	F=1.812; p=0.165	F=2.692; p=0.055	F=1.198; p=0.303	F=0.64; p=0.528
Length of service in the organization	F=6.242; p=0.002	F=3.705; p=0.026	F=1.687; p=0.186	F=1.238; p=0.291
Length of service in the position	F=9.852; p=0.000	F=6.18; p=0.002	F=5.422; p=0.005	F=4.663; p=0.025
Nest	F=0.027; p=0.869	F=0.048; p=0.827	F=0.007; p=0.935	F=0.004; p=0.950
Position in the hierarchy	F=41.372; p=0.000	F=50.786; p=0.000	F=54.699; p=0.000	F=72.835; p=0.000

The obtained results show the presence of safe working environment where managers and employees skillfully manage the autonomy granted to them and transform it into motivation and high productivity (Rohen & Mikulincer, 2014). The obtained results show orientation towards cooperation, cordiality and empathy. Healthy interpersonal relationships are established where seeking and implementing innovations are strongly linked and are prerequisites for organizational success.

The results shown in table 14 express the manifestations of the different leadership styles in the studied health organizations. The hypothesis about the differentiating role of gender, related to leadership styles, is partially confirmed – significant differences were found in connection with the charismatic leadership ($F = 4.031$; $p = 0.045$). There are no qualitative differences in the leadership effectiveness of men and women. Men are perceived as showing whole-oriented and task-oriented leadership, and women show more socially oriented leadership, more often using a democratic or participative style than men (Eagly, Kakau, Makhijani, 1995).

The age significantly differentiates the seven leadership styles: idealized influence ($F = 4.578$; $p = 0.011$), inspirational motivation ($F = 8.010$; $p = 0.000$), intellectual motivation ($F = 5.176$; $p = 0.006$), individualized attention ($F = 8.458$; $p = 0.000$), conditional awards ($F = 3.630$; $p = 0.027$), impression management ($F = 14.723$; $p = 0.000$) and liberal leadership ($F = 4.513$; $p = 0.012$). A trend of increased assessments and self-assessments of the indicated leadership styles was found with increasing age. Employees pay particular attention to how the manager deals with errors and omissions in work and how he motivates them.

The hypothesis about determining importance of the **settlement type** was not confirmed. Employees in the health care organizations studied are motivated and expect management to be concerned and competent about their development, regardless of location.

No statistically significant differences were found for the demographic variable “**ownership type**”. There is alignment between management and employees, emphasizing meaningful work and good interpersonal relationships, in order to provide effective health services.

The “**position**” indicator differentiates the “leadership style” with the highest results, found in administration, in the “exception management” dimension ($F = 11.721$, $p = 0.00$), followed by “inspirational motivation” ($F = 11.707$, $p = 0.00$; $X = 12.27$). In third place is the “intellectual motivation” with the following values ($F = 10.764$, $p = 0.00$; $X = 12.04$), regardless of the management style, but the employees in the investigated hospitals strive to comply with the rules and instructions, as much as possible.

A significant effect of the “total length of service” on leadership styles in the studied organizations was found, without being associated with critical thinking, making urgent changes ($F = 2.692$; $p = 0.055$) and achieving pre-agreed standards ($F = 7.526$; $p = 0.001$). The length of service in the particular organization also significantly differentiates the leadership styles of idealized influence ($F = 6.242$; $p = 0.002$), inspirational motivation ($F = 3.705$; $p = 0.026$) and impression management ($F = 8.371$; $p = 0.000$). There was established connection between the people’ assessments with the longest length of service in the particular organization and those with the

shortest one. The first years of the career are usually tested in different work roles, behavior types and work strategies, and as a result the best approaches are established and implemented.

The length of service in the specific position significantly differentiates all the indicated leadership styles, as a result of which there are healthy interpersonal relations, orientation to the requirements of the environment combined with competences for managing the control system and introducing changes, provoked by the greater professional experience.

Preferred leadership styles are not found according to the **studied nests** in Plovdiv and Stara Zagora. It is found that the administration manner depends on the place where it is practiced.

The position held in the organization significantly differentiates the assessments and self-assessments of each leadership style, with higher values recorded in managers. Assumptions about higher self-assessments among managers are confirmed, which could be explained by insufficiently frequent and clear communication in the healthcare organization ($F = 4.663$; $p = 0.025$). They apply management functions, such as: resources allocation, coordination, integration, resolving internal contradictions, maintaining workability, achievement of defined goals and adaptation ($F = 6.18$; $p = 0.002$), and maximum efficiency is achieved in terms of defining the mission of the health organization, formation of the value system of the hospital and internal climate, monitoring of internal and external processes and maintenance of employee motivation ($F = 5.422$; $p = 0.005$). The difference in assessments and self-assessments of managers and employees could be explained with the way followers perceive the leader and his self-perception.

5. Variations in cultural types

The respondents express the opinion that the **hierarchical type of organizational culture** dominates in health organizations ($M = 21.0$; $SD = 3.57$) (see Table 15). There is a strictly structured working environment where managers are good coordinators with skilled work process-oriented mindset, and specific procedures govern the employee behavior. Value preferences for the **market cultural type** are ranked second ($M = 20.89$; $SD = 3.79$). The explanation for this result can be sought in the need for healthcare organizations to meet the requirements of the economic situation in Bulgaria. This is an emphasis on the economic market mechanisms, requiring focus on key values, such as competitiveness and productivity. The **clan cultural type** is ranked third ($M = 20.72$; $SD = 4.36$).

The organization is aimed at forming open communication and mutual assistance. Leaders are rated as good listeners and consensus-promoters, committed to the team. This result is not surprising for health organizations in Bulgaria, since a large percentage of people develop activities in the so-called family companies, and the clan culture resembles the patriarchal or family type of organization. In the last place, the respondents put the adhocratic culture ($M = 20.22$; $SD = 3.90$), where the values are strongly oriented towards compliance with the formal principles and norms of organizational behavior, the predisposition to change and the active attitude towards the development

strategy. There is freedom, flexibility and creativity, but the purposefulness, ambition and global thinking are highly appreciated.

This result could be explained with the fact that adhocratic organizations are most often found in more specific technologically bound spheres, where the common bond is the drive for development through innovation and experimentation, entrepreneurial and creative work and environment, and the main ambition is towards the newest trends in commodities, services and especially knowledge. Unfortunately, the Bulgarian healthcare organizations, especially the state ones, do not have opportunities and cannot enjoy new resources that are directly related to vision and innovation, but namely this combination leads to high efficiency.

Table 15. Average values, standard deviation, minimum and maximum of organizational culture type

Organizational culture type	M	SD	Minimum	Maximum	Skewness	Kurtosis
Clan	20.72	4.36	6	30	-0.52	0.13
Adhocratic	20.22	3.90	10	30	-0.28	0.13
Market	20.89	3.79	7	30	-0.37	0.13
Hierarchical	21.20	3.57	7	30	-0.32	0.13

**5.1. Differences in culture types depending on demographic factors:
gender, age, location, organization type, position, total length of service,
length of service in the organization, position held and residence**

The hypothesis of “**the gender**” differentiating role, related to the cultural type, was not confirmed. Both men and women are equally prone to help each other in joint activities and to establish and develop good relationships with each other rather than seeking competitive advantage. The result is explained with the specificity of the health care sector, which leads to the complete exclusion of gender stereotypes, in contrast to other organization types, where differences in orientations are found.

After conducting variance analysis, it was found that the **age** factor determined statistically significant differences, according to clan ($F = 5.462$; $p = 0.005$), market ($F = 5.692$; $p = 0.004$) and hierarchical culture ($F = 6.846$; $p = 0.001$). Among the younger respondents, there are no big differences in the assessments, but with increasing age, the evaluations of the main dimensions in all three cultural types increase, with the highest values among the respondents aged 30 – 50 ($M = 21, 569$; $SD = 3.342$).

The value profile of the culture in health care is also changing, increasing empathy for the organization fate, which in turn highly values the long-term benefits of human resource development and attaches great importance to internal unity and high spirit ($M = 21.213$; $SD = 4.048$). Long-term experience in the healthcare organization determines the orientation towards excellent results, patient satisfaction, and namely this strive plays the role of internal bond ($M = 21.197$; $SD = 3.616$). In the various age groups, different priorities and needs dominate in terms of orientation to order, competitiveness and the transmission of experience, as this age period is decisive.

Table 17. Differences in the organizational culture type by age

Cultural type	Age	N	M	SD	F	p
Clan	Until 30	65	19.169	3.375	5.462	.005
	30 – 50	188	21.213	4.048		
	Over 50	123	20.780	5.056		
Adhocratic	Until 30	65	19.477	3.580	1.425	.242
	30 – 50	188	20.362	3.934		
	Over 50	123	20.390	3.991		
Market	Until 30	65	19.462	3.816	5.692	.004
	30 – 50	188	21.197	3.616		
	Over 50	123	21.163	3.891		
Hierarchical	Until 30	65	19.738	3.488	6.846	.001
	30 – 50	188	21.569	3.342		
	Over 50	123	21.398	3.782		

The results indicate that the **location** leads to statistically significant differences in each cultural type (Table 18). In small settlements, the higher purposefulness, conscientiousness and goodwill stand out ($M = 20,358$; $SD = 3,500$), which is probably a prerequisite for faster communication and maintaining good interpersonal and intra-organizational relations and cohesion ($M = 20,463$; $SD = 4,057$). According to the data from the variance analysis, statistically significant differences are derived in the large settlements for clan ($F = 3.520$; $p = 0.31$), adhocratic ($F = 5.215$; $p = 0.006$) and market cultures ($F = 5.644$; $p = 0.004$). The big city is connected with value orientations determined by the market organizational culture, with focus on the external environment; the main concerns are market conditions and relations linked with competitive advantages; ambitious goals, consumer mass, guaranteed success and profitability stand out;

Table 18. Differences in the organizational culture type by location

Cultural type	Location	N	M	SD	F	p
Clan	Capital	29	18.966	4.330	3.520	.031
	City	213	21.117	4.487		
	Town	134	20.463	4.057		
Adhocratic	Capital	29	18.000	5.258	5.215	.006
	City	213	20.432	3.850		
	Town	134	20.358	3.500		
Market	Capital	29	18.793	4.974	5.644	.004
	City	213	21.254	3.872		
	Town	134	20.754	3.192		
Hierarchical	Capital	29	20.138	3.420	2.511	.083
	City	213	21.512	3.563		
	Town	134	20.925	3.574		

The **ownership type** does not differentiate the organizational culture types. A certain support of the internal orientation has been established, uniting the values in organizations that are characterized by a strong orientation to the relationships, slow feedback, preservation of the status quo, control, low risk, compliance with strict subordination to interactions and reactivity.

Related to the differences in value orientations depending on the **position**, it can be stated that qualities, connected with creative and entrepreneurial attitudes and orientations to innovation and selectivity are valued, with certain highest values compared to the adhocratic culture in the attitudes of the administration ($F = 4.159$; $p = 0.006$). Innovations and the development of new ways to reach the consumer have only been understood as successful models of organizational work ($M = 21,979$; $SD = 4,422$). The creativity, flexibility, and ability to adapt to changes and innovative thinking are encouraged ($M = 22,250$; $SD = 4,769$). The subculture of administration is a differentiating factor in the organizational culture type – adhocratic, which differs from the dominant one in healthcare organizations and works in parallel on common goals, based on common values and beliefs, aiming at maximum efficiency.

Total length of service is not a differentiating factor in the organizational culture type, but it can be stated that the employees with the longest length of service determine the dominant values of the workplace. The main priority is the smooth running of the organization. The predominance of the hierarchical principle of relations usually defines the organizational culture as “family” one. In the specific case, the oldest employees have many years of experience, so the greater weight of the hierarchical culture type in the social representations of the respondents could be explained by the strong need for dependence and by the strict hierarchy of interpersonal relations in the family, at work and in political life. The explanation of the obtained results can be sought in greater weight of stability and control, compliance with formal rules and procedures. The main priority is the smooth running of the organization.

The length of service in the organization differentiates most strongly the value orientations determined by the clan culture ($F = 21,500$, $p = 0.003$) among the respondents more than 19-year-old in the specific workplace ($M = 21,500$; $SD = 4,675$). When comparing these values with the rest of the cultures, it is found that they are similar: for employees more than 19-year-old, followed by employees with length of service from 2 to 19 years ($M = 20,935$; $SD = 4,207$). The employees in the researched healthcare organizations share values and goals, and empathize with each other; the atmosphere is maintained through collective efforts and personal deployment. Hierarchy is not strongly expressed; closeness is sought between people, in order to achieve organizational goals and maximum efficiency of health care. The obtained result is not accidental, as it has been determined by the employees with the longest length of service in the organization – the specificity of the profession, global changes, years of touch not only with colleagues, but also with patients. At the basis of all this, human health, satisfaction and well-being of healthcare workers is.

According to the research results (Table 23), the increasing **length of service in the specific position** leads to drive for avoiding control with the highest values of **clan culture** ($F = 9,720$; $p = 0.000$) among respondents with 2-10 years length of service in the position ($M = 21,202$; $SD = 4,194$). On the other hand, the short length of service is a prerequisite for responsiveness and demonstrated desire to fulfill organizational tasks. In the examined healthcare organizations, the structured working environment and officially established rules and procedures dominate, with the smooth running of the hospital as a priority. It is no coincidence that the group of respondents with 2 to 10 years length of service in the specific position has determined

the preferences and perceived values of clan and hierarchical cultures, since the group of respondents with more than 10 years length of service has determined the adhocratic culture to be the highest one ($M = 20.520$; $SD = 3.587$), where the development of entrepreneurs and resourceful individuals is supported and adaptation to innovations is stimulated, in order to reach new resources. The results could be explained with the specificity of health services and the activity nature in general, which requires longer time to reach common internal fusion of innovations and experimentation, typical for the adhocratic culture.

Table 22. Differences in the organizational culture type, according to the length of service in the organization

Cultural type	Length of service in the organization	N	M	SD	F	p
Clan	Up to 2 years	59	19.017	4.341	5.874	.003
	2 – 19 years	261	20.935	4.207		
	More than 19 years	56	21.500	4.675		
Adhocratic	Up to 2 years	59	19.203	4.217	2.716	.067
	2 – 19 years	261	20.326	3.870		
	More than 19 years	56	20.786	3.551		
Market	Up to 2 years	59	20.017	3.391	2.231	.109
	2 – 19 years	261	20.962	3.869		
	More than 19 years	56	21.446	3.722		

No significant dependence between the **examined nests** (Plovdiv and Stara Zagora) was found. Possible explanation of the obtained result is the fact that the main focus is on creating conditions for better and quality communication, as personal contacts between management and employees are permissible, aspirations are expressed in satisfying the expectations of both parties, and preferences for the organizational culture type depend on the location of the healthcare organization.

Table 23. Differences in the organizational culture type, according to the length of service in the specific position

Cultural type	Length of service in the position	N	M	SD	F	p
Clan	Up to 2 years	68	18.662	4.010	9.720	.000
	2 – 10 years	258	21.202	4.194		
	More than 10 years	50	21.020	4.872		
Adhocratic	Up to 2 years	68	18.971	3.697	4.326	.014
	2 – 10 years	258	20.488	3.957		
	More than 10 years	50	20.520	3.587		
Market	Up to 2 years	68	20.235	3.028	1.241	.290
	2 – 10 years	258	21.047	3.807		
	More than 10 years	50	20.940	4.537		
Hierarchical	Up to 2 years	68	20.309	2.678	2.823	.050
	2 – 10 years	258	21.453	3.564		
	More than 10 years	50	21.080	4.439		

The variable **occupied position** in the organizational hierarchy has a significant influence on the value orientations (Table 25), with the highest value determined for the hierarchical culture ($F = 11,260$; $p = 0,001$), followed by the adhocratic organizational culture ($F = 6,936$; $p = 0,009$), market culture ($F = 6,894$; $p = 0,009$) and lastly adhocratic culture was determined ($F = 5,165$; $p = 0,050$). The clan culture is rated higher by managers ($M = 21,528$; $SD = 5,542$) than by employees ($M = 20,400$; $SD = 3,755$).

The results regarding the value preferences, according to the **position in the hierarchy** could be justified by the assumption that the leader in the specific position strives to expand his expert knowledge and is open to suggestions from the followers and to experience exchange (Table 25). The established higher rates of the value orientations building the hierarchical ($M = 22,170$; $SD = 4,162$) and market cultures type ($M = 21,698$; $SD = 4,703$) confirm the stronger orientation towards stability and control through compliance with formal rules and procedures. Managers are perceived as responsible for the adaptability of the organization in the conditions of continuous changes in external environment, and this could be an explanation of the obtained results. In the examined healthcare organizations, there is structured working environment, officially established rules and procedures prevail, and the emphasis is placed on the smooth running of the hospital facilities. The managers are good coordinators and organizers, with mindset focused on the good working process.

Table 25. Differences in the organizational culture type, according to the position

Cultural type	Position	N	M	SD	F	p
Clan	Manager	106	21.528	5.542	5.165	.050
	Employee	270	20.400	3.755		
Adhocratic	Manager	106	21.057	4.480	6.936	.009
	Employee	270	19.889	3.601		
Market	Manager	106	21.698	4.703	6.894	.009
	Employee	270	20.567	3.320		
Hierarchical	Manager	106	22.170	4.162	11.260	.001
	Employee	270	20.815	3.239		

5.2. Relationships between leadership styles and organizational culture type

According to the results of the performed correlation analysis, in the examined health organizations, the presentation and expansion of the competences of the employees are supported and opportunities for personal development are provided ($r = 0,225$; $p < 0,01$). The positive correlative dependence between adhocratic culture and leadership styles determines pioneering initiatives and highly expressed innovativeness ($r = 0,308$; $p < 0,01$). The leaders encourage the development of spherical thinking, flexibility and autonomy, with focus on the external environment. Clear vision of future is constructed and its transformation into reality is facilitated ($r = 0,317$; $p < 0,01$). Of primary importance to management is the accuracy in relationships with a drive to ensure adequate rewards ($r = 0,342$; $p < 0,01$). A positive correlation was found between the market culture and the seven leadership chairs. The relationship between market culture and inspirational motivation is ranked first ($r = 0.317$; $p <$

0.01). The management provides full support and assistance for stimulating the enthusiasm of the employees and the vision for the organization future is presented clearly. This motivates the followers to work hard for its realization. In second place is the relationship between market culture and intellectual motivation ($r = 0,225$; $p < 0,01$). There is discipline, responsibility and drive for achievement. The management stimulates non-rational thinking, innovation and creativity, showing diligence, organization and persistence, with an emphasis on employees' needs ($r = 0,211$; $p < 0,01$).

A possible explanation of the obtained result is the drive for realizing set goals and achieving organizational efficiency with a focus on quality health care. Competitive abilities are encouraged by managing the orientation towards them. On the grounds of the correlation analysis, significant positive correlations were found between hierarchical culture and leadership styles, as inspirational motivation ($r = 0,274$; $p < 0,01$), individualized attention ($r = 0,220$; $p < 0,01$) and idealized influence ($r = 0,203$; $p < 0,01$). The leaders help followers clearly understand their expectations, in order to better adaptation. Regarding the management of the control system, there is confidence and the implementation process is strictly monitored – another advantage of the examined health organizations, directly related to the efficiency of hospitals and the quality of care provided.

Table 26. Correlational dependence between leadership styles and organizational culture types

Leadership styles Culture	Idealized influencz, charisma	Inspirational motivation	Intellectual motivation	Individualized attention	Conditional awards	Exception Management	Liberal leadership
Clans	.357**	.276**	.345**	.387**	.287**	.208**	.311**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adhocratic	.317**	.308**	.334**	.297**	.342**	.136**	.287**
	0.000	0.000	0.000	0.000	0.000	0.008	0.000
Market	.186**	.317**	.225**	.211**	.194**	.155**	.168**
	0.000	0.000	0.000	0.000	0.000	0.003	0.001
Hierarchical	.203**	.274**	.189**	.220**	.188**	.213**	.241**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000

** . Correlation is significant at the 0.01 level (2-tailed).

5.3. Interrelationships between personality characteristics, according to the “Big Five” model and dimensions of leadership styles

Correlation analysis was performed, in order to verify the interrelationships between the personality traits under the “Big Five” model and the dimensions of leadership styles. According to the results, the “benevolence” personality trait correlates strongly and positively with the seven leadership styles, as “the individualized attention” is ranked first ($p = 0,301$; $r < 0,01$), followed by the “inspirational motivation” dimension ($r = 0,229$; $p < 0,01$) and “the intellectual motivation” ($r = 0,244$; $p < 0,01$). Therefore, the management stimulates employees to maximum levels of performance and respects their feelings and needs. In parallel, new ways for improving the work process and solving the existing problems are sought. Due to the strong and positive

correlation dependence of “the benevolence” personality trait with the leadership styles, it could be added that the manager is perceived as a charismatic leader, showing friendliness, empathy and cooperativeness.

For “the extraversion” personality trait, the highest positive correlation values are found with the following leadership styles: individualized attention ($r = 0,178$; $p < 0,01$), intellectual motivation ($r = 0,167$; $p < 0,01$) and idealized influence (charisma) ($r = 0,155$; $p < 0,01$). This explains the discipline and high sense of responsibility, characterizing the ability of a leader in a healthcare organization to motivate employees by building confidence, enthusiasm and team spirit. The supportive atmosphere and concern on behalf of the managers dominate, which leads to development of skills for analysis, research, problem solving and dealing with dynamically changing conditions of the organizational environment, determined by the positive correlation of the personality trait “openness” to “new experience” with the following leadership styles: intellectual motivation ($r = 0,158$; $p < 0,01$), exception management ($r = 0,154$; $p < 0,01$) and conditional awards ($r = 0,144$; $p < 0,01$). The results of performed correlation analysis reveal an innovative orientation, with leaders open to followers' ideas and values. A possible explanation is the orientation of management in the examined healthcare organizations towards innovation and incentive to broaden the horizons of employees. Another explanation could be the way in which the leader presents innovations for achieving the organizational goals.

Table 27. Result of the personality characteristics correlation analysis, according to the five-factor (BIG 5) model and dimensions of leadership styles

BIG 5 Leadership styles	Extraversion	Benevolence	Conscientiousness	Neuroticism	Openness to new experience
Idealized influence, charisma	.155**	.250**	0.097	-0.055	0.064
	0.003	0.000	0.061	0.286	0.216
Inspirational motivation	.125*	.229**	.180**	-0.026	0.082
	0.016	0.000	0.000	0.618	0.112
Intellectual motivation	.167**	.244**	.163**	0.042	.158**
	0.001	0.000	0.002	0.417	0.002
Individualized attention	.178**	.301**	.223**	0.038	.184**
	0.001	0.000	0.000	0.460	0.000
Conditional awards	.138**	.121*	0.081	.131*	.144**
	0.008	0.019	0.118	0.011	0.005
Exception management	.107*	.232**	.127*	-0.012	.154**
	0.038	0.000	0.014	0.813	0.003
Liberal leadership	0.047	.107*	-0.038	0.060	0.041
	0.360	0.038	0.464	0.246	0.430

5.4. Interrelationships between personality traits and organizational culture types

According to the obtained results, interrelationships of all five personality traits, according to the “Big 5” model and the organizational culture types are established. In **clan culture**, there is a strong and positive correlation with the “extraversion” ($r = 0,193$; $p < 0,01$) and “benevolence” ($r = 0,196$; $p < 0,01$) personality traits, which explains the collectivism and inward orientation of the organization itself. The intel-

lectual development of the staff is appreciated, unlike the achievement of capital heights. This results in an organizational atmosphere sustained through collective effort and personal development. In the **adhocratic culture**, there are positive correlations with “extraversion” ($r = 0,142$; $p < 0,00$) and “benevolence” ($r = 0,158$; $p < 0,001$) personality traits. This indicates a strong tendency of stimulation and good interpersonal communication.

The management is active and oriented towards the members of the organization, and it is logical that there should be intensive communication, which is one of the conditions for the effective work of the health organization. In case of **hierarchical culture**, a positive correlation was found with the “benevolence” ($r = 0,149$; $p < 0,01$) personality characteristic. It is subject to clear principles of behavior, a stable structure and control management mechanisms leading to maximum efficiency. A significant correlation was found between neuroticism and **adhocratic culture**, which to some extent explains the low levels of openness to new experience ($r = 0,145$; $r < 0,01$). In the **market culture**, interrelationships were also established with benevolence – a trait defining the attitude to work and life ($r = 0,136$; $p < 0,01$), which explains the discipline, high sense of responsibility, constancy to the goals, good organization and motivation for success in the examined health organizations.

Table 28. Interrelationships between personality and cultural types

Personality traits Organizational type	Clan	Adhocratic	Market	Hierarchical
Extraversion	.193**	.142**	0.098	0.084
	0.000	0.006	0.058	0.104
Benevolence	.196**	.158**	.136**	.149**
	0.000	0.002	0.008	0.004
Conscientiousness	0.070	.117*	.154**	.108*
	0.173	0.023	0.003	0.036
Neuroticism	0.067	.145**	0.084	0.096
	0.192	0.005	0.106	0.063
Openness to new experience	0.023	0.048	0.031	0.054
	0.660	0.358	0.548	0.299

6. Influence of personality traits on the organizational culture

The influence of all five personality traits on the culture of the examined health organizations has been established (Table 29). In **clan culture** ($R^2 = .45$) the **extraversion** ($p = 0.000$), **cooperation** ($p = 0.000$) and **neuroticism** ($p = 0.000$) are of particular importance, which explains the **collectivism** and **inward orientation** within the organization itself, where the staff development, not so much the achievement of capital heights, is appreciated. This results in an organizational atmosphere sustained through collective effort and personal development. The **adhocratic culture** ($R^2 = .38$) is influenced by **goal orientation** ($p = 0.001$) and **neuroticism** ($p = 0.001$), which explains the dynamics responding to the fast-changing environment. In the **hierarchical culture** ($R^2 = .26$), the **extraversion** ($p = 0.000$), **cooperation** ($p = 0.001$), **goal orientation** ($p = 0.001$) and **neuroticism** ($p = 0.008$) strongly influence, deter-

mining the behavior, subject to clear rules, stable structure, clear management and control mechanisms leading to maximum efficiency in the healthcare organization. The **market culture** ($R^2 = .26$) has been first influenced by cooperation ($p = 0.000$), followed by **goal orientation** ($p = 0.002$), **neuroticism** ($p = 0.001$) and **openness to new experiences** ($p = 0.023$). This explains the orientation towards the external rather than the internal environment, with core values of productivity and competitiveness, accompanied by creativity and the individual's passion for acquiring new knowledge and experience.

Table 29. Impact of personality traits on culture

Personality traits	Organizational cultures			
	R ²	B	T	p
Clan culture				
Extraversion	.45	-.43	-7.37	.000
Cooperation		.38	7.03	.000
Neuroticism		-.22	-3.59	.000
Adhocratic culture				
Purposefulness	.38	.23	3.27	.001
Neuroticism		-.44	-6.63	.000
Market culture				
Cooperation	.26	-.24	-4.44	.000
Purposefulness		.20	3.19	.002
Neuroticism		-.21	-3.49	.001
Openness		.18	2.28	.023
Hierarchical culture				
Extraversion	.35	-.21	-4.01	.000
Cooperation		.16	3.30	.001
Purposefulness		.18	3.23	.001
Neuroticism		-.14	-2.65	.008

A regression analysis was applied to determine the influence of personality traits on leadership styles. On the grounds of the obtained results, models of leadership styles and personality traits in the management of pandemic crises are presented (Table 30). A strong interrelationship was established between the dimensions of the “BIG 5” model and leadership styles in the examined healthcare organizations. Thus, the management is differentiated, as a role model and behavior example, and at the same time there is correspondence between the attitudes and values of the organization. The emphasis is placed on mutual support for achieving common goals, which is also understandable due to the specifics of the activity. There are discipline and high sense of responsibility, characterizing the ability of a leader in a healthcare organization to motivate employees by building confidence, enthusiasm and team spirit. The effective interpersonal relationships are available and they are characterized by supportive feedback, listening and emphasis on needs, both individual and shared.

Table 30. Model of leadership styles and personality traits in pandemic crisis management

Management style	“BIG 5” personality traits	Results in crisis management
Inspirational motivation	Benevolence Conscientiousness Extraversion	Encouraging unconventional thinking and optimism, inspiring vision, staff motivation, emotional identification with the leader's ideas
Individualized attention	Benevolence Conscientiousness Extraversion Openness to new experience	Special attention to each follower's needs, individual ideas and plans for personal growth
Idealized influence	Benevolence Extraversion	Loyalty and devotion to the leader's cause, profound and extraordinary effects on followers, self-actualization, and more meaningful results
Intellectual motivation	Benevolence Conscientiousness Extraversion Openness to new experience	Guidelines for critical and analytical thinking, application of new working approaches
Exception management	Benevolence Openness to new experience	Effectively dealing with conflicts, errors and omissions, gain awareness regarding organizational standards
Conditional awards	Openness to new experience Extraversion Neuroticism	Focus on providing valuable resources and rewards to motivate employees for better performance

7. Model for the influence of leadership styles on the organizational culture types in the healthcare sector

In order to determine the influence of leadership styles on the dominant value orientations, a regression analysis was applied, whose results are shown in Table 31.

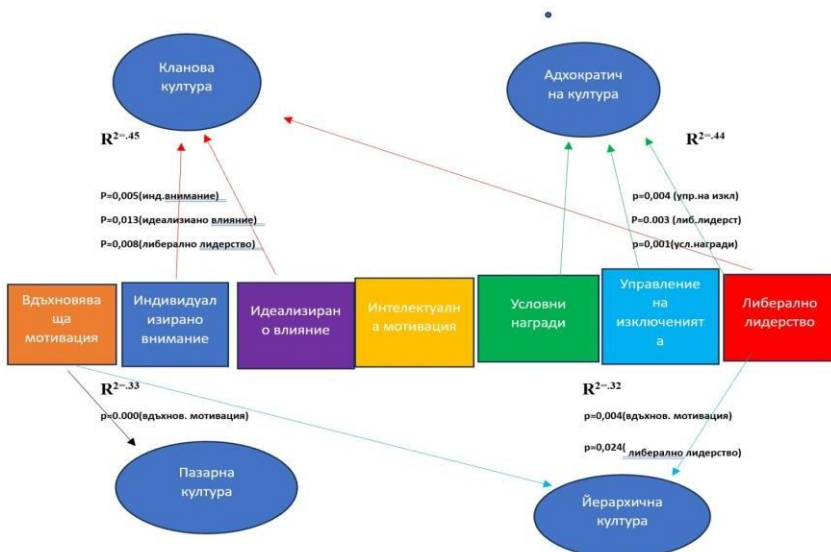
It was found that the leadership styles: **idealized influence** ($p = 0.013$), **individualized attention** ($p = 0.005$) and **liberal leadership** ($p = 0.08$) had the most significant influence on the **clan culture** ($R^2 = .45$). A possible explanation is the fact that the clan culture is oriented towards flexibility, freedom of action, individual change and improvement (S. Karabelyova, 2011).

The management is a role model, but the employees do their best and drive for traditional atmosphere, loyalty and empathy in the organization, which is explained by the external locus, self-confidence, sociability and positive attitude. The long-term benefits of health workers development are highly valued and the emphasis is placed on internal unity and organizational spirit. The explanation for these results comes from the sensitivity to patients and staff care, teamwork and empathy. In parallel, new ways for improving the work process and new solutions to existing problems are sought. The leadership styles, based on **exception management** ($p = 0.004$), **liberal leadership** ($p = 0.003$) and **conditional awards** ($p = 0.001$) have the strongest influence on the **adhocratic culture type** ($R^2 = .44$), which determines the presence of agreeableness and integrity in the dynamic working environment. The orientation is towards continuous change, flexibility and freedom of action.

Table 31. Leadership style influence on the culture

Leadership style	Organizational cultures			
	R ²	B	T	p
Clan culture				
Idealized Influence	.45	.19	2,78	.005
Idealized Influence, Charisma		.17	2.45	.013
Liberal Leadership		.15	2.68	.008
Adhocratic culture				
Exception Management	.44	-.17	-2.99	.004
Liberal Leadership		.18	3.04	.003
Conditional Awards		.22	3.45	.001
Market culture				
Inspirational Motivation	.33	.31	4.30	.000
Hierarchical culture				
Inspirational Motivation	.32	.21	2.94	.004
Liberal Leadership		.14	2.27	.024

From the obtained data, it was found that the leadership styles, based on **inspirational motivation** ($p = 0.004$) and **liberal leadership** ($p = 0.24$) have the strongest influence on the **hierarchical culture** ($R^2 = .32$).



Legend

- > Influence of leadership styles on clan culture
- > Influence of leadership styles on the adhocratic culture
- > Influence of leadership styles on the market culture
- > Influence of leadership styles on the hierarchical culture

Figure 2. Model of influence of leadership styles on the organizational culture types in health care

The focus is on the internal environment, effective team management, employee development and interpersonal relations. Stability and internal maintenance of the system are observed. Clear vision for success in conditions of dynamic changes, resulting from the Covid-19 pandemic has been built. The health workers follow clear rules and mechanisms of management and control. In the **market cultural type** ($R^2 = .33$), the strongest influence of leadership style, based on **inspirational motivation** ($p = 0,004$) was found. Clear and inspiring vision for future is being created in the examined healthcare organizations. The management motivates employees by building confidence, enthusiasm and team spirit, and thus stimulates closer commitment to organizational goals and vision. This explains the discipline, high sense of responsibility, constancy to the goals, good organization and motivation for success in the examined health organizations.

On the grounds of the results, obtained from the applied regression analysis, a model was prepared, showing the influence of leadership styles on the organizational culture types during the Covid-19 crisis (Figure 2).

Summary and conclusions

In the current dissertation work, a detailed theoretical overview of modern theories in the field of leadership styles, organizational culture and pandemic crises, was carried out, and the multidimensional nature of the mentioned constructs was confirmed. Definitions and various concepts of these terms are presented, as well as their interrelationship with personality traits and organizational culture. The “crisis” definitions and characteristics are described and the picture of health care during the Covid-19 pandemic is presented in detail. The presented studies about leadership styles and organizational culture in the field of healthcare worldwide during the crisis caused by the Covid-19 pandemic confirm its relevance. The evolutionary status of transformational, transactional leadership and organizational culture is described, and conclusions from empirical studies of these constructs in the field of health care are presented. This review of the scientific literature confirms the possibilities of interactions between leadership and organizational culture and their relations with personality characteristics. In this way, clarity is provided regarding the establishment of healthcare organization with collective activity, which is basic for the choice of an appropriate management style, leading to safety of both patients and healthcare workers. After applying psychological tools, the results of the conducted empirical research were analyzed and interpreted.

The data of the conducted research show that the respondents are attracted by the “distant” charismatic leaders who discover the disadvantages, opportunities and define the strategic goals, and who also motivate the employees by clearly formulating the vision, creating trust based on success.

The attitude of the followers towards the leader is also determined by the environment where the organization develops. It is possible that it favors the charismatic leadership, but also limits it. For this reason, during the Covid-19 pandemic, a prerequisite for legitimization of charismatic leadership is created in the investigated hospitals. On the grounds of the obtained results, **hypothesis (1)**: “Personality traits and leadership styles are factors in building organizational behavior” and **hypothesis (2)**:

“Leadership styles and personality traits are interrelated and certain styles are influenced to various degrees by personality traits”, **are confirmed.**

The obtained results show that demographic indicators differentiate leadership styles to various degrees. The gender, the studied nests (Plovdiv and Stara Zagora), the total length of service and the ownership types (state or private) are not sources of variation and do not differentiate the four dimensions. The most variable is the charismatic leadership style, which is influenced by age, location, position, length of service in the organization and the position, as well as the hierarchical level, followed by the styles of inspirational motivation and exception management, which are influenced by age, total length of service and the length of service in the organization. The styles of intellectual motivation, individual attention, and contingent rewards are equally affected by age. The logic of such an arrangement can be sought in the desire to maintain stability and to develop opportunities for adequate rapid actions when necessary.

Therefore, **hypothesis (3):** “It is assumed that leadership styles vary depending on the organization type and are influenced by individual variables: demographic – gender, age; related to the status in the organization, total length of service, and length of service in the specific organization”, is **partially confirmed.**

In the examined healthcare organizations, the dominant values of one type of culture clearly stand out, regardless of the fact that they could be different for individual departments. On the grounds of the conducted research, it is established that the leading type of organizational culture is the hierarchical one, followed by the market one. The higher values of the dominant culture are associated with the main task of the organization for higher efficiency and reliability, as they contribute to the stability and high consistency of health services. Basic and leading values to success are the standardized rules and procedures, control and mechanisms for work performance. In healthcare organizations, more and more importance is attached to the results of activities aimed at profits. Special attention is paid to qualities, such as innovation, creativity, taking responsibility and measured risks. The last place is given to the adhococratic cultural type, where the main focus is on the achievement of innovations in the health organization. Due to the obtained results and the analysis, **hypothesis (4):** “It is assumed that the sources of change in the organizational culture are the different cultural types”, is **confirmed.**

From the obtained results, it is established that the demographic indicators differentiate to various degrees the organizational culture types. Gender, the studied nests (Plovdiv and Stara Zagora), total length of service and ownership type (state or private) are not sources of variation and do not differentiate the four dimensions. The most variable organizational culture is the clan culture, according to the results obtained, which is influenced by age, location, position, length of service in the organization and the position, as well as the hierarchical level. The second place is taken by the hierarchical one, which is influenced by length of service in the organization and the length of service at the position, as well as the position itself. The market and adhococratic cultures are affected equally but by different variables, namely: age, position, location, but the innovativeness is affected by the length of service at the position, by the management and the location. Relatively stable culture types are the clan and hi-

erarchical ones. The logic of such an arrangement of values could be found in the necessity to respond to the environment requirements through stability and innovation.

Therefore, **hypothesis (5)**: “The organizational culture has different manifestations depending on the studied demographic variables, i.e. source of variation in the organizational culture types are the gender, age, location, organization type, position, total length of service, length of service in the organization and residence”, **is partially confirmed**.

In order to predict the influence of personality traits and leadership styles on dominant value orientations, multiple linear regression analysis was applied, which allows analyzing both individually and jointly the influence of two or more independent variables on one dependent variable. Based on the obtained results, two models were derived: 1) *Model of leadership styles and personality traits in the management of pandemic crises, presented in table 30 and 2) Model of influence of leadership styles on the organizational culture types in the health care sector, presented in figure 2*. In this way, the dominant leadership styles and value orientations in the field of health care are defined in detail and in structured manner, as well as the interrelationships and impacts between the specified constructs, which contributes to a clearer picture in this context and suggests the development of future strategies, aiming maximum efficiency and quality improvement of services.

Conclusion

Healthcare is a dynamic field characterized by a constant drive to provide the most effective, safe and high-quality care possible. The arranged functioning of healthcare organizations relies on far-seeing leaders, loving knowledge, prestigious and able to adapt to development. When challenges are present, such as Covid-19 pandemic, it is of utmost importance for people and organizations to survive and thrive in fighting the virus and all its associated economic and social upheavals. Most of the researchers see the crisis through the prism of dark perspective. However, it could be an opportunity for the organization to grow, depending on the managers' ability. In this case, the crisis corrects organizational problems and is a prerequisite for acquiring new skills and experience, considering new strategies and methods. Since one of the main goals of identifying and assessing leadership competencies in healthcare organizations is to facilitate the development of a framework that is applicable, the models presented in this dissertation would serve as useful tools for identifying gaps and undesirable actions in the management context of healthcare organizations, which is directly related to professional development, improvement of individual abilities and performance in general.

Main contributions of the dissertation

Scientific and theoretical contribution

1. A theoretical model of leadership styles and organizational culture in pandemic crisis was created
2. A theoretical framework of the influence of leadership styles on organizational culture in Covid-19 situation in the health care sector is derived.

Practical-applied contributions

1. ***A Model of leadership styles and personality traits in pandemic crisis management was created***
2. ***A Model for the influence of leadership styles on the types of organizational culture in the field of health care was created***
3. An ***applicable framework*** incorporating both models above, was developed, that would serve as a useful tool for identifying gaps and undesirable actions in the context of healthcare organization management, professional development, improvement of individual capabilities and total performance, related to maximum organizational effectiveness.

PUBLICATIONS ON THE DISSERTATION TOPIC

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3. Elitsa Dudulaki (2022) Impact of the Covid-19 pandemic on the organizational culture in the field of health care worldwide, University edition “Doctoral studies”, 6, 104–111, ISSN 2367-7309
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6. Emilia Lazarova, Elitsa Ntountoulaki, Maiyana Mitevska (2022). Personal predispositions in management of crisis situations; Collection of reports from the annual university conference NVU, 2568–2574, ISSN 2367-7481
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