

NICHE APPROACHES IN A CHANGING WORLD

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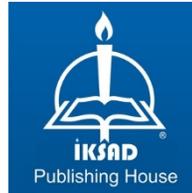
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CONTENTS

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PREFACE

Dr. Rana ÖZYURT KAPTANOĞLU.....1

CHAPTER 1:

INTERACTION BETWEEN DEFENSE EXPENDITURE AND MACROECONOMIC INDICATORS:

A CASE STUDY OF SELECTED COUNTRIES IN THE MENA REGION

Wisam A. SAMARAH

Assist. Prof. Dr. Merve TUNCAY.....7

CHAPTER 2

THE EFFECTS OF INFLATION, EXCHANGE RATE AND OIL PRICES ON GOLD PRICES: A LITERATURE REVIEW

Dr. M. Büşra ENGİN ÖZTÜRK.....49

CHAPTER 3

NUCLEAR ENERGY PERCEPTIONS OF UNIVERSITY STUDENTS: a structural model proposal

Profesor Veysel YILMAZ

Assoc. Prof. Erkan ARI.....71

CHAPTER 4

TECHNOLOGY-ENHANCED EDUCATION AS A SOLUTION TO THE PROBLEMS OF HISTORY TEACHING IN TURKEY

Assist. Prof. Dr. İbrahim TURAN.....107

CHAPTER 5

THE PLACE OF HALAL FOODS IN THE FAITH TOURISM: THE CASE OF KONYA - TURKEY

Res. Assist. Mustafa YILMAZ

Assist. Prof. Dr. Eda GÜNEŞ

Assoc. Prof. Dr. Ümit SORMAZ.....135

CHAPTER 6

**INSIGHTS OF FOREIGN MEDICAL TOURIST ON MEDICAL
TOURISM IN TURKEY: A CONTENT ANALYSIS**

Assoc. Prof. Dr. Aybeniz AKDENİZ AR

Assist. Prof. Dr. Sibel SÜ ERÖZ.....153

CHAPTER 7

**IMPACT OF ORGANIZATIONAL ETHICAL CLIMATE
PERCEPTION ON TASK SATISFACTION WITHIN THE
CONTEXT OF THE STREET LEVEL BUREAUCRATS**

Assist. Prof. Dr. Serdar Vural UYGUN.....187

CHAPTER 8

**TERROR MANAGEMENT THEORY: STUDIES CONDUCTED
IN TURKEY**

Dr. Meryem Berrin BULUT.....223

CHAPTER 9

**THE EFFECT OF DEMOGRAPHIC CHANGE ON SOCIAL
SECURITY SYSTEM MANAGEMENT AND THE COUNTRY
PRACTICES**

Dr. Rana ÖZYURT KAPTANOĞLU.....265

PREFACE

Niche Approaches in a Changing World covers research articles written by different researchers in our country in the field of social sciences. The research in the book is concentrated around five basic topics which are economy, technology, tourism, management and health.

SAMARAH and TUNCAY examined the interaction between defence expenses and macroeconomic indicators, especially in the MENA region in their studies. Wars cause serious losses for the country's economies. The world economy faces unprecedented chaos with increased unemployment, inequality, financial impotence and ecological deterioration. The conflicts that occur especially in the Middle East and North Africa (MENA) region have put forward the concept of defence economy. Understanding the facts and components behind defence spending is still a mixed issue where consensus cannot be achieved. Therefore, in the 2006-2016 period, after testing the data collected from 11 MENA countries, it was revealed that defence spending had a negative effect on the economy.

ÖZTÜRK has examined the literature on how much the inflation, exchange rate and oil price variables affect the gold price. According to macroeconomic theory, many factors are interrelated, and all are affected by both economic and political changes. Gold prices are one of these factors affected by this. Gold, which is considered as a global value store in the world economy and trade and used to measure the value of money, is particularly affected by the exchange rate, oil price and inflation. In the light of this information, it was revealed that gold

prices have a negative relationship with exchange rates while having a similar relationship with oil price and inflation.

YILMAZ and ARI worked on a structural model proposal on university students' perceptions of nuclear energy. The rapidly increasing population in the world has revealed insufficient energy resources, and all countries have turned to different energy resources, however, the new sources mentioned brought new problems with it. Nuclear energy is one of the most discussed types of energy in this context, and even entered the educational curriculum in some countries. The world is divided into two axes regarding the use of nuclear energy. In the light of this information, the views of mechanical engineering students were examined. In the process of accepting a technology that is as dangerous as nuclear energy, the results obtained in conclusion show that the students also consider the general benefits of the subject technology.

TURAN has worked on a technological based solution proposal for the problems of teaching history in Turkey. The development in technology has caused many processes in the world to change completely. The technology-based approach in education can benefit both students and teachers. However, both its infrastructure and planning should be done well. If this system is not established well, it will not be more than unnecessary financial waste. Therefore, the model put forward by the author addresses the system with three educational objectives, which are cognitive, affective and psychomotor educational objectives.

YILMAZ, GÜNEŞ and SORMAZ examined the place of halal foods in religious tourism, taking the Konya region as a sample. The authors' work revealed a lack of halal food certification in 4 and 5 star hotels in Konya. The authors suggested that the price of halal certification should be cheaper, the difficulties in the certification process should be eliminated and more information should be given about halal foods worldwide.

AKDENİZ AR and ERÖZ have worked on the content of foreign medical tourism in Turkey. In this context, the aim of the study of the authors who applied to the views of the medical tourists visiting Turkey was to improve the quality of the service provided in this field, to determine the brand image and competitive strategies in this field. It was observed that the results of the research using qualitative analysis showed that the tourists were generally satisfied.

UYGUN has investigated the effect of organizational ethical climate perception on the level of job satisfaction in the context of street-level bureaucrats. Street bureaucrats who are in direct contact with citizens have the feature of being the open face of public administration. For this reason, the high duty satisfaction of these personnel is an important determinant of the visual activities of public services. Along the same line, the perceived ethical climate level of the said personnel will have a clear effect on the behaviour of public services. The results of the research conducted in this context are that the perception of organizational ethical climate has a positive effect on the bureaucrats at the street level.

BULUT examined the studies carried out in our country in the context of the theory of terror management. It is the most serious witness to everything that has a birth and a beginning of death, and people feel a sense of terror only when they become conscious of their mortality. Death can mean different things for each culture or even for each individual. Some see death as an end, while others see it as a beginning. In this context, the research was carried out to test the Terror Management theory, which was first introduced in 1986, in Turkey.

ÖZYURT KAPTANOĞLU has examined the effects of demographic change on social security system management in Turkey and in the world. As long as life continues, change will continue. The demographic change in the countries reveals the necessity to keep up with the changes in the giant organizations and private organizations and to make changes in their structures. In the study, the extent to which demographic changes have changed the social security system management both in Turkey and in the world and the kind of reforms have been developed have been examined.

The titles in the book are niche topics and are not frequently encountered in the literature. It is thought that these research subjects that are currently available and carries a risk factor for both Turkey and the world would have unique value for the literature and be beneficial to humanity.

I would especially like to thank the designer İbrahim KAYA. preparation of this study, İKSAD Chief Advisor and İKSAD International Publisher Officer Sefa Salih BILDIRICI, and İKSAD President Mr. Mustafa Latif EMEK who supported us in every respect. I would also like to express our gratitude to our writers for important contributions to work.

Dr. Rana ÖZYURT KAPTANOĞLU

CHAPTER 1

**INTERACTION BETWEEN DEFENSE EXPENDITURE AND
MACROECONOMIC INDICATORS:
A CASE STUDY OF SELECTED COUNTRIES IN THE MENA
REGION¹**

Wisam A. SAMARAH²
Assist. Prof. Dr. Merve TUNCAY³

¹ Preliminary version of this paper was presented at the 1st International Turkish Congress on Accounting and Finance History " From 1923 to Present " by the name of "How Do Defense Expenditure and Macroeconomic Indicators Interact in the MENA Region?", (Malatya/Turkey, October 10–12, 2019).

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INTRODUCTION

The world economy is currently facing a unique paradox which is defined by the existence of unparalleled global production capacities associated with rising levels of unemployment, inequality, financial instability, social unrest, and ecological degradation. Looking at the Middle East and North Africa (MENA) region in particular, we notice that a number of conflicts had erupted and some had continued to exist in the past few years –the Arab-Israeli conflict; the Algerian-Moroccan dispute over the desert; the war in Yemen, Syria, Libya, and Iraq. In addition, a number of these nations –such as Israel, Saudi Arabia, and Turkey- are constantly struggling with one another to elevating their status to a regional Hodgeman. In such an environment, investigating defense expenditures and their interaction with the macroeconomic variables becomes of curtail importance. Starting from this point of view, defense economics literature is seen to be started to emerge and improve in the last half of the twentieth century started by the study of Benoit (1973). Since then numerous studies have been conducted to understand the motives behind and components of defense expenditures by various statistical analyses. On the other hand, as there is still not a consensus regarding the defense expenses and their possible effect on macroeconomic variables, it makes the subject open to new researches and analysis methods.

The Arab states constitute the majority of the MENA countries. The majority of the Arab states are all following the same path and

converging to economies that are characterized by low production capacities associated with rising levels of unemployment, inflation, inequality, and social unrest. “In recent decades, the Arab region has been characterized by an expansion in schooling coupled with weak labor market conditions” (Campante and Chor, 2012: 170). Even the newly developed semi-independent Palestinian economy is following the same path (Samarah, 2017). This had contributed to the birth of the Arab Spring, where an environment characterized by volatility, uncertainty, complexity, and ambiguity (VUCA) had evolved.

Let us now discuss and define each of these terms in the context of business and economics:

Volatility: This term is commonly used in statistics and finance. Volatility can be described as a statistical measure, describing the amount of uncertainty about the size of changes. It can be quantified by the standard deviation or variance of the variable. For example, the increasing fluctuations in market prices for global raw materials or stocks. Following these trends over time, will reflect the high volatility as a result of significant jumps in prices. This can be an indicator of the increasing pace of the environment. Thus this term can be a good indicator of how rapidly the environment is changing, i.e. the speed of the change in an environment (Kail, Blogs.hbr.org, 2010).

Uncertainty: With increasing volatility of the environment, it is very hard to predict or forecast the future. In these circumstances, it

becomes more and more difficult for statistical regression models to forecast future developments and linking them with probability distributions. Uncertainty can also be viewed as a lack of clarity to evaluate properly a situation in order to identify the challenges and opportunities associated (Kail, Blogs.hbr.org, 2010).

Complexity: In an interconnected world that makes both an interconnected and networked environment, it becomes extremely difficult to connect a cause and effect relationships. Thus the concept of linear causality can no longer apply and reaches a limit. Complexity can be defined as a situation where interconnectedness of parts and variables is extremely high that the same external conditions and inputs can lead to different outputs or reactions in the same system. For example, organizations or inter-organizational alliance networks where the same inputs can cause different outputs at different points in time (Kail, Blogs.hbr.org, 2010).

Ambiguity: Ambiguity is characterized by a situation where casual relationships are completely unclear (Bennet and Lemoine, 2014). Thus a situation cannot be definitely resolved according to a specific rule or process consisting of a finite number of steps. An example of ambiguity in the real world, business decisions become more and more difficult where there is more than one solution to a specific problem and there is no clear analytical process to identify which option should be chosen. That is, there is an ambiguity in the situation. In this situation, different people will give different solutions to a specific problem and all these solutions are equally

likely or equally valid to solve the problem (Kail, Blogs.hbr.org, 2011).

A VUCA environment had manifested in Bosnia (1996), Kosovo (2000), and Iraq (2004-2007) (Casey, 2014). Libya (2011-present), Syria (2011-present) and Yemen (2011-present) are also experiencing a VUCA environment; in addition, a number of Middle Eastern countries are nominated to follow. We notice that in the MENA region a VUCA environment had manifested as a result of an external invasion or the Arab Spring or a combination of both.

The general consensus had come to the realization that the reasons for the manifestation of the Arab Spring were a combination of economic, political, and social factors. Among the economic factors were the rising unemployment rates associated with rising price levels and the increasing levels of education. In an attempt to reduce the complexity of the situation, the governments had responded by adopting policies that had resulted in rising inflation and impoverishments of the majority of the population (Idris, 2016). Defense expenditures are also believed to be another important affecting factor of inflation when postwar reconstruction stimulated inflation following the period expensive wars took place between 1938 and 1975 (Xu, Su, and Tao, 2018: 1-2). However, this issue still remains unclear and needs to be investigated because of the lack of enough evidence.

Macroeconomic variables do play a substantial role in the stability of the MENA region countries. This is why it is crucial to try and

determine whether military spending is one of the answers to the remaining Arab countries in order to increase economic growth and prevent the spread of the Arab Spring. So, is an increase in defense expenditure in countries such as Iran, Qatar, Saudi Arabia, Turkey, and United Arab Emirates can cause a decrease in the unemployment rates, decrease in inflation, and economic growth which would prevent a VUCA environment?

One of the fundamental roles of governments is to allocate the appropriate resources in order to both deter and withstand any possible attack against the nation. Nonetheless, defense expenditures have a comprehensive and crucial role in a country's economic indicators and growth is an undeniable fact.

Defense expenditure in the Middle East is crucial since most of the actions of the region have potential conflicts that are based on nationality, religious sects, pre-colonial ownership, etc. The Middle East is also an arena of conflict for the superpowers and a number of emerging powers such as Iran and Turkey. All these factors make it extremely important to assess the effect of defense expenditure on the macroeconomic variables for these nations.

While the defense expenditures showed a declining trend by the end of the 1990s especially in the developing countries, after 1998 it is seen that defense expenditures have started to increase again in the Middle East and East European Countries, North America and East Asia as a result of changes and developments such as economic,

political and technological trends, global terrorism acts and military intervention of USA against Afghanistan and Iraq (Tas, Ornek and Aksogan, 2013: 660).

Considering the fact that defense services are of vital duties of a government not only to deter others from possible attacks but also to be able to withstand any attack against the country. Defense expenditures comprise items such as payments for various personnel and educational issues, weapons and other materials, research and development, substructure and buildings, contributions to and relations with international organizations have to be taken into account inevitably among public expenditures. Defense expenditures are needed not only to protect a country from any existing or possible threats but also to maintain the internal peace and security therefore, this kind of expenditures would always take part in a country's national budget within the countries' economic limitations and possibilities. In order to attain this aim by maintaining stability and sustainability of defense expenditures, it is inevitable for a country to consider possible interactions and balance between these expenditures and macroeconomic conditions. Hence, the effect of such a comprehensive and crucial expense on a country's economic indicators and growth is an undeniable fact.

When we deal with the related literature it is seen that there is no consensus about the interaction of defense expenditures and macroeconomic factors from a theoretical point of view. According to the Neoclassical view, defense expenditures are a function of social

wealth in terms of maximizing a country's advantage. They assert that defense expenditures have a negative effect on the economic growth since such spending cause resources to move from developmental to non-developmental purposes. According to Keynesian economists, defense expenditures would result in positive externalities and contribute to factor efficiency. Thanks to positive spillover impact of defense expenditures, economic growth would be positively affected through the enhancement of aggregate demand, human capital development and positive stimulation of technological developments and investments. Also in case of exporting defense products to other countries, defense expenditures can also support economic growth positively (Sit, 2018: 95-96; Sohail, Jamal and Shad, 2018: 9).

The main motivation behind this study is the interesting case that despite defense expenses and related investments may reduce economic growth in the developed countries, it may lead to unexpectedly contradicting results in the less developed countries (LDCs) as also argued by Benoit (1978) and there is still no consensus about this issue in the relevant literature. Hence this paper aims to demonstrate the effect of defense spending on macroeconomic variables comparatively for the selected countries. We look at selected countries in the Middle East and North Africa (MENA) since a number of armed conflicts are constantly present in that region. In addition, a number of states had erupted and a VUCA environment was created. This makes it a good region to experiment and investigate the effect of defense expenditure on macroeconomic

variables. Is an increase in defense expenditure is one of the factors that aid in converging the Middle East States from a VUCA to achieve stability, certainty, simplicity, and clarity (SCSC)?

In an attempt to answer this question let us take a look at the Great Depression. 1929 had marked the beginning of the Great Depression in the United States. Prior to 1929 and since its establishment, the US had never experienced such a recession. It was a great challenge to the US government. Nonetheless, 1941 had marked the end of the Great Depression when the US formally entered World War II. Thus government spending was up, commodity prices spiked –which was good for the resources-rich America, and American labors started to leak abroad as foreign labor markets tightened. Thus the US output gap had closed (Mcardle, 2009). Clearly here the increase in defense expenditure had contributed substantially to the recovery of the US economy. This saved the US economy from drifting to economic instability.

The rest of the paper will be organized as follows; Literature Review section will cover a brief review of the past literature on the relationship between defense spending and economic growth; Methodology will discuss the data set and the Panel Data Analysis; Results will discuss the Panel Data Analysis outcomes; and finally the Conclusion will assert the conclusions drawn from our research.

1 Literature Review

A considerable literature had tackled the topic of the effect of defense spending on the economy. Economists are not able to agree on the effect of defense spending on the economy. Economists on both sides of the argument present convincing evidence to back up their points of view. In this section, we will present both sides of the argument.

The debate had started in the early seventies when a shocking presentation made by Emile Benoit demonstrating the positive cross-country correlations between military expenditure rates and economic growth rates in the less developed countries (LDCs). Hence, he advised that military spending had a positive impact on economic development (Benoit, 1973). Following this presentation, a large body of literature had tackled the subject. Empirical research findings of major portions to date confirm the findings that there is a positive relationship between defense spending and economic growth (Arshad, Syed, and Shabbir, 2017: 164). Nonetheless, there are few studies in the literature that support the claim that there is a positive relationship between military expenditure and economic growth as follows.

The channel through which an increase in military expenditure works is the aggregate demand. An increase in military spending stimulates aggregate demand; this will result in higher utilization of capital stock and an increase in the employment rate. This increase in capital utilization will most probably increase profits and encourage investments. As a result, this will stimulate short-run multiplier

effects that will generate economic growth. In addition, military spending increases the quality of human capital through the provision of education and training (Sandler and Hartley, 1995). Thus we can state that military spending can affect economic growth through various channels including aggregate demand (Joerding, 1986).

Tahir and Sajid (1999) carried out an empirical study to examine the causality relationship between defense expenditure and economic growth in the less developed countries (LDCs). The Granger causality test was employed to investigate this relationship. The study had indicated that there is a bi-directional causality for Pakistan, India, and Iran. Meanwhile, there is a unidirectional causality going from the gross domestic product (GDP) and defense spending for both Guatemala and Venezuela. Defense expenditure Granger causes GDP –unidirectional causality- for Turkey. No Granger causality for the Philippines, Ecuador, and Sri Lanka.

Kentor and Kick (2008) examined the capital intensiveness of military organization in both developed and LDCs by the cross-sectional panel regression and causality analysis. The data had covered the time period from 1990 to 2003. The results had indicated that military spending per soldier inhibits the growth of GDP per capita. The results had also shown that army imports had a positive impact on economic growth but only in LDCs.

Feder Model assumes the economy consists of two sectors, a private and defense sector. It was utilized by Ando (2009) to examine the

relationship between defense spending and economic growth in the context of defense economics. Thus the model was used to estimate the economic growth of 109 countries. The countries included 30 OECD countries. The panel data analysis was used for the period from 1995 to 2003. The results indicated that as the defense sector grew the economy also grew without having any negative impact on the economy.

Kollias and Paleologou (2010) investigated the relationship between economic growth, investment, and military expenditure for the European Union. The paper had used fixed panel data analysis models, random coefficient models and a trivariate Vector Autoregression (VAR) model to estimate the relationship between the macroeconomic variables. The findings had indicated that there is a significant positive effect of the growth rate on both the share of military expenditure and share of investment. Nonetheless, the results as a whole do not seem to indicate any consistent quantitative relationships between defense spending and either of economic growth or investment.

Bekmez and Destek (2015) found that defense expenditures have a positive effect on growth. In this study they have conducted panel data analysis on the annual data taken from 72 countries which are classified into three groups as developed, developing and less developed countries for the period of 1988 and 2012. They used the data as representative of defense expenditures taken from SIPRI Military Expenditure Database. According to the study, for the whole

group of countries defense expenditures positively affects the growth but this effect is less productive than the other types of public expenditures. Moreover, it is also found that the positive effect of defense expenditures on growth varies inversely according to the development level of countries.

F-De-Cordoba and Torres (2016) developed a Dynamic Stochastic General Equilibrium model. The national security is an argument in the agent utility function and the government will choose the level of military spending in order to maximize social welfare. National defense is dependent on both military expenditure and strategic environment which reflects a potential hostile external threat. Aggregate data on consumption, investment, and military spending for the US were utilized to estimate the parameters of the model. The findings indicate that the optimal response to an increase in the external threat will result in a rise in output by a reduction in consumption and an increase in investment.

Sohail et al. (2018) also found a positive relationship between economic growth and defense sector. They utilized the annual data taken from Pakistan for the period of 1972 and 2016 and conducted an ARDL Bound test. The variables used in the analysis are GDP, capital, labor force, defense spending, trade openness and external debt. It is also found that there is a long term relationship between the variables and economic growth positively affects capital, labor force, defense spending, and trade openness.

Khidmat, Wang, and Iqbal (2018) investigated the relationship between defense expenditures and economic growth in the 12 developing countries of South Asia for the period of 1990 and 2015. The variables used for the analysis are defense expenditure, gross national income, total investment, external debt, export of goods and services and import of goods and services. Results of the panel data analysis indicate that defense expenditures positively affect the growth in developing countries.

Gokbunar and Yanikkaya (2004) find no significant relationship between the defense expenditures and the growth when they take all the countries together in their analysis. However, when they analyze panel data of 114 countries by grouping them as developed and developing countries according to the World Bank's classification system, they found that the defense expenditures positively affect the growth in the developing countries by increasing the potential investments for the period of 1980 and 1997. On the other hand, there is found no significant result for the developed countries. In the study, defense expenditures are expressed in three different ways as the defense expenditure over GDP, arms import over total imports and military population over the total population.

Another study is conducted by Ambler and Neubauer (2017) in order to investigate the defense expenses and economic growth by using the data taken from Czech Republic, Slovak Republic, Hungary and Poland for the period of 1995 and 2015. The macroeconomic variables that are utilized in this study are the growth rate of GDP, the balance

of payments, inflation, foreign direct investment, government debt or net lending/borrowing are analyzed through panel data models. Accordingly, the balance of payments and inflation are found to be affecting military spending in a positive way. Moreover, net lending/borrowing and government debt have a negative effect on military expenditure. They found no significant effect of economic growth and foreign direct investment on military expenditure.

There are a number of studies that provide evidence that there is a negative relationship between military spending and economic growth. Dunnes, Nilolaidou, and Smith (2002) estimated a growth equation and an investment equation in order to investigate the impact of military expenditure on economic growth. The investment equation had shown that investment is a function of both growth and military expenditure. A sample of small industrializing economies was considered. The data is used to consider the individual economies and to provide panel data analysis. This showed evidence of a negative impact of military expenditure on economic growth and investment.

Ipek (2014) studied the relationship between certain macroeconomic variables for both Turkey and Israeli for the period 1980 to 2012. The macroeconomic variables included GDP growth rate, inflation rate, and current account balance in the rate of GDP, and defense expenditures as a rate of GDP. The ARDL bound testing approach was utilized in this paper. In the case of Turkey, there were no long run relationships between the investigated variables. However, uni-directional causality was found in the short run from defense

expenditure to the inflation rate. As for Israel, a cointegration relation was found for the investigated variables using the ARDL approach. Both the short run and long run coefficients were estimated. The results had indicated that a 1 percent increase in the defense expenditure will lead to a 0.36 percent decrease in the growth rate and a 0.3 percent increase in the inflation rate over the long run. Finally, there was no relationship found between current account balance in GDP and defense expenditure for both nations in both the long and short run.

Korkmaz (2015) also found that there is a negative relationship between GDP growth and defense expenditures and defense expenditures increase unemployment in the study analyzing the panel data of 10 Mediterranean countries for the period 2005-2012. Accordingly, as governments tend to separate more resource to defense from their budgets this will result in allocating less resource to the investment areas such as education, health, and infrastructure and therefore would affect the development of a country.

The augmented Solow Growth model was used by Arshad et al (2017) to re-investigate the relationship between military spending and economic growth. The paper had also tried to explore the combined effect of both military spending and armed conflicts on the growth rate. The panel data analysis was utilized for 61 countries covering the period from 1988 to 2015. The least squares dummy variable (LSDV) was employed. The results had indicated that military expenditure and army imports had a negative effect on the GDP per

capita. In addition, military expenditure in the presence of external conflicts also has a negative and significant effect on the growth rate. This is contrary to the literature mentioned above. These results show that military spending acts as a burden on economic growth, and frequent interstate conflicts force countries to spend more on their military which can slow down economic growth.

Another study finding a negative relationship between GDP growth and defense expenditures is conducted by Neubauer and Odehnal (2018). In the study, they analyzed the annual data of 7 Visegrad group countries and Baltic states by ARDL models for the period of 2001 and 2016. It is found that there is a long-run relationship between the variables and there is also a positive relationship between inflation and defense expenditure.

Xu et al. (2018) investigated the possible inflationary effects of defense expenditures in China for the period of 1953 and 2014 by the wavelet analysis. They found that the interaction between these variables change over time and concluded that defense expenditure is not inflationary in China. They also found that inflation decreases the defense expenditure growth rate.

2 Material and Methods

The aim of this study is to investigate the interaction between defense expenditures and macroeconomic indicators of selected MENA region countries shown in Table 1 for the period of 2006 till 2016. The sample and the period are chosen so as to provide the maximum amount of reliable and regular observations. The annual panel data are obtained from the World Bank, World Development Indicators and the SIPRI Military Expenditure Database. The logic behind selecting these countries is the assumption that the political instabilities increased in the aforementioned region after the period following 9/11 attacks and caused defense linked expenditures to increase. However, some countries were excluded due to the lack of available data such as Syria.

Table 1 Countries Taken Into Account for the Analysis

Algeria	Bahrain	Egypt	Israel
Jordan	Lebanon	Morocco	Oman
Saudi Arabia	Tunisia	Turkey	-

Variables chosen in order to conduct the analysis are shown in Table 2.

Table 2 Variables Considered For the Analysis

Code	Name & Calculation
defensei	Change in Defense Expenditure (DE), [(DE _t - DE _{t-1})/ DE _{t-1}]
current	Current Account Balance (CAB)
currenti	Change in Current Account Balance, [(CAB _t - CAB _{t-1})/ CAB _{t-1}]
exchange	Exchange Rates (\$)
gdpgrowth	Growth in GDP, [(GDP _t - GDP _{t-1})/ GDP _{t-1}]
unempl	Unemployment Rate
inflation	Inflation, Consumer Price Indices
crisis	Dummy Variable Regarding 2008 Global Financial Crisis

We will start our analysis using summary statistics and unit root tests for each of the variables. According to the findings, VAR method, Granger Causality and, Impulse-Response Analysis are applied to the panel data.

As many of macroeconomic and financial time series data may not be stationary, in order to avoid spurious regression, Fisher Augmented Dickey Fuller (ADF) unit root test is conducted on the data. The model in question in order to conduct unit root test is shown in equation (1) (Tatoglu, 2012: 214-215):

$$Y_{it} = d_{it} + X_{it}, (i=1, \dots, N; t=1, \dots, T_i) \quad (1)$$

$$d_{it} = \beta_{i0} + \beta_{i1}t + \dots + \beta_{im_i}t^{m_i}, \text{ and} \quad (2)$$

$$X_{it} = \alpha_i X_{it-1} + u_{it}; \quad (3)$$

Here u_{it} is stationary $[I(0)]$, Y_{it} comprises non-stochastic d_{it} and stochastic X_{it} . Hypothesis for the unit root test are:

H_0 : Time series of the related unit contains unit root.

H_1 : Time series of the related unit is stationary.

VAR method is preferred when it is not certainly known which one of the variables are external or not. Therefore, the panel vector autoregression method is simply utilized to set forth the reciprocal dynamic interactions among the variables. The panel VAR model can be shown in equation (4) and (5) (Tatoglu, 2012: 257):

$$Y_{it} = \alpha_{0t} + \sum_{j=1}^m \alpha_{jt} Y_{it-j} + \sum_{j=1}^m \beta_{jt} X_{it-j} + \phi_t \mu_i + u_{it} \quad (4)$$

$$X_{it} = \alpha'_{0t} + \sum_{j=1}^m \theta_{jt} Y_{it-j} + \sum_{j=1}^m \lambda_{jt} X_{it-j} + \Psi_t \mu_i + u'_{it} \quad (5)$$

Here, i refers to the country, t refers to the time period, and m refers to the lag number. u_{it} and u'_{it} are white noise errors. $\phi_t \mu_i$ and $\Psi_t \mu_i$ are individual fixed effects for the panel member i .

After this step, Granger causality test is applied in order to set forth the short term causal relationships between the variables. The test is conducted by the estimation of two models. Equation (6) demonstrates that variable X is related to past values of X and Y, while equation (7)

demonstrates that variable Y is related to past values of X and Y (Gujarati, 2009:621):

$$X_t = \sum_{i=1}^m \alpha_i Y_{t-i} + \sum_{i=1}^m \beta_i X_{t-i} + u_{1t} \quad (6)$$

$$Y_t = \sum_{i=1}^n \lambda_i Y_{t-i} + \sum_{i=1}^n \delta_i X_{t-i} + u_{2t} \quad (7)$$

Null hypothesis for equation (6) is $H_0: \sum_{i=1}^m \alpha_i = 0$, and for equation (7) is $H_0: \sum_{i=1}^n \delta_i = 0$ (Gujarati, 2009:621).

Finally, impulse-response analysis is conducted in order to show the effect of one unit shock in the standard deviation of random error terms on the present and future values of internal variables. Impulse-response function can be shown in the form of two variable VAR matrix as in equation (8) or (9) (Tari, 2014: 351-352):

$$\begin{bmatrix} r_t^y \\ r_t^z \end{bmatrix} = \begin{bmatrix} \alpha_{10} \\ \alpha_{20} \end{bmatrix} + \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \end{bmatrix} \begin{bmatrix} r_{t-1}^y \\ r_{t-1}^z \end{bmatrix} + \begin{bmatrix} e_{1t} \\ e_{2t} \end{bmatrix} \quad (8)$$

$$\begin{bmatrix} r_t^y \\ r_t^z \end{bmatrix} = \begin{bmatrix} \bar{r}^y \\ \bar{r}^z \end{bmatrix} + \sum_{i=0}^{\infty} \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \end{bmatrix}' \begin{bmatrix} e_{1t-i} \\ e_{2t-i} \end{bmatrix} \quad (9)$$

Here, the variables of r_t^y and r_t^z are shown by the series of e_{1t} and e_{2t} . On the other hand, in order to demonstrate the effect of shocks on

r_t^y and r_t^z , the variables of r_t^y and r_t^z should be shown by the series of ε_t^{ry} and ε_t^{rz} (Tari, 2014: 353):

$$\begin{bmatrix} r_t^y \\ r_t^z \end{bmatrix} = \begin{bmatrix} \bar{r}^y \\ \bar{r}^z \end{bmatrix} + \sum_{i=0}^{\infty} \begin{bmatrix} \phi_{11}(i) & \phi_{12}(i) \\ \phi_{21}(i) & \phi_{22}(i) \end{bmatrix}' \begin{bmatrix} \varepsilon_{t-i}^{ry} \\ \varepsilon_{t-i}^{rz} \end{bmatrix} \quad (10)$$

Here ϕ_i refers to the parameters, and ε_t^{ry} and ε_t^{rz} refer to the shocks.

3 Findings

In order to get an overview of the data utilized in this research, summary statistics for the countries in units and in total during the period of 2006 and 2016 are shown in Table 3. Accordingly, the average amount of change in defense expenditure is 0.083 (defensei), while the average GDP growth (gdpgrowth) is 4.062 for all the selected countries. On the other hand, the average change in the current account balance (currenti) is 0.449 unemployment rate (unempl) is 9.989 and inflation rate (inflation) is 4.446. When we examine the average values of the countries in detail, it is seen that the countries having the lowest change in defense expenditure are Israel (0.032), Turkey (0.039) and Morocco (0.051) and the countries with the highest values are Algeria (0.131), Oman (0.125) and Jordan (0.112). The countries with the lowest current account balance are Turkey (-41.7 bil. \$), Lebanon (-7.3 bil. \$) and Egypt (-5.9 bil. \$) and the countries with the highest current account balance are Saudi Arabia (78.6 bil. \$), Israel (7.8 bil. \$) and Algeria (6.7 bil. \$). Exchange rates against USA Dollar are the lowest for Bahrain (0.376),

Oman (0.384) and Jordan (0.710) and the highest for Lebanon (1507.5), Algeria (79.465) and Morocco (8.574) for the analysis period. During this period, GDP growth is the highest in Turkey (5.054), Oman (4.947) and Lebanon (4.604), while it is the lowest in Algeria (2.961), Tunisia (2.994) and Saudi Arabia (3.764). On the other hand, the unemployment rate is the lowest in Bahrain (2.678), Saudi Arabia (5.638) and Lebanon (6.780), while it is the highest in Oman (17.828), Tunisia (14.666) and Jordan (13.014). Finally, the inflation rate is seen to be the highest in Egypt (10.838), Turkey (8.252) and Algeria (4.661) and the lowest in Morocco (1.703), Israel (1.748) and Lebanon (2.308) (Table 3).

Table 3 Summary Statistics

Variable	Country	Mean	Max.	Min.	Std. Dev.	Variable	Country	Mean	Max.	Min.	Std. Dev.
defensei	Algeria	0.131	0.526	-0.043	0.170	defensei	Morocco	0.051	0.223	-0.193	0.110
current(\$)		6.7 billion	33.9 billion	-27.2 billion	21.3 billion	current(\$)		1.4 billion	-9.6 billion	3.4 billion	
currenti		1.719	27.310	-9.003	8.945	currenti		36.108	-1.086	10.892	
exchange		79.465	109.443	64.583	13.567	exchange		9.807	7.750	0.663	
gdpgrowth		2.961	3.789	1.632	0.777	gdpgrowth		7.575	1.222	1.700	
unempl		10.933	13.790	9.820	1.207	unempl		9.700	8.910	0.300	
inflation	4.661	8.895	2.315	1.850	inflation	1.703	3.707	1.005			
defensei	Bahrain	0.105	0.226	-0.023	0.069	defensei	Oman	0.125	0.850	-0.083	0.270
current(\$)		1.5 billion	3.2 billion	-1.5 billion	1.5 billion	current(\$)		1.8 billion	8.8 billion	-12.3 billion	7.1 billion
currenti		0.207	3.217	-1.494	1.198	currenti		-1.273	1.038	-10.248	3.223
exchange		0.376	0.376	0.376	0.000	exchange		0.385	0.385	0.385	0.000
gdpgrowth		4.495	8.292	1.984	1.931	gdpgrowth		4.947	9.333	-1.109	2.714
unempl		2.678	6.829	1.130	2.172	unempl		17.828	19.436	15.823	1.366
inflation	2.412	3.526	-0.364	1.078	inflation	3.527	12.091	0.065	3.312		

Table 3 Summary Statistics (cont.)

defense	0.054	0.166	-0.176	0.098	defense	0.096	0.205	-0.270	0.132
current(\$)	-5.9 billion	2.6 billion	-19.9 billion	6.9 billion	current	78.6 billion	164.8 billion	-56.7 billion	72.7 billion
currenti	-0.053	1.896	-4.437	1.639	currenti	0.021	2.186	-1.769	1.061
exchange	6.511	10.025	5.433	1.378	exchange	3.750	3.750	3.750	0.000
gdpgrowth	4.431	7.158	1.780	2.006	gdpgrowth	3.764	9.997	-2.059	3.059
unempl	11.355	13.150	8.520	1.809	unempl	5.638	6.250	5.080	0.294
inflation	10.838	18.317	7.118	3.090	inflation	4.295	9.869	2.185	2.231
defense	0.032	0.171	-0.129	0.091	defense	0.074	0.252	-0.048	0.100
current(\$)	7.8 billion	15.4 billion	1.5 billion	4.1 billion	current(\$)	-2.7 billion	-0.6 billion	-4.3 billion	1.4 billion
currenti	0.556	4.774	-0.763	1.583	currenti	0.324	1.070	-0.279	0.443
exchange	3.834	4.456	3.578	0.269	exchange	1.548	2.148	1.232	0.292
gdpgrowth	3.803	5.774	1.382	1.397	gdpgrowth	2.994	6.710	-1.917	2.297
unempl	7.450	10.710	4.800	1.899	unempl	14.666	18.330	12.360	2.107
inflation	1.748	4.597	-0.633	1.694	inflation	4.432	5.799	3.417	0.788
defense	0.112	0.472	-0.076	0.160	defense	0.039	0.146	-0.106	0.086
current(\$)	-2.8 billion	-1.2 billion	-4.7 billion	1.0 billion	current(\$)	-41.7 billion	-11.4 billion	-74.4 billion	16.8 billion
currenti	0.118	0.666	-0.395	0.419	currenti	0.277	2.928	-0.712	0.967
exchange	0.710	0.710	0.709	0.000	exchange	1.854	3.020	1.302	0.571
gdpgrowth	4.259	8.176	2.004	2.480	gdpgrowth	5.054	11.113	-4.704	4.268
unempl	13.014	15.275	11.900	0.925	unempl	9.741	12.550	8.150	1.283
inflation	4.149	14.928	-0.873	4.449	inflation	8.252	10.444	6.251	1.267

Saudi Arabia

Tunisia

Turkey

Egypt

Israel

Jordan

Table 3 Summary Statistics (cont.)

defensei	0.097	0.220	-0.014	0.074	defensei	0.083	0.314	-0.105	0.124
current(\$)	-7.3 billion	-1.1 billion	-12.6 billion	3.9 billion	current(\$)	3.0 billion	164.8 billion	-74.4 billion	35.8 billion
currenti	0.264	1.557	-0.594	0.609	currenti	0.449	36.108	-10.248	4.463
exchange	1507.500	1507.500	1507.500	0.000	exchange	112.178	1507.5	0.376	378.577
gdpgrowth	4.604	10.474	0.816	3.954	gdpgrowth	4.062	11.113	-4.704	2.499
unempl	6.780	8.980	6.085	1.041	unempl	9.989	19.436	1.130	4.389
inflation	2.308	6.637	-3.749	3.565	inflation	4.446	18.317	3.749	3.597
					TOTAL				

Correlation matrix for all the variables is shown in Table 4. Accordingly, there is a positive and poor relation between change in defense expenditures and all of the macroeconomic variables. However, these indicators can only show the direction and strength of the relationship but cannot explain the cause-effect interaction. For this purpose, we conducted the panel data analysis in several steps by VAR analysis, Granger Causality test, and Impulse-Response functions. Starting from Table 5, of all the models established, only the significant ones are reported as the whole tables take up a lot of places.

Table 4 Pearson Correlation Coefficients for the Variables

	defensei	current	currenti	exchange	GDPgrowth	unempl	inflation
defensei	1.000	0.205	0.110	0.036	0.160	0.068	0.042
current		1.000	0.018	-0.091	-0.017	-0.192	-0.117
currenti			1.000	-0.012	0.058	-0.060	-0.020
exchange				1.000	0.050	-0.230	-0.159
GDPgrowth					1.000	-0.037	0.211
unempl						1.000	0.183
inflation							1.000

Unit root tests are shown in Table 5. Accordingly, all the variables except exchange are stationary at I(0) while exchange is stationary at I(1). Therefore it is excluded from the analysis process.

Table 5 Unit Root Test Findings

Variable	Level	ADF-Fisher Chi-square		ADF-Choi Z-stat	
		Test Statistics	Significance	Test Statistics	Significance
defensei	I(0)	51.3846	0.0004	-3.66466	0.0001
currenti	I(0)	60.6109	0.0000	-4.99766	0.0000
exchange	I(0)	26.5339	0.0221	3.01074	0.9987
	I(1)	48.8371	0.0000	-3.47013	0.0003
GDPgrowth	I(0)	48.9651	0.0008	-3.08731	0.0010
unempl	I(0)	47.4745	0.0013	-1.98152	0.0238
inflation	I(0)	42.3312	0.0057	-3.17763	0.0007

In order to continue VAR analysis, optimum lag length is to be determined. Since the data is annual and involves a short time span and the optimum lag length is determined to be 3 over 6 lag length according to LR, FPE and AIC criterions (Table 6).

Table 6 VAR Lag Order Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-455.3291	NA	33.63625	17.70497	17.89259	17.77689
1	-315.8479	246.7744	0.413797	13.30184	14.42756*	13.73342*
2	-286.4279	46.39313	0.358755	13.13184	15.19566	13.92306
3	-252.7751	46.59622*	0.276009*	12.79904*	15.80095	13.94990
4	-229.9344	27.23311	0.345282	12.88209	16.82210	14.39260
5	-214.6703	15.26411	0.644182	13.25655	18.13466	15.12670
6	-186.4976	22.75484	0.865188	13.13452	18.95073	15.36432
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Based on the optimum lag order, the panel VAR analysis findings which are found to be significant are shown in Table 7. For the countries and the data utilized, the variables of defense (-4.933910 and 5.828293), gdpgrowth (-0.313424 and -0.452025) and unempl (1.321101) have significant effects on currenti, while gdpgrowth (-0.015010) and unempl (-0.032297) have significant effects on defensei, defense (-3.175121) and inflation(0.428864 and 0.295354) have significant effects on inflation and finally unempl (0.985036) has a significant effect on unempl (Table 7).

Table 7 Panel VAR Model

	Currenti	Defensei	Gdpgrowth	Inflation	Unempl
Defensei(-1)	-4.933910*** (2.89089) [-1.70671]	-	-	-	-
Defensei(-2)	5.828293** (2.81914) [2.06740]	-	-	-3.175121*** (1.86813) [-1.69963]	-
Gdpgrowth(-1)	-0.313424*** (0.16714) [-1.87524]	-0.015010** (0.00720) [-2.08363]	-	-	-
Gdpgrowth(-2)	-0.452025* (0.16771) [-2.69535]	-	-	-	-
Inflation(-1)	-	-	-	0.428864* (0.08864) [4.83820]	-
Inflation(-2)	-	-	-	0.295354* (0.09599) [3.07685]	-
Unempl(-1)	-	-0.032297*** (0.01713)	-	-	0.985036* (0.12989)

		[-1.88591]			[7.58384]
Unempl(-3)	1.321101*	-	-	-	-
	(0.38195)				
	[3.45881]				
C	2.457776***	-	3.123810*	-	-
	(1.37297)		(1.03603)		
	[1.79012]		[3.01516]		
R-squared	0.261225	0.174648	0.055654	0.640169	0.953899
Adj. R-squared	0.100621	-0.004776	-0.149638	0.561945	0.943877
Sum sq. resids	755.3621	1.403197	430.1116	331.6921	80.71796
S.E. equation	3.308667	0.142605	2.496698	2.192517	1.081585
F-statistic	1.626520	0.973379	0.271097	8.183781	95.18055
Log likelihood	-213.4530	53.80588	-189.5190	-178.4759	-118.4129
Akaike AIC	5.398894	-0.889550	4.835741	4.575904	3.162658
Schwarz SC	5.858687	-0.429757	5.295534	5.035697	3.622451
Mean dependent	0.269692	0.061573	3.508724	3.972913	9.899259
S.D. dependent	3.488845	0.142266	2.328549	3.312674	4.565512
Determinant resid covariance (dof adj.)		5.974676			
Determinant resid covariance		2.106033			
Log likelihood		-634.7031			
Akaike information criterion		16.81654			
Schwarz criterion		19.11551			
Standard errors in () & t-statistics in []					
*, ** and *** indicate statistical significance at the 1, 5, and 10 % levels, respectively.					

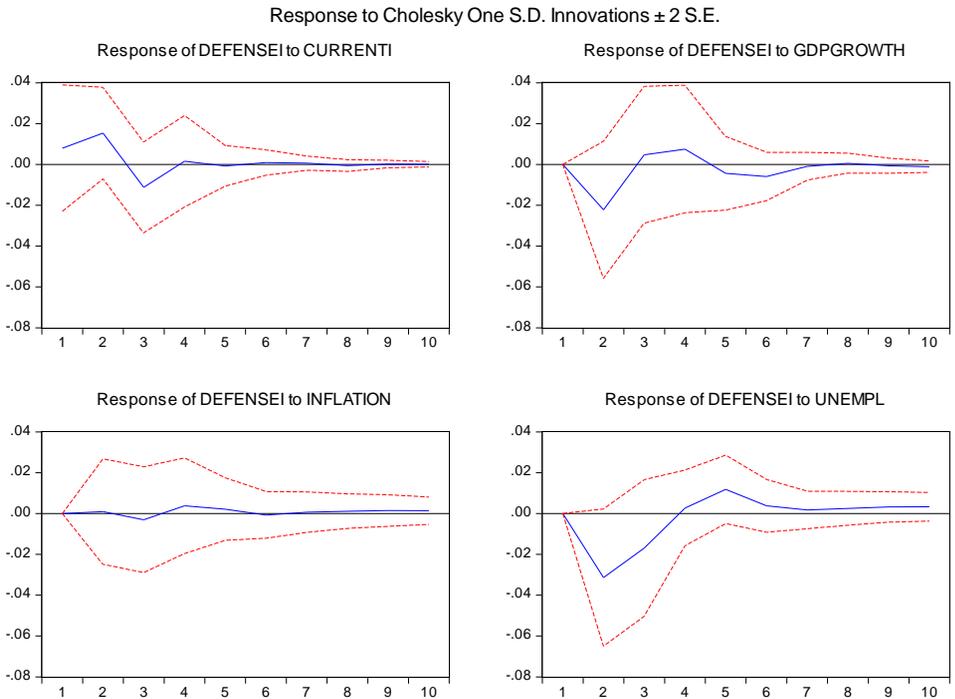
In order to organize the variables from external to internal and to set forth the cause and effect relationship among the variables, the Granger Causality Test is applied on the data. According to the findings, only *gdpgrowth* and *unempl* Granger cause *currenti* (Table 8).

Table 8 Panel Granger Causality Test

Hypothesis	Chi-sq	p-Value	Decision
Defensei does not Granger cause currenti.	5.842058	0.1196	Cannot be rejected
Gdpgrowth does not Granger cause currenti.	12.17559	0.0068	Reject
Inflation does not Granger cause currenti.	3.745448	0.2903	Cannot be rejected
Unempl does not Granger cause currenti.	14.45085	0.0024	Reject
Currenti does not Granger cause defensei.	4.078502	0.2531	Cannot be rejected
Gdpgrowth does not Granger cause defensei.	4.672491	0.1974	Cannot be rejected
Inflation does not Granger cause defensei.	0.894392	0.8268	Cannot be rejected
Unempl does not Granger cause defensei.	4.541629	0.2086	Cannot be rejected
Currenti does not Granger cause gdpgrowth.	0.464059	0.9267	Cannot be rejected
Defensei does not Granger cause gdpgrowth.	0.349613	0.9504	Cannot be rejected
Inflation does not Granger cause gdpgrowth.	0.732484	0.8655	Cannot be rejected
Unempl does not Granger cause gdpgrowth.	0.329344	0.9544	Cannot be rejected
Currenti does not Granger cause inflation.	1.309488	0.7269	Cannot be rejected
Defensei does not Granger cause inflation.	4.435703	0.2181	Cannot be rejected
Gdpgrowth does not Granger cause inflation.	1.288256	0.7319	Cannot be rejected
Unempl does not Granger cause inflation.	0.378551	0.9446	Cannot be rejected
Currenti does not Granger cause unempl.	0.303488	0.9594	Cannot be rejected
Defensei does not Granger cause unempl.	1.944714	0.5840	Cannot be rejected
Gdpgrowth does not Granger cause unempl.	2.213036	0.5294	Cannot be rejected
Inflation does not Granger cause unempl.	2.299481	0.5126	Cannot be rejected

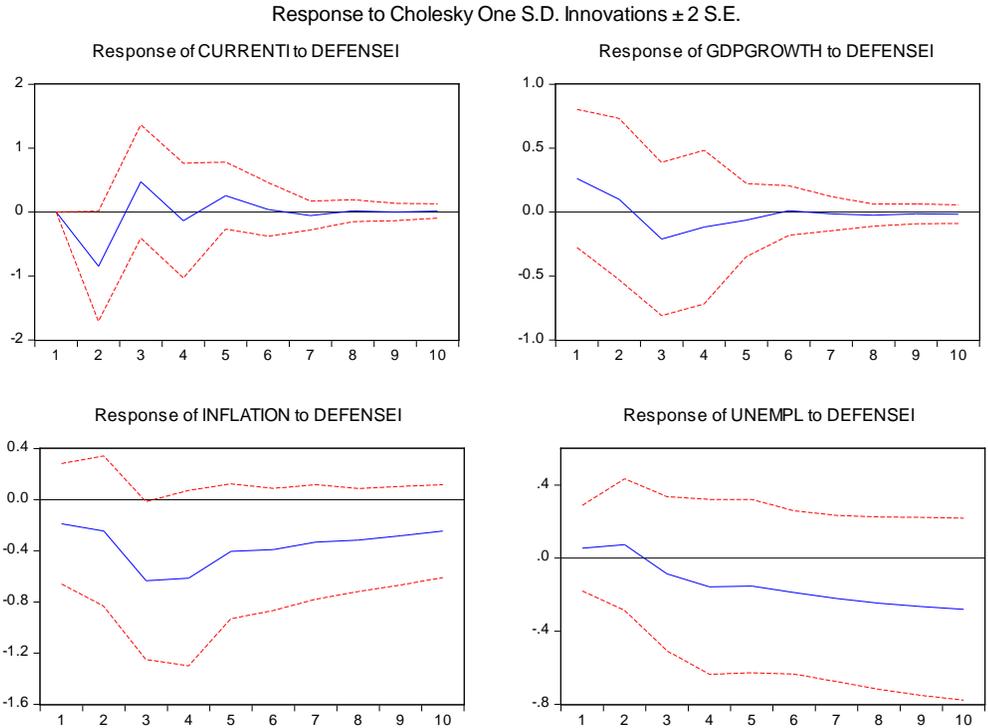
The final part of the analysis involves the Impulse-Response functions that are conducted for the selected variables. While currenti and inflation cause defensei to decrease nearly in two periods, gdpgrowth and unempl cause defense to increase for the same duration. On the other hand, this response is not seen to be statistically significant (Figure1).

Figure 1 Response of Change in Defense Expenditures to Macroeconomic Variables



According to Figure 2, unempl, gdpgrowth and inflation respond negatively and currenti responds positively to defensei nearly in two periods. However, these findings are not found to be statistically significant.

Figure 2 Response of Macroeconomic Variables to Change in Defense Expenditures



4 Summary and Conclusion

Countries spend on defense not only when they are under attack, but also when they feel they are under increasing threat or as a result of being a member of a certain association or being subject to certain agreements. However, such expenditures necessitate a strong and stable economic position besides financing possibilities. This study investigates the interaction between defense expenditures and macroeconomic variables considering the importance of today's

ongoing debates and trends in the world. For this reason, the panel data taken from 11 MENA countries for the period 2006 to 2016 are analyzed by the VAR, Granger Causality and Impulse-Response Tests.

The findings indicate that among the macroeconomic variables, unemployment rate, and GDP growth affect defense expenditures in a negative and significant way. Furthermore, one term lagged defense expenditures have negative, two-term lagged defense expenditures have a positive effect on the changes in the current account. Also, two-term lagged change in defense expenditures cause inflation decrease. It is an interesting finding that defense expenditures negatively affect inflation rates for the analysis period. Therefore, it can be said that the costs related to the defense expenditures do not cause sources used in a way making an additive effect in the inflation rates for the countries in the analysis. One can conclude that the countries in the analysis are mostly outsourcing their defense needs. Nonetheless, the negative relationship between change in current account balance and the defense expenditures is also supporting the conclusion that these countries are outsourcing their defense needs.

The negative relationship between current account balance and defense spending for the selected MENA region countries asserts that as the government imports new military equipment and technologies – causing a decrease in the current account balance- and an increase in defense expenditure as a result of training costs, hiring more personnel, and support and maintenance expenses. Since most of the

selected countries do not have major military industries, they are dependent on purchasing and importing military goods and services from nations such as the US, Russia, etc...

The countries in the MENA region should attempt to maintain a low level of unemployment, low level of inflation, and a positive current account balance. This would aid in reducing the threat of the contribution of the economic factors to contribute to the spread of the Arab Spring and thus increasing the probability of the formation of a VUCA environment. According to our results, there is a negative relationship between the change in defense expenditures and GDP growth, unemployment rate and the inflation rate in the selected countries. This would be a benefit due to the fact that the selected countries' governments are constantly feel threatened by either militant groups within its borders or external powers from outside its borders.

Since the rising inflation rate was one of the economic factors that contributed to the manifestation of the Arab Spring (Idris, 2016; Samarah, 2017), governments can increase defense spending in order to both decrease inflation and strengthen its control. As a result, this policy can aid governments of the selected MENA countries to eliminate both internal and external threats. We can see this happening in both Saudi Arabia and the United Arab Emirates.

Results of this study are compatible with those of Dunnes et al. (2002), Arshad et al. (2017), Neubauer and Odehnal (2018) arguing

that there is a negative interaction between the defense expenditures and the growth. Moreover, the finding regarding the negative impact of defense expenditures on inflation is also compatible with the findings of Xu et al. (2018). Similarly, this study finds no significant evidence that defense expenditures may have inflationary effects as well. However, it is important to contrast and compare the findings of this study by different data and/or methods in order to get more robust findings and evaluations.

According to these findings, increasing defense expenditures to lessen inflation rates can be a good strategy for the policymakers while focusing on internal sources to meet defense needs that may help diminishing unemployment problem in the countries and affect current account balance in a positive way. Findings of the analysis can also imply that the components composing defense expenditures and the type of buyout may also play an important role in maintaining the balance between macroeconomic variables and these expenditures since it is seen that the defense expenditures have significant effects on both inflation and current account while growth and unemployment have effect on defense expenditures.

Our analysis can also lead us to conclude that an increase in defense spending may be one of the factors contributing directly to a convergence away from a VUCA environment. Thus the selected countries in the MENA region will benefit from increasing its defense sending expenditure/GDP in removing the threat of hosting the Arab Spring.

When we examine the literature it is seen that most of the studies deal with the relationship between economic growth and defense spending. Therefore other dimensions of the economy still remain open to being analyzed in detail. This analysis provides enough clues to focus more on the subject by different analysis methods and more comprehensive data that may support the findings and make more robust interpretations. Besides, it is also important to identify why each of these countries makes and increases defense expenditures.

REFERENCES

- Ambler, T., Neubauer, J. (2017). Defense Expenditure and Economic Growth in Visegrad Group Countries: A Panel Data Analysis. 35th International Conference Mathematical Methods in Economics, Hradec Králové 6-11.
- Ando, S. (2009). The Impact of Defense Expenditure on Economic Growth: Panel Data Analysis Based on the Feder Model. *The International Journal of Economic Policy Studies* 4 (8), 141-154.
- Arshad, A., Syed, S.H., Shabbir, G. (2017). Military Expenditure and Economic Growth: A Panel Data Analysis. *Forman Journal of Economic Studies* 13, 161-175.
- Bekmez S., Destek, M.A. (2015). Savunma Harcamalarının Dışlama Etkisinin İncelenmesi: Panel Veri Analizi. *Siyaset, Ekonomi ve Yönetim Araştırmaları Dergisi* 3(3), 91-110.
- Bennet, N., Lemoine, J. (2014). What VUCA Really Means for You. *Harvard Business Review* 92(1/2), 27.
- Benoit, E. (1973). *Defense and Economic Growth in Less Developing Countries*. DC Heath. Boston, MA, USA: D.C. Heath.
- Benoit, E. (1978). Growth and Defense in Developing Countries. *Economic Development and Cultural Change* 26(2), 271-280.
- Campante, F., Chor, D. (2012). Why was the Arab World Poised for Revolution? Schooling, Economic Opportunities, and the Arab Spring. *Journal of Economic Perspectives* 26(2),167-188.
- Casey, G.W. (2014). Leading in a VUCA world. *Fortune* 69 (5),75-76.

- Dunnes, P., Nilolaidou, E., Smith, R. (2002). Military Spending, Investment and Economic Growth in Small Industrializing Economies. University of Witwatersrand (pp. 1-18). Johannesburg: University of Witwatersrand.
- F-De-Cordoba, G., Torres, J. (2016). National Security, Military Spending and the Business Cycle. *Defense & Peace Economics* 27 (4), 549-570.
- Gökbunar, R., Yanıkkaya, H. (2004). Savunma Harcamalarını Belirleyen Faktörler ve Ekonomik Büyüme Etkileri. *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi* 59(1),159-179.
- Gujarati, D. (2009). Temel Ekonometri (Translator: Ümit Şenesen ve Gülay Günlük Şenesen), Altıncı Basım, Literatür Yayıncılık: İstanbul, Türkiye.
- Idris, I. (2016). Analysis of the Arab Spring. *Governance Social Development Humanitarian Conflict*.
- Ipek, E. (2014). The Impact of Defense Expenditure on Selected Macroeconomic Variables: An ARDL Bounds Testing Approach. *Journal of Social Sciences* 14 (3), 113-125.
- Joerding, W. (1986). Economic Growth and Defense Spending: Granger Causality. *Journal of Development Economics* 21(1), 35-40.
- Kail, E. (2010). Blogs.hbr.org. Blogs.hbr.org: blogs.hbr.org/2010/11/leading-in-a-VUCA-environment/. Accessed March 2018

- Kail E (2011). Blogs.hbr.org. Blogs.hbr.org: Blogs.hbr.org/2011/01/leading-effectively-in-a-VUCA-1/. Accessed March 2018
- Kentor, J., Kick, E. (2008). Bringing the Military Back in: Military Expenditure and Economic Growth 1990 to 2003. *Journal of World-Systems Research* 14(2),142-172.
- Khidmat, W.B., Wang, M., Iqbal, F. (2018). Impact of Defense Spending on Economic Growth: Evidence from Developing Nations of Asia. *Journal of Sustainable Development Studies* 11(2), 175-202.
- Kollias, C., Paleologou, S. (2010). Growth, Investment and Military Expenditure in the European Union-15. *Journal of Economic Studies* 37 (2), 228-240.
- Korkmaz, S. (2015). The Effect of Military Spending on Economic Growth and Unemployment in Mediterranean Countries. *International Journal of Economics and Financial Issues* 5(1), 273-280.
- Mcardle, M. (2009). Did World War II End the Great Depression? *The Atlantic*.
- Molle, W. (2002). Globalization, Regionalism and Labour Markets: Should we Recast the Foundations of the EU Regime in Matters of Regional (Rural and Urban) Development? *Regional Studies* 36(2), 161-172.
- Neubauer, J., Odehnal, J. (2018). ARDL Models of Military Spending and Its Security and Economic Determinants. *The 1th*

- International Conference and Live Firing Show-2018, 25-27 April 2018, Pabrade, Lithuania.
- Samarah, W.A. (2017). The Palestinian Economy and the Arab Spring. *Middle East Review of Public Administration* 3(2),1-9.
- Sandler, T., Hartley, K. (1995). *Defense Economics*. Oxford University Press: Oxford, UK.
- Sit, M. (2018). Macroeconomic Effects of Defense Expenditures in Turkey. *The Journal of Defense Sciences* 17(2), 93-114.
- Sohail, M.T., Jamal, Q., Shad, U. (2018). An Empirical Analysis of Defense-Economic Growth Relationship. *Journal of Business Administration Research* 1(1), 8-16.
- Tahir, R., Sajid, G.M. (1999). Defense Spending and Economic Growth in Less Developed Countries: Re-Examining the Issue of Causality. *Government College Economic Journal* 32(1&2), 27-39.
- Tas S., Örnek I., Gul A. (2013). Türkiye’de Savunma Harcamaları, Büyüme ve Gelir Esitsizliği, 1970-2008: Ekonometrik Bir İnceleme. *Gaziantep University Journal of Social Sciences* 12(3), 659-682.
- Tatoğlu, F.Y. (2012). *Panel Veri Ekonometrisi*, Beta Yayıncılık: İstanbul, Turkey.
- Tari, R. (2014). *Ekonometri, Gözden Geçirilmiş 9. Baskı*, Umuttepe Yayınları: Kocaeli, Turkey.
- Xu, Y., Su, C.W., Tao, R. (2018). Is Defense Spending Inflationary? Time-Frequency Evidence from China. *Defence and Peace Economics* DOI:10.1080/10242694.2018.1457197.

CHAPTER 2

THE EFFECTS OF INFLATION, EXCHANGE RATE AND OIL PRICES ON GOLD PRICES: A LITERATURE REVIEW

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INTRODUCTION

In macroeconomic theory, many factors are connected to each other and all of them are affected by economic and political factors. Gold prices are also influenced by these factors. However, in this study, economic factors influencing gold prices are evaluated.

Compared to other financial assets, gold has been seen as a port of refuge for investors especially in the situation of uncertainty and it is accepted as a store of value globally. Gold, which has been very important in world economy and world trade, has also been a necessary instrument for measuring the value of currency and providing stability. So that, from World War I to 1973, the Gold Standard System has been implemented globally to provide economic stabilization. Besides, gold is commonly used as an inflation hedge.

This study aims to review the literature in which the studies revealing the relationship among gold prices and some macroeconomic factors. There are plenty of factors that have an impact on gold prices, however, in this study, exchange rates, oil prices, and inflation have been selected as influencing macroeconomic factors. First of all, the price of gold is defined theoretically and explained how it might be determined under different conditions such as the Gold Standard System, Bretton Woods, or free-exchange rate system. Then, the factors influencing gold prices are classified and why exchange rates, oil prices, and inflation are selected among those factors. The correlation between these factors with gold price is analyzed theoretically and by graphs. Finally, most

studies in the literature on this topic are reviewed and thus all the relations can be explained in theoretical framework.

1. GOLD PRICES

Gold has been always precious because of its limited supply. Before the nineteenth century, gold was very rare and that is why it was an indicator of a wealth for a country. In the beginning of nineteenth century, United States, Russia, Australia, South Africa and Canada had identified gold mines and this have triggered to rapid development of gold production and demand for gold.

From 1870 to 1913, Gold Standard System was applied. In this system, currencies have a value, which directly linked to gold. In 1913, 70 percent of world's countries used the gold standard (Feenstra and Taylor, 2014: 564). During the gold standard system, countries, which have balance of payments deficit, would have outflows of gold and try to reduce the supply of money. Oppositely, countries, which have balance of payment surplus, would try to increase the supply of money. As a result of these adjustments, balance of payment equilibrium would be restored (Husted and Melvin, 2010: 463). When Bretton Woods System (1946-1971) was accepted after World War II, countries was agreed to apply a new currency policy to minimized international exchange rate volatility and stabilize the world economy. In this system, American dollar was selected as the main and only currency, which was convertible to and gold, and all other currencies was pegged to dollar. Since United States has the largest amount of gold reserves, the price of 1 ounce gold was determined as 35 US

dollars. Every country's currency had a specific gold value and all currencies were linked in a system of fixed exchange rates (Husted and Melwin 2010: 464).

Due to United States struggled with high foreign trade deficits and some economic problems, the linkage between gold and dollar and also other currencies was broke and Bretton Woods System collapsed in 1971. After this year, gold prices begun to determined by supply and demand in free market conditions. In the short run, demand is predominately determines the price of gold because of the inelasticity of the supply of gold (Sjaastad 2008). However, in the long run, gold price is determined by both supply and demand.

2. CLASSIFYING ECONOMIC FACTORS INFLUENCING GOLD PRICES

Gold price is mostly affected by political events and uncertainty. However economic factors, especially monetary macroeconomic variables, affect those prices significantly. Gold volatility was generally explained by monetary variables empirically in most studies. Also it was revealed that gold also seems to be highly sensitive to monetary variables especially exchange rate and inflation (Arauri et al, 2013: 3).

Because of existence of many factors, it should be distinguished as short- term and long-term factors. In the short-term, especially oil price fluctuations, speculative behaviors of investors, exchange rate fluctuations, and changes in inflation rate, stock-exchange indexes and

current political events affect gold price The gold price is influenced by stock-exchange indexes, changes in economic cycle expectations regarding economic growth and inflation, exchange rates in specific countries such as United States, China, India in the long run.

Supply related factors affecting gold prices are, production costs in gold producer countries, the amount of world gold production, gold sales of Central Banks and term sales of mining companies (Elmas, Polat, 2014: 173). In 2018, nearly 3,260 metric tons of gold was produced in the world. China, Australia and Russia, respectively are the most gold producing countries in the world (Talk, 2019). "2013 export and import statistics indicated that 40% of the physical global gold volumes were traded through United Arab Emirates, and the overall value of the gold sector in Dubai has grown to US \$75 billion (Herzog et al, 2015: 21)

According to data of World Gold Council, Central Bank of United States has the largest gold reserve in the world like previous years. The following countries are Germany, Italy, France, Russia, China, Switzerland, Japan, India, and Netherlands.

Demand related factors are political developments, fluctuations in exchange rates and stocks, inflation, oil prices, Central Bank monetary policy, interest, gold demand of Central Banks and other alternative metals (Elmas and Polat, 2014: 173). Since demand is an important influencer on gold prices, India is the largest gold consuming country in the world (Tiwari and Sahadudheen, 2015:86). Because of increasing demand for gold, the price of gold ascended by four times

in the last decade. Especially increasing demand from Asian buyers have made Singapore and Dubai more important gold trading centers (Herzog 2015).

3. DETERMINANTS OF GOLD PRICES

There are plenty of empirical studies on factors influencing gold prices in gold markets. When these studies which include statistical or econometrical analysis are examined, it can be observed different results for different countries by using different variables. However, generally similar factors affect gold prices in similar ways. In this study, studies have similar results for gold prices are reviewed.

Levin and Wright (2006) there are three groups of study examining factors influencing gold prices. First group explains the changes in gold prices by basic macroeconomic variables such as interest rate, exchange rate, real income. The second group explains it by fluctuations in gold prices and speculations about gold prices. The third group explains it by the relations in the short and long run. In literature, generally macroeconomic factors are analyzed. Bukowski (2016) ranked factors affecting gold price as, the rate of changes in the US Treasury bonds, changes in the US\$/EUR exchange rate, gold price changes in the previous periods, and the rate of changes in crude oil prices.

In this study, as macroeconomic factors, exchange rate, inflation and oil price are selected.

3.1.Exchange Rate

Exchange rate is the price of a foreign country's currency in national currency. In recent years, most exchange rates are free floating, thus, sensitive to changes in economy. In the history, generally gold prices and US dollar have fluctuated toward the opposite way. Since the unit value of gold per ounce is price in dollars, when the value of dollar falls, investors tend to buy more gold and increasing demand for gold rises the price of gold. There are numerous studies searching the relationship between gold and exchange rates.

Dooley et al. (1992) used VAR model with monthly data between 1976–1990 for *USA*, *UK*, France, Germany and Japan currencies to find a relationship between gold prices and exchange rates. The results showed that the parity between US dollar and the other currencies explains the volatility in gold prices.

Sjaastad and Scacciavillani (1996) determined strong correlation between gold prices and exchange rates by using the monthly data from 1982 to 1990. Twite (2000) used ADF, PP, ARCH, and GARCH models and found highly negative correlation between USA exchange rates and gold prices. Vural (2003) analyzed the fluctuations in gold prices for 1990-2003 periods. He claimed that the forty percent of fluctuations in gold prices could be explained by exchange rates, stocks, silver and oil prices. Poyraz and Didin (2008) used the monthly data for 1996-2005 and revealed exchange rate, oil price and foreign currency reserves affect gold price in *Turkey*. Sjaastad (2008)

indicated that because of volatile exchange rates gold prices have frequently changed after Bretton Woods System, Toraman et al (2011) explored strong and negative correlation between gold prices and USA exchange rate using the data from 1992 to 2010 with MGARCH model. Jain and Ghosh (2013) explained the reason of changes in prices of locally traded precious metals such as gold, with exchange rate fluctuations. They also reported that the reason of change in exchange rate is an increase in rising import due to rising demand for these metals.

Simon and Hausner (2013) showed that gold price was affected by euro crisis and reached an all-time high of USD 1,921 in September 2011 in Switzerland. Srinivasan (2014) used monthly data from 1990 to 2014 with ARDL bound and Granger tests for India and they revealed that exchange rate and gold price are correlated in the long-run. Nair et al (2015) also revealed for India that exchange value of US Dollar is a key factor in fluctuations in gold prices. Seyyedi (2017) demonstrated the fall in the international prices of gold would increase the demand for gold in India, hence the imports of India would be increased and the currency would be depreciated. Since India produces small fraction of its precious metals and crude oil, demand should be met by import. Increasing import affect the exchange rate (Jain and Ghosh, 2013: 92). Bansal (2019) showed that there is a significant impact of US Dollar on the gold prices.

In Graph1 yellow line represents the value of US dollar and the yellow line represents the price of gold and the graph shows the relationship between US dollar and gold price. In forty years, most of times, US dollar and price of gold move oppositely. When dollar goes up, price of gold decreases, and conversely, when the dollar goes down the price of gold increases. This is compatible with the studies.

Graph 1: Gold Price and US Dollar



Source: Bord of Governors, IBA.

3.2. Oil Price

Oil prices change over time. All major oil price fluctuations are related to flow of global production levels that can be affected by the wars or revolutions in some countries. Changes in oil price can affect gold price as it can also affect other economic variables.

Zhang-Wei (2009) found significant co-integration relationship among the prices of crude oil and gold. Both of prices could be affected by same factors especially exchange rates, US dollar and geopolitical events. Toraman et al (2011) demonstrated positive relationship between gold prices and oil prices using the data from 1992 to 2010 with MGARCH model. Simakova (2011) used Granger causality test and identified causality between gold and oil price.

Le and Chang (2011) revealed that oil price nonlinearly cause the gold price and thus can be used for prediction the gold price. Ali et al (2014) demonstrated oil price has important and positive impact on gold prices and negative correlation between gold prices and exchange rate. These relationships among the variables indicate that gold can be used as a hedge against both markets. Elmas and Polat (2014) examined the demand related factors affecting gold prices and they showed oil and silver prices and inflation rate affect gold prices positively, however exchange rate, Dow Johns index and interest rate affect them negatively.

Subhashini and Poormina (2014) used Dickey Muller root test with weekly data of crude oil, gold and currency from 2009 to 2013 and found that an increase in the currency would lead to increase in the gold prices and crude oil. The currency would tend to strengthen the increase in gold price and in turn it reflects in the crude oil.

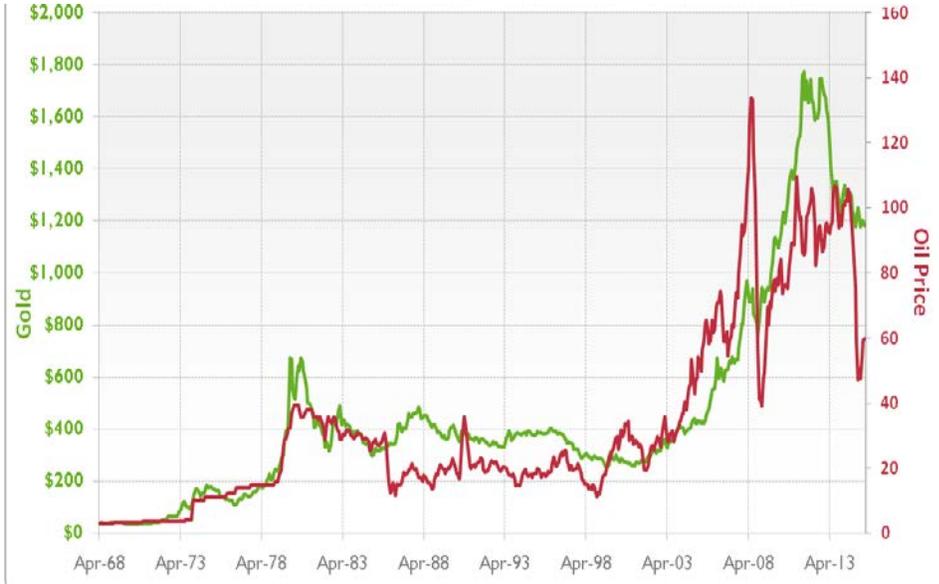
Demand of gold has grown rapidly after liberalization of China's gold market (Wang et al, 2017: 20). Zhang and Tu (2016) reported that due to oil-intensive metal industry of China, the fluctuations in oil

price influence gold and other metals in the market. Erdoğan (2017) examined the factors affecting the price of gold in United States with the data from 2003 to 2016 using the exponential GARCH model. He revealed that there is a significant linear correlation and a negative relationship between return of gold, oil price, return of dollar and silver price. Besides, it couldn't be found any significant linear relationship between gold price and other variables. Hashim et al (2017) investigated macroeconomic variables for *United States, China, India, Saudi Arabia and Turkey* from 1996 to 2015. They found insignificant correlation among exchange rate, inflation rate, gross domestic product and with gold price, while significant positive relationship real interest and crude oil price with gold price. Besides that, real interest rate concluded to be the most significant factor that affect gold price. Lodha (2017) found unidirectional Granger causality from crude oil to gold.

Stoklasova (2018) revealed that there is a positive relationship between the price of oil and the price of gold – with delay of one month, meaning that an increase of gold prices is followed by an increase of oil prices within one month. Bedoui et al (2019) found that gold and oil are positively influenced each other.

In Graph 2, black line represents crude oil price and blue line represents US dollar. According to this graph there is linkage among these variables. They move toward to same way and this supports the literature.

Graph 2. Gold Prices and Oil Prices



Source: Federal Reserve Bank of St.Lois

3.3. Inflation

Inflation means permanent increasing in prices and it may affect gold prices as other macroeconomic variables. “The expected inflation effect hypothesis has the following implications (Blöse, 2010:36):

1. The current price of gold depends on expectations about future inflation.
2. Economists can use gold prices to determine the level of inflation.
3. Changes in inflation expectation will be accompanied by changes in gold prices”.

Investors who anticipate high inflation rate, tend to buy gold to be able to make a profit in the future and hence, the price of gold will rise. An increase of the price of international crude oil causes to a rise in inflation because of an increase in production cost. To hedge against inflation, investors buy gold to balance their portfolio. In this way, gold moves up in an inflationary period and thereby a positive relationship between oil and gold (Tiwari and Sahadudheen, 2015: 90). This linkage has been observed for several times. For example, “in the 1990s the average real gold price declined by 41.79 per cent. During the same period, the real oil prices also declined by 52 per cent. In the 11 period of 2000 -2011, the average oil price increased by 23.5 per cent and the gold price by approximately 107 per cent” (Sujit and Kumar, 2011:149).

Levin (2002) found that gold is mostly an inflation hedge in the long run. Glosch et al (2004) proved gold prices affected by US interest rate, inflation rate and dollar exchange rate by using 1976-1999 monthly data.

Mishkin (2010) emphasized that the rate of inflation and gold prices move in the same direction. Gold prices generally increase when inflation is high. However, the correlation is not as simple as when inflation increases the price of gold increases. If it were, the inflation-adjusted price of gold would be virtually flat. Thus other factors should be considered.

Taşçı (2010) showed world gold prices, interest rate, CPI affects gold price in *Turkey* while US dollar, oil prices don't affect it. Ghosh and Raju and Marathe (2016) found gold prices and inflation has a significant short-run relationship in China. The inflation affect the gold prices are for short period.

Balcılar et al (2017) found causality from inflation to gold market. They support to literature by proving that inflation has an impact on gold market fluctuations and gold can be used a hedge for inflation. Huang et al (2019) indicated that the founding of their study suggests that the effect of inflation on gold prices is important especially when inflation expectations are high and financial market anticipations are negative. Because in this situation, gold can be used as a hedge against inflation.

Graph 3 shows gold prices and inflation. Although most of times they moved together, after financial crisis in 2008, the positive relationship among them has weakened.

Graph 3: Gold Prices and Inflation



Graph 3: Gold Prices and Inflation Source: Duncan, 2017.

CONCLUSION

This study reviews the literature on some macroeconomic factors affecting gold price.

There are various studies in literature, which investigates the effects of macroeconomic variables, especially exchange rate, inflation and oil prices on gold price. These factors generally respond to changes in economic or politic situations. However, these responses do not always be in the same directions for all these variables. Many studies and empirical data reveal that exchange rates move to opposite way from gold price. It may resulted because of the gold is an alternative investment instrument to exchanges. However many studies reveals

that oil price positively effect on gold prices especially in the long run. Because of gold is a hedge for inflation, in the inflationary environment, investors buy gold to balance their portfolio. Thus gold will move up in an inflationary period. However, this relationship can be observed especially in short run, and other factors should be considered. Consequently it can be roughly said that there is a positive relationship between gold prices with both inflation and oil price and negative relationship between gold prices and exchange rates.

BIBLIOGRAPHY

- Ali G., Zaman K., Ziaei S.M., Anuar M.A., Stock Return Response to Monetary and Fiscal Policy Interaction in Singapore, *Mediterranean Journal of Social Sciences*, 5(27), pp.1712-1727.
- Arouri M.E.H, Lahiani, A., Nguyen, D.K., (2013). World Gold Prices And Stock Returns In China: Insights For Hedging and Diversification Strategies.
- Baig M.M, Shahbaz M., Imran M., Jabbar M., Ain Q.U. (2013), *Economica*, 9(5), pp.28-39.
- Bansal, R.R. (2019). Impact of Macroeconomic Variables on the Prices of Gold, *Journal of Emerging Technologies and Innovative Research*, 6(2), pp.560-576.
- Bedoui R., Braiek S., Guesmi K., Chevalier J. (2019). On the Conditional Dependence Structure Between Oil, Gold And Usd exchange Rates: Nested Copula Based GJR-GARCH Model, *Energy Economics*, 80, pp.876-889.
- Blose L.E. (2010). Gold Prices, Cost of Carry, and Expected Inflation, *Journal of Economics and Business* 62, pp.35–47
- Bukowski S.I. (2016). The Main Determinants of Gold Price in the International Market, *International Business and Global Economy*, 35(1), pp.402-413.
- Dooley, M.P., Isard, P. and Taylor, M.P. (1992). Exchange Rates, Country Preferences and Gold, IMF Working Paper.
- Duncan R. (2017). Will the Price of Gold Rise or Fall?, www.richdad.com, 15 Jan 2017.

- Elmas, B., Polat, M.(2014).Altın Fiyatlarını Etkileyen Talep Yönlü Faktörlerin Tespiti: 1988-2013 Dönemi, Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi, 15(1), pp.171-187.
- Erdoğan A.(2017). The Most Significant Factors Influencing the Price of Gold: An Empirical Analysis of the US Market, Economics World, Sep.-Oct. 2017, 5 (5), pp. 399-406
- Feenstra R.C., Taylor A.M.(2014).Essentials of International Economics, 3.ed.Worth Publishers, New York, USA.
- Ghosh D., Levin E.J.MacMillan P.,Wright R.E.(2002).Gold As An Inflation Hedge, Working Paper, University of Stirling.
- Hashim S.L., Ramlan H.,Razali N.H.,Nordin N.Z.M.(2017). Macroeconomic Variables Affecting the Volatility of Gold Price, Journal of Global Business and Social Entrepreneurship, 3(5), pp.97-106.
- Herzog S., Nellen A., Ryser S., Tran Vç, Ruyschaert D. (2015).Gold in Switzerland Certification Schemes as the New Cold Rush, A Strategic Report for Swissaid, Geneva.
- Huang X., Jia F., Xu, X., Shi Y. (2019). The Threshold Effect of Market Sentiment and Inflation Expectations on Gold, Resources Policy, 62, pp.77-83.
- Husted S., Melvin M.(2010). International Economics, 8.Ed.,Pearson, MA, USA.
- Jain A., Ghosh S.(2013).Dynamics of Global Oil Prices, Exchange Rate and Precious Metal Prices in India, Resources Policy, 38, pp.88-93.

- Le, T., & Chang, Y.(2011). Oil and Gold: Correlation or Causation?
https://mpra.ub.uni-muenchen.de/31795/1/MPRA_paper_31795.pdf.
- Levin, E. J. ve Wright, R. E. (2006, June). Short - Run And Long - Run Determinants of The Price of Gold. World Gold Council.
<https://www.gold.org/>
- Lodha S. (2017). A Cointegration and Causation Study of Gold Prices, Crude Oil Prices and Exchange Rates, *Journal of Financial Risk Management*, 3, pp.55-6.
- Mishkin, F.S. (2010). Applying the Asset Market Approach to a Commodity Market in *The Economics of Money, Banking and Financial Markets*, 9. Edition, USA: Prentice Hall.
- Nair G.K., Choudhary, N., Purohit H. (2015). The Relationship between Gold Prices and Exchange Value of US Dollar in India, *Emerging Markets Journal*, 5(1), pp. 16-25.
- Raju G.A., Marathe S.(2016). Impact of Inflation in India, China and USA on the Gold Prices, *Splint International Journal of Professionals*, III(10), pp.7-12.
- Seyyedi S. (2017).Analysis of the Interactive Linkages Between Gold Prices, Oil Prices and Exchange Rate in India, *Global Economic Review*, 46(1), pp.65-79.
- Silvia S., Hausner K.H.(2012).The Impact of the Euro Crisis on Switzerland, *Intereconomics*, 47(2), pp.112-119.
- Simakova J.(2011).Analysis of the Relationship Between Oil and Gold Prices, *Journal of Finance*, 51(1), pp.651-662.

- Sjaastad, L.(2008).The Price of Gold and the Exchange Rates: Once Again, Resources Policy, Vol. 33, pp.118-124.
- Srinivasan P. (2014).Gold Price, Stock Price and Exchange Rate Nexus: The Case of India, The Romanian Economic Journal, XVII (52), pp.77-94.
- Stoklasova, R.(2018). Short term and Long term Relationships Between Gold Prices and Oil Prices, Scientific Papers of Unşversity of Pardubice, 43(2), pp.221-231.
- Subhashini S., Poormina S.(2014).En Empirical Investigation of the Casual Relationship Between gold Price, Exchange Rate and Crude Oil, International Journal of Management Research & Review, 4(10), pp.981-987.
- Sujit K.S., Kumar B.R.(2011). Study on Dynamic Relationship Among Gold Price, Exchange Rate and Stock Market Return, International Journal of Applied Business and Economic Research, 9(2), pp.145-165.
- Talk, F. (2019). Top 10 Countries with Largest Gold Reserves, September 19, <http://www.usfunds.com/investor>
- Tiwari A.K., Sahadudheen I.(2015), Understanding the Nexus Between Oil and Gold, Resources Policy, (46), pp.85-91.
- Toraman C., Başarır C., Bayramoğlu M.F.(2011).Determination of Factors Affecting the Price of Gold: A Study of MGARCH Model, Business and Economics Research Journal, 2(4), pp.37-50.

- Twite, G. (2002). Gold Prices, Exchange Rates, Gold Stocks and the Gold Premium. *Australian Journal of Management*, 27(2), pp. 123-140.
- Zhang C., Tu X.(2016). The Effects of Global Oil Price Shocks on China's Metal Markets, *Energy Policy*, 90, pp.131-139.
- Zhang Y.J., Wei Y.M. (2009).The Crude Oil Market and the Gold Market: Evidence for Cointegration, Causality and Price Discovery , *Ceep-Bit Working Papers*, No.5, October.
- Gold Prices, World Gold Council, www.gold.org, 25.12.19.
- Wang Y., Li, X., Zhang Z. and Zhang Z. (2017). Rise of the Gold Market In China: Liberalisation And Market Development, *Journal of Chinese Economic and Business Studies*, 16(1), pp.17-38.
- Yurdakul F.and Sefa M.(2015). An Econometric Analysis of Gold Prices in Turkey, *Procedia Economics and Finance*, 23, pp.77 – 85.
- Balcılar M., Ozdemir Z.A.,Shahbaz M., Güneş S.(2017). Does Inflation Cause Gold Market Price Changes? Evidence on the G7 Countries From the Tests of Nonparametric Quantile Causality in Mean and Variance, *Applied Economics*, 50(17), pp.1891-1909.

CHAPTER 3

NUCLEAR ENERGY PERCEPTIONS OF UNIVERSITY STUDENTS: a structural model proposal

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INTRODUCTION

The rapid growth of the global population has been accompanied by numerous problems, one of most significant of which is the increasing need for energy resources. Countries turn to different energy resources to meet their increasing energy needs, and while the resources may meet society's needs, they may also give rise to environmental problems. For this reason, the use of energy resources that both meet the energy requirement and have a minimal impact on the environment should be targeted when formulating energy policies.

Based on its positive and negative aspects, nuclear power is the most controversial energy source. The world first heard about the concepts of “nuclear reaction”, “nuclear power” an “atomic energy” during World War II. The first scientific studies into the production of power from nuclear raw materials date back to the early 20th century. Nuclear power is a multidisciplinary field involving physics and medicine, among other scientific fields. It is included in the education curriculum of many countries where the use of nuclear power is common, particularly the United States and France (Karabulut, 1999; Ozdemir & Çobanoğlu, 2008).

The oil bottleneck that broke out in the early 1970s led to an acceleration in the pursuit of alternative energy forms, as a result of which nuclear power began to stand out as a viable alternative. As a result, numerous high-capacity nuclear reactors had been built and commissioned by the second half of the 1980s. The demand for nuclear power started to witness a decreasing trend towards the late

1980s, and it plateaued during 1990s. Although this has been attributed to nuclear accidents of Three Mile Island (1979, US) and Chernobyl (1986, Soviet Union), the main factors were the slowdown in the world economy and the introduction of natural gas onto the energy market. In the 21st century, plans for power generation from renewable resources, taking into account climate changes as part of the understanding of sustainable development, have gained importance. In this framework, renewable energy sources have been added to the energy agenda, in addition to nuclear power, and efforts to efficiently generate power from such sources have been initiated. However, it is still impossible to generate power efficiently from renewable energy sources, given their reliance on external conditions (solar, wind and water resources, which depend on climatic conditions). In this regard, nuclear power is maintaining its importance as a source that generates power 24 hour (Midden et al., 1990; Peters et al., 1990; Renn 1990; Sjöberg & Sjöberg, 1990; Özdemir & Cobanoglu, 2008).

There are two competing and opposing views in the world related to nuclear power. Its supporters claim that nuclear power should be considered an option when looking for ways to meet the current and future energy needs that will be unavoidable, and so nuclear technologies should be developed and more nuclear plants should be constructed to put this option into practice. On the other hand, opponents of nuclear power argue that it is hazardous and not economic as a source of energy, and so utterly oppose the construction

of nuclear plants, while advocating for its immediate abandonment and the urgent closure of all existing plants (Beck, 1999; Richman and Boerner, 2006; Palabiyik et al., 2010).

Turkey is unable to meet its domestic energy requirements from internal sources, and so relies heavily on foreign sources. In an effort to reduce dependence on foreign energy sources, nuclear power plants have been planned recently. The Chernobyl (Russia) and Fukushima (Japan) nuclear accidents have resulted in a higher perception of the risks and a lower perception of the reliability of nuclear power plants among the public. Despite this, discussions about nuclear power plants are still continuing all around the world. Having access to accurate information and the perception of the public with respect to nuclear power and plants play a crucial role in the acceptance of this energy source by a country. In the present study, a survey was conducted among students from the department of mechanical engineering with an interest in the subject of “energy”. The effects of the students’ perceptions of “Trust”, “Environmental Benefit”, “Energy Benefit” and “Risk” related to nuclear power on their acceptance of nuclear power plants were investigated by a proposed research model.

2. LITERATURE REVIEW

In related literature, many factors have been identified that affect society’s acceptance of nuclear power plants. Liu et al. (2008) proposed a model regarding the acceptance of nuclear power plants that addresses the following factors: perceived benefit, risk, information and trust. The study found that the level of public

acceptance of nuclear power plants in China was 71.43 percent. Stoutenborough et al. (2013) examined U.S. public support for nuclear energy one year after the Fukushima tragedy, seeking to understand the influence of knowledge and risk perceptions on policy support. Visschers et al. (2011) investigated a broad model to explain people's acceptance of nuclear power stations. They focused on people's risk and benefit perceptions and on two important determinants of these perceptions, namely affective feelings and trust. In the study, a telephone survey of 817 from the German-speaking part of Switzerland and 405 from the French-speaking part was conducted. Their findings showed that acceptance of nuclear power stations was mostly influenced by people's benefit perception for a secure energy supply and, to a much smaller extent, by their benefit perception for climate mitigation or by their risk perception. Bird et al. (2014) survey was conducted in 2010 to investigate the Australian public's attitudes to nuclear power in relation to climate change and in comparison to other energy alternatives. They found a majority of respondents (42%) willing to accept nuclear power if it would help tackle climate change.

Previous literature includes studies that have found that the environmental benefit perception regarding nuclear power is important, and may affect the level of acceptance positively (Tanaka, 2004; Whitfield, et al., 2009). Another important factor is risk perception. A perceived high risk is considered to be a factor that can reduce a society's level of acceptance of nuclear power. It was found that environmental benefit perception plays a more significant role in

a society's acceptance of nuclear power than risk perception (Chung & Kim, 2009; Visschers & Siegrist, 2013; Wang & Li, 2016).

Additionally, the relationship between perceptions of benefit, risk and trust and acceptance has been tested in some noteworthy studies. Moreover, the direct and indirect effects of benefit and risk perceptions on acceptance have also been researched. Previous studies have shown that trust in nuclear power plants has a significant effect on benefit and risk perceptions (Siegrist & Cvetkovich, 2000; Wang & Li, 2016). Guo and Ren (2017) have identified the factors that are correlated with local acceptance of planned nuclear power plants in China. They found that people who live closer to the plant sites are less willing to accept nuclear power than those who live farther away. Also they mentioned perceived benefits and risks significantly influence local acceptance. Accordingly, those that have a greater trust in institutions that dealing with energy perceive higher benefits and lower risks related to nuclear power plants. Previous studies have explored in detail the relationship between trust and risk perception. In literature on risk perception, trust is generally considered to be critical factor affecting risk perception (Greenberg et al., 2007; Poortinga & Pidgeon, 2005; Rosa & Clark, 1999; Slovic, 1993). It was found that trust in organizations that operate radioactive waste pools in particular had a strong effect on perceived risk (Slovic et al., 1993). Viklund (2003) noted that those that know little about nuclear power plants and technologies are uncertain of the benefits and risks involved, and so put their trust in the relevant authorities.

In addition, Choi et al. (2000) reported that perceived benefits of nuclear power plants usage had positive effect to Korean attitude toward nuclear power plants and perceived risks of nuclear power plants usage had negative effect to Korean attitude toward nuclear power plants on individual viewpoint.

Bhanthumnavin and Bhanthumnavin (2014) developed a scale of three components of attitudes toward nuclear power plants (cognitive, affective, and behavioral) and verified by second order confirmatory factor analysis. The data were collected at 817 Thai university students. In this study, three factors emerged from each of the cognitive and affective measures and two factors from the behavioral tendency measure. Positive correlations between these measures and the nuclear power plant site acceptance scores were found.

3. METHODS

3.1. Data collection tool and participants

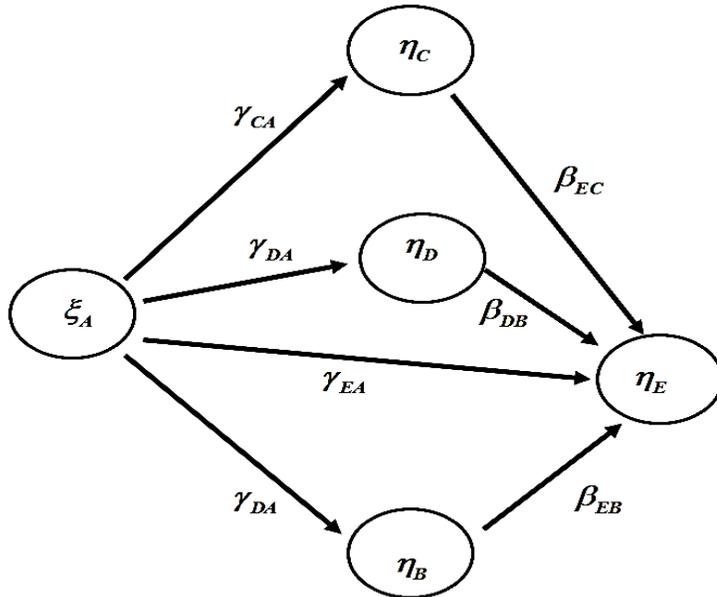
The measuring tool employed in the study was developed making use of the studies by Visschers et al.(2011), Corner et al. (2011), Carr and Devgun (2011), Zsóka et al. (2012), Kim et al. (2014) and Wang and Li (2016). The first part of the data collection tool contains questions on the demographics of students (such as gender, grade, mother's educational attainment, father's educational attainment, their departments, etc.). The second part contains 18 statements on Energy Benefits, Environmental Benefits, Risk-Trust Perception and Acceptance attitudes, for which a five-point Likert scale (5 =

Absolutely agree, 4 = Strongly agree, 3 = Moderately agree, 2 = Slightly agree, 1 = Absolutely disagree) was used. A pilot study was conducted with 50 students to establish the reliability of the data collection tool, after which, the items that had proven to be difficult to understand were removed and some items were amended. The data collection tool contained five factors, namely, “A: Trust, B: Environmental Benefit Perception, C: Energy Benefit, D: Risk Perception and E: Acceptance”. The Cronbach’s Alpha coefficient of the assessment tool was calculated to be 0.84. The data were collected from Eskişehir in Turkey with 800.000 population having two state universities. The student population in Eskişehir is approximately 70 thousand. The study sample consisted of students from the departments of mechanical engineering ($N_a=325$) who have received education in energy sources and supply (Energy supply group - ESG), and students from the departments of biology ($N_{b1}=150$) and environmental engineering ($N_{b2}=100$), who have received education focused on life and the environment (Life and environment group - LEG).

3.2 Proposed research model and hypotheses

The Model for Acceptance of Nuclear Power Plants was developed on the studies by Visschers et al. (2011) and Wang and Li (2016). Unlike the model in literature, trust regarding the issue of nuclear power plants was considered to be a factor with the potential to have direct effect on acceptance, and so was included in the model used in this

study. The Model for Acceptance of Nuclear Plants (MANP) proposed in the study is given in Figure 1. NPP: Nuclear Power Plant



A: Trust, B: Environmental Benefit Perception, C: Energy Benefit, D: Risk Perception and E: Acceptance

Fig. 1. The Proposed Model for Acceptance of Nuclear Plants (MANP)

The latent variables and parameters in the MANP given in Figure 1 are defined below.

γ_{CA} : Direct influence of Trust on Energy Benefit Perception

γ_{DA} : Direct influence of Trust on Risk Perception

γ_{EA} : Direct influence of Trust on Acceptance

β_{EC} : Direct influence of Energy Benefit Perception on Acceptance

β_{EB} : Direct influence of Environmental Benefit Perception on Acceptance

β_{DB} : Direct influence of Risk Perception on Acceptance

The proposed MANP was intended to test the influence of trust, energy benefit, environmental benefit and risk perceptions of university students on their acceptance of NPPs. It was assumed that trust, as the exogenous latent variable in the model, affected environmental benefit, energy benefit and risk perception. Furthermore, it was considered that the all of the latent variables in question had a causal relationship with the acceptance of NPPs.

In literature, trust has been addressed as a factor that has a negative effect on risk perception and a positive effect on energy benefit and environmental benefit perception (Wang & Li, 2016). Accordingly, the hypotheses suggesting that trust perception affects energy benefit, environmental benefit and risk perception were constructed as follows:

H₁: As trust in NPPs increases, the energy benefit perception of NPPs increases.

H₂: As trust in NPPs increases, the environmental benefit perception of NPPs increases.

H₃: As trust in NPPs increases, risk perception decreases.

Wang and Li (2016) found that acceptance was influenced by energy benefit perception. Although environmental benefit perception has a significant positive influence on acceptance, according to studies in the literature, the negative influence of perceived risks on acceptance is lower than the influence of perceived benefits on acceptance. Studies in literature have found that trust, perceptions of

environmental benefit and energy benefit influence acceptance positively, whereas risk influences acceptance negatively. The hypotheses proposing that the four factors in the MANP influence the acceptance of nuclear power are given below.

H_{4a}: As trust in NPPs increases, the NPP acceptance attitude increases.

H_{4b}: As the environmental benefit perception of NPPs increases, the NPP acceptance attitude increases.

H_{5a}: As the energy benefit perception of NPPs increases, the NPP acceptance attitude increases.

H_{5b}: As the risk perception of NPPs increases, the NPP acceptance attitude decreases.

4. RESULTS

4.1. Validity of the model(ESG)

Before moving on to the SEM analysis, the data was checked for goodness of fit into a multivariate normal distribution so that a suitable parameter estimation technique could be selected. As the chi-square value for multivariate normality symmetry and kurtosis was calculated to be 605.315 ($p < 0.01$) and the relative multivariate kurtosis was calculated to be 1.086, it was concluded that the data set did not have a multivariate normal distribution. Accordingly, a robust maximum likelihood technique was employed for the parameter estimation and the fit of the model. The chi-square value calculated for the model's fit was $\chi^2 = 266.50$ ($df = 83$, $p < 0.05$). The χ^2 / df ratio

for the MANP was calculated to be 3.20. This value indicates that the model's fit is within an acceptable range. If the χ^2 / df ratio has a value between 0 and 2, it means a good fit. If it is between 2 and 5, then it is considered an acceptable fit. Other measures of the model's fit include RMSEA (Root-mean-square error approximation)=0.083; SRMR (Standardized Root Mean Square Residual) = 0.082; NFI (Normed Fit Index) = 0.95; NNFI (Non-Normed Fit Index) = 0.96; IFI (Incremental Fit Index) = 0.96; RFI (Relative Fit Index) = 0.94; CFI (Comparative Fit Index) = 0.96; GFI (Goodness-of-fit) = 0.97; CAIC (Consistent Akaike Information Criterion)-model =517.50<saturated model CAIC = 814.06. The MANP fit values and the limit values for a good fit and an acceptable fit according to the fit measures used in the SEM.

Three criteria must be fulfilled to establish convergent validity. Firstly, the standard factor loading of each latent variable observed must be higher than 0.50 and statistically significant (Fornell & Larcker, 1981). Secondly, the Composite Reliability (CR) and Cronbach's Alpha (CA) values for each construct must be higher than 0.70 (Hair et al., 1998). Finally, the Average Variance Extracted (AVE) value for each construct must be higher than 0.50 (Fornell & Larcker, 1981; Byrne, 1998; Kline, 2005).

In Table 1, the AVE value for Factor D is 0.41, but this value is within an acceptable range because in cases where CR values are above 0.60, an AVE value below 0.50 is acceptable and the construct validity is sufficient (Hair et al., 1998). When the model's convergent validity was checked, it was observed that the standard factor loadings ranged

from 0.60 to 0.88, and the CR and CA values were 0.67 and above, as shown in Table 1 and 3. Thus, it may be said that the convergent validity of the constructs has been met. In order to establish the discriminant validity of the model, the square root of the AVE value of each construct is compared with the correlation of that construct with other constructs. If the square root of AVE is higher, then the discriminant validity is met (Fornell & Larcker, 1981). The discriminant validity of the measurement model is given in Table 1.

Table 1. Discriminant validity (ESG)

	C	B	D	E	A
C	0.81				
B	0.16	0.82			
D	-0.26	-0.27	0.66		
E	0.63	0.41	-0.51	0.82	
A	0.39	0.41	-0.66	0.77	0.75
AVE	0.65	0.67	0.41	0.67	0.56

Note: The diagonal elements between the correlations are the square root of AVE.

4.2. Validity of the model(LEG)

As the chi-square value for multivariate normality symmetry and kurtosis was calculated to be 308.773 ($p < 0.01$) and the relative multivariate kurtosis was calculated to be 1.117, it was concluded that the data set did not have a multivariate normal distribution. Accordingly, a robust maximum likelihood technique was employed for the parameter estimation and the fit of the model. The chi-square value calculated for the model's fit was $\chi^2 = 201.19$ ($df = 83$, $p < 0.05$). The χ^2 / df ratio for the MANP was calculated to be 2.42. This value

indicates that the model's fit is within an acceptable range. Other measures of the model's fit include RMSEA (Root-mean-square error approximation)=0.076; SRMR (Standardized Root Mean Square Residual) = 0.080; NFI (Normed Fit Index) = 0.96; NNFI (Non-Normed Fit Index) = 0.97; IFI (Incremental Fit Index) = 0.97; RFI (Relative Fit Index) = 0.94; CFI (Comparative Fit Index) = 0.97; GFI (Goodness-of-fit) = 0.97; CAIC (Consistent Akaike Information Criterion)-model =442.49<saturated model CAIC = 782.58. The MANP fit values and the limit values for a good fit and an acceptable fit according to the fit measures used in the SEM.

For the factors in the LEG model, AVE values ranged from 0.50 to 0.80 and CR values ranged from 0.72 to 0.88 (Table 2-3). When the convergence validity of the study was controlled, it was observed that the Factor Loading was changed between 0.58 and 0.88 in Table 3. For this reason, constructions can be evaluated as being validated. It has been stated that the AVE value square root of each structure of the discriminant validity of the measurement model is controlled by comparing the correlations between that structure and other structures. It can be stated that the square root values of the AVE in Table 2 are greater than the correlations between the other constructs.

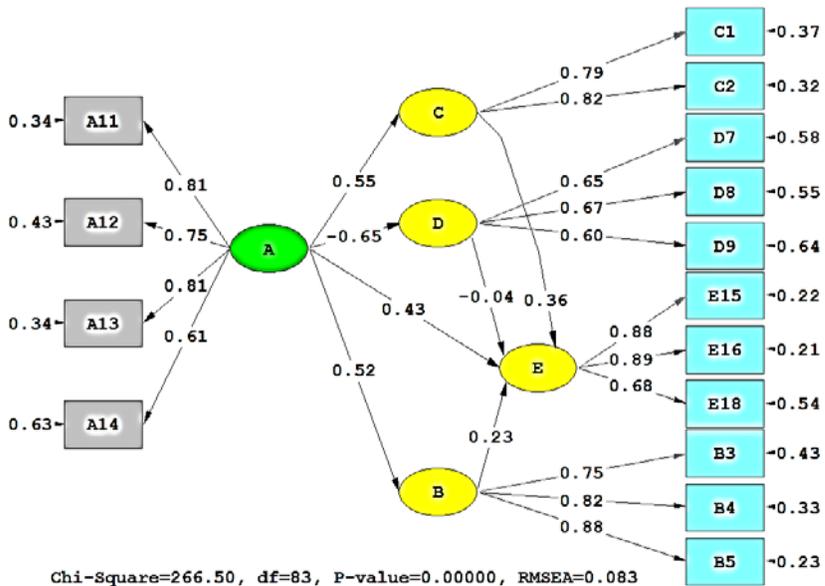
Table 2. Discriminant validity (LEG)

	C	B	D	E	A
C	0.89				
B	0.16	0.81			
D	-0.26	-0.27	0.71		
E	0.63	0.41	-0.51	0.82	
A	0.39	0.41	-0.66	0.77	0.80
AVE	0.80	0.65	0.50	0.67	0.64

Note: The diagonal elements between the correlations are the square root of AVE.

4.3. Path diagram and parameter estimates

The factors of the MANP, their construct validity (CR) and Average Variance Extracted (AVE), factor loading values, R^2 values and Cronbach’s Alpha values are given in Table 3. The path diagram of the MANP is given in Figure 2-3.

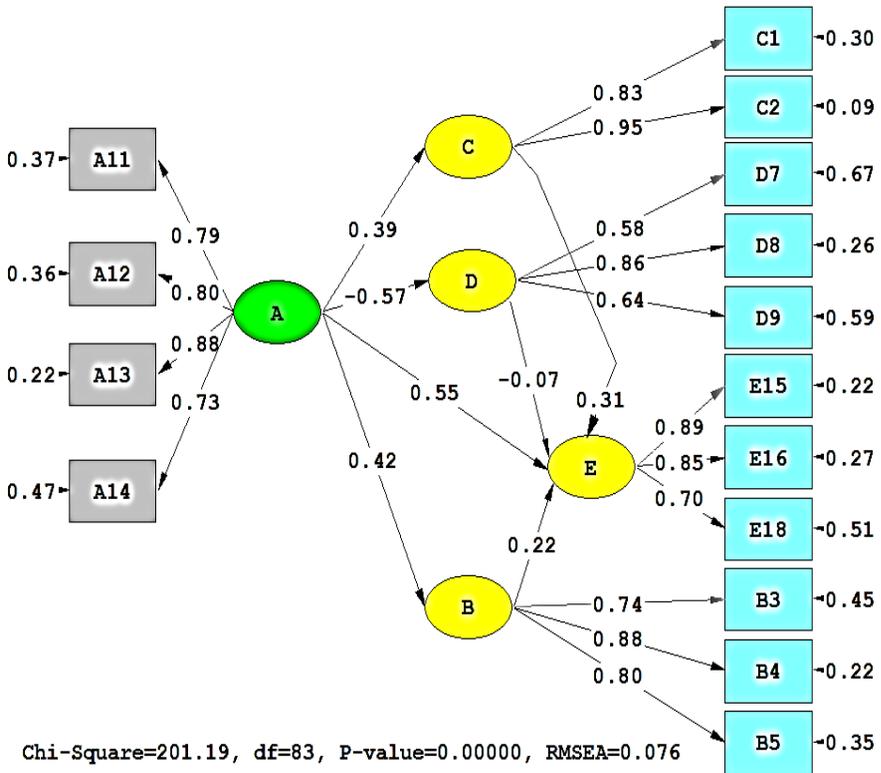


A: Trust, B: Environmental Benefit Perception, C: Energy Benefit, D: Risk Perception and E: Acceptance

Fig. 2. Path diagram of the model (ESG)

Structural equations;

$$\begin{aligned}
 \eta_B &= 0.52\xi_A + 0.73 && ; R^2 = 0.27 \\
 \eta_C &= 0.55\xi_A + 0.69 && ; R^2 = 0.31 \\
 \eta_D &= -0.65\xi_A + 0.58 && ; R^2 = 0.42 \\
 \eta_E &= 0.23\eta_B + 0.36\eta_C - 0.04\eta_D + 0.43\xi_A + 0.27 && ; R^2 = 0.73
 \end{aligned} \tag{8}$$



A: Trust, B: Environmental Benefit Perception, C: Energy Benefit, D: Risk Perception and E: Acceptance

Fig. 3. Path diagram of the model (LEG)

Structural equations;

$$\begin{aligned}\eta_B &= 0.42\xi_A + 0.83 && ; R^2 = 0.17 \\ \eta_C &= 0.39\xi_A + 0.85 && ; R^2 = 0.15 \\ \eta_D &= -0.57\xi_A + 0.68 && ; R^2 = 0.32 \\ \eta_E &= 0.22\eta_B + 0.31\eta_C - 0.07\eta_D + 0.55\xi_A + 0.23 && ; R^2 = 0.77\end{aligned}\quad (9)$$

As can be seen in Figure 2 and the results of Equation 8, the coefficient of the relationship between Trust and Environmental Benefit among the ESG are $\gamma_{BA}=0.52$. This value indicates that a one-unit increase in Trust perception results in a 0.52-unit increase in Environmental Benefit perception. This coefficient is 0.42 among the LEG.

The coefficient of the relationship between Trust and Energy Benefit is $\gamma_{CA} = 0.55$. This value indicates that a one-unit increase in the Trust perception of students results in a 0.55-unit increase in their Energy Benefit perception. This coefficient is 0.39 among the LEG. The coefficient of the relationship between Trust and Risk Perception among the ESG is $\gamma_{DA} = -0.65$, which indicates that a one-unit increase in the trust perception of students results in a 0.65-unit decrease in their risk perception. This coefficient is 0.57 among the LEG.

The coefficient of the relationship between Energy Benefit and Acceptance among the ESG is $\beta_{EC} = 0.36$. This value indicates that a

one-unit increase in the Energy Benefit perception of students results in a 0.36-unit increase in their Acceptance of nuclear power plants. This coefficient is 0.31 among the LEG. The coefficient of the relationship between Risk and Acceptance among the ESG is $\beta_{ED} = -0.04$, whereas this figure is -0.07 among the LEG. Neither of these coefficients of the relationship between Risk and Acceptance was found to be statistically significant. The coefficient of the relationship between Environmental Benefit and Acceptance among the ESG is $\beta_{EB} = 0.23$, whereas this figure is 0.22 among the LEG. The coefficient of the relationship between Trust and Acceptance among the ESG is $\gamma_{EA} = 0.43$. This means that a one-unit increase in the Trust perception of students results in a 0.43-unit increase in Acceptance of NPPs. This coefficient is 0.55 among the LEG.

These results indicate that besides the Energy Benefit and Environmental Benefit perceptions, a high Trust perception among the students has a stronger effect on the acceptance of NPPs.

Table 3. Results of reliability, convergent, discriminant validity, standardized factor loadings for the models

Factors	Items	Standardized Factor loading (ESG)	<i>Standardized Factor loading (LEG)</i>
C: Perceived energy supply benefits <i>Cronbach's Alpha=0.78(0.88)</i> <i>CR=0.79(0.87)</i> <i>AVE=0.65(0.80)</i>	S1: Developing nuclear power can reduce our dependence on international energy market.	0.79	0.83
	S2: Developing nuclear power can optimize Turkey's energy supply structure.	0.82	0.95

B: Perceived environmental benefits <i>Cronbach's Alpha=0.85(0.85)</i> <i>CR= 0.86(0.85)</i> <i>AVE=0.67(0.65)</i>	S3: Developing nuclear power can effectively reduce greenhouse gas emissions..	0.75	0.74
	S4: Developing nuclear power can substantially reduce dust from burning coal.	0.82	0.88
	S5 Developing nuclear power can effectively solve environmental damage produced by fossil fuel mining.	0.88	0.17
D: Risk perception <i>Cronbach's Alpha=0.67(0.72)</i> <i>CR=0.68(0.74)</i> <i>AVE=0.41(0.50)</i>	S7: People living near nuclear power stations will suffer from radiation.	0.65	0.58
	S8: Nuclear accident risk caused by natural disasters is big.	0.67	0.86
	S9: Nuclear accident risk caused by operational error of nuclear power plant workers is big.	0.60	0.64
A: Trust <i>Cronbach's Alpha=0,86(0.88)</i> <i>CR=0.84(0.88)</i> <i>AVE=0.56(0.64)</i>	S11: I think the construction of the nuclear power plant to be built will be of high quality..	0.81	0.79
	S12: In case of a nuclear accident, the government will take timely and effective measures.	0.75	0.80
	S13 Siting selection of nuclear power plants made by government is scientific.	0.81	0.88

	S14: Nuclear power plant workers can operate professionally.	0.61	<i>0,73</i>
<u>E</u> : Acceptance <i>Cronbach's Alpha=0.85(0.86)</i> <i>CR=0.86(0.86)</i> <i>AVE=0.67(0.67)</i>	S15 I think it is a wise choice for Turkey to develop nuclear power	0.88	<i>0.89</i>
	S16: I think the share of nuclear power should be increased in Turkey's total electricity generating capacity.	0.89	<i>0.85</i>
	S18: Compared to traditional thermal power, I think nuclear power is better..	0.68	<i>0.70</i>

5-point Likert scales were employed to measure all questionnaire items. LEG values are italic

Table 4 presents the standardized parameter values and hypothesis test results, which show the cause and effect relationship between the factors. Aside from for one of the coefficients in Table 4 ($D \rightarrow E$), all were found to be statistically significant. Thus, it was found that hypotheses H₁, H₂, H₃, H_{4a}, H_{4b} and H_{5a} were statistically true at a significance level of 1 percent, while hypothesis H_{5b} was rejected.

Table 4. Standardized parameter estimates, t-values and hypotheses

Hypotheses		Standardized parameter estimates	Results of hypotheses
H1	$A \rightarrow C$	0.55 ^{***} , (0.39) ^{***}	<i>supported</i>
H2	$A \rightarrow B$	0.52 ^{***} , (0.42) ^{***}	<i>supported</i>
H3	$A \rightarrow D$	-0.65 ^{***} , (-0.57) ^{***}	<i>supported</i>
H4a	$A \rightarrow E$	0.43 ^{***} , (0.55) ^{***}	<i>supported</i>
H4b	$B \rightarrow E$	0.23 ^{***} , (0.22) ^{***}	<i>supported</i>
H5a	$C \rightarrow E$	0.36 ^{***} , (0.31) ^{***}	<i>supported</i>
H5b	$D \rightarrow E$	-0.04 ^{NS} , (-0.07) ^{NS}	<i>not supported</i>

^{***} $p < 0.01$; NS: Non significant, LEG values are italic

5. CONCLUSION

This study explores a number of latent variables that may have an influence on the university students' acceptance of nuclear power through SEM. The results of this study show that all factors, excluding risk perception, influence the university students' acceptance of nuclear power. Our findings indicate that the acceptance of NPPs is, to a great extent, influenced by people's perception of their benefit in terms of safe energy supply, while risk perception does not have a significant influence. The results of the study show that in accepting NPPs, people consider the environmental advantages of nuclear energy less important than the advantages of a secure energy supply. In previous studies it has been noted that when people were asked to make a choice between climate change or nuclear power plants, they

reluctantly chose nuclear power plants so that climate change can be mitigated (Pidgeon et al., 2008).

In their studies, Visschers et al. (2011) and Wang and Li (2016) identified a significant relationship between Risk and Acceptance, while the influence of Risk on Acceptance was not found to be significant in our study. Moreover, the coefficient of the relationship between Trust and Risk in the abovementioned studies was found to be -0.53 and -0.44, respectively, whereas these figures were -0.65 and -0.57 in our study. Among the risk perception statements in the study, “Natural disasters such as earthquakes increase the risk of nuclear accidents” was the one that the participants agreed upon the most (ESG=4.13; LEG=4.12). Fang (2013) noted that university students perceive a lesser risk of NPPs when compared to people of a lower educational attainment. He suggested that people with insufficient information on the issue had difficulty in expressing the risks of nuclear power. Whitfield et al. (2009) confirmed that a low level of educational attainment was always associated with a higher risk perception regarding nuclear power, and noted that educational attainment was indirectly associated with people’s risk perception regarding nuclear power. Frewer et al. (1998) stated that the perceived benefits would be the main factor behind the public acceptance of NPPs if the risk was not intolerably high.

The results of this study demonstrate that the factor “Trust” is positively correlated with energy supply and the environmental benefit perception of NPPs, and is negatively correlated with risk perception.

Findings in literature suggest that trust is a key factor in the public acceptance of NPPs, and similarly, trust in this study is addressed as the most important factor affecting the level of acceptance.

Visschers et al. (2011) and Wang and Li (2016) calculated the coefficient of the relationship between Energy Benefit and Acceptance to be 0.76 and 0.52, respectively, whereas these figures were calculated to be 0.36 and 0.31 in our study. An important reason for the influence of energy supply benefit perception on the acceptance of NPPs may be that Turkey's energy requirement is very high, and that energy supply is related directly to people's daily lives.

It was found that in deciding whether to accept a hazardous technology such as nuclear power, students tended to take into account the general energy benefits associated with this technology. It is perhaps for this reason that the perceived benefits outweigh the perceived risks. The findings demonstrate that the level of trust influences the perceived energy benefits, environmental benefits and risks, and thus has a direct effect on acceptance. Accordingly, it can be said that providing the public with reliable and correct information may increase benefit perception and decrease risk perception, thereby increasing the public level of acceptance of NPPs.

The perception of trust among students had a quite lower average score than that of their energy and environmental benefit perception. In particular, the average score of the students' agreement with the statement "In case of a nuclear accident, the authorities will take

effective and timely measures” was even lower than 2.50. As can be understood from the MANP results, the key variable influencing acceptance is Trust. This finding points to the importance of the components that make up the factor of Trust perception regarding NPPs, including “selection of a suitable location”, “construction quality and reliability” and “operation by specialized personnel” for the acceptance of NPPs.

The difference between the factor averages of the two student groups was subjected to a test of significance using a t-test, and the calculated t-values were as follows: for energy benefits: $t= 3.12^{***}$ ($ESG=3.97$, $LEG=3.69$); for environmental benefits: $t= 2.61^{***}$ ($ESG=3.53$, $LEG =3.30$); for risk: $t=-1.18^{NS}$ ($ESG =4.01$, $LEG =4.10$); for trust, $t=1.90^*$ ($ESG =2.91$, $LEG =2.73$), for acceptance: $t=2.38^{**}$ ($ESG =3.41$, $LEG =3.17$). Risk has the highest average value, while trust has the lowest. Among the two student groups, the differences between the average values of the factors, excluding Risk perception, were found to be statistically significant. The largest difference between the two groups was calculated to be for Energy Benefit, in which the average values among the LEG are high for Risk and low for the remaining factors when compared to the other group of students. This may be attributed to the students’ perspectives of life in regards to the department in which they study.

In literature on nuclear power and the social acceptance of NPPs, it is noted that women generally consider NPPs to be far less safe than men in terms of the perceived threats to human health and the

environment, and so a higher percentage of women are against nuclear power at both regional and country levels when compared to men (Brody, 1984: 209). In the t-test conducted to find out whether the mean values of the factors in the model significantly differ by gender, a significant difference was found only in the factor Acceptance among the energy supply group ($t=-2.60$; Women's arithmetic mean=3.09, Men's arithmetic mean= 3.50), whereas significant differences were found in all factors among the LEG. The mean values for the LEG are as follows: Risk (women=4.27, men=4.00; $t=-3.36$), Energy benefits (women=3.36, men=3.88; $t=-3.73$), Environmental benefits (women=2.95, men=3.48; $t=-3.62$) and Trust (women=2.41, men=2.92; $t=-3.47$). The largest difference between women and men in this group was identified in the factor Acceptance (women=2.68, men= 3.44; $t=-5.09$). These results indicate that the support for nuclear power among women is lower than men from the viewpoint of energy and environmental benefits, trust and acceptance, and they are more likely to consider NPPs to be risky than men.

The mean values of the factors in the model regarding the level of educational attainment of the students' mothers and fathers were compared, and significant differences were found in all factors for the mother's level of educational attainment, and in the factors of Risk and Acceptance for the father's level of educational attainment. When the pairs were compared, significant differences were found among parents that with primary school diplomas and those with bachelor's

and master's degrees. It was also found that as the parents' level of educational attainment increases, the risk perception of the students increases, while the trust and levels of acceptance decreases.

For nuclear power programs to be implemented in Turkey, the relevant authorities, including governmental agencies and contractor companies, should be highly trusted by the public. In particular, the authorities need to enhance reliability by encouraging openness, transparency and public participation if they wish to raise the level of public trust. He et al. (2013) note that a high level of public participation may reduce people's concerns about nuclear power, while Mourogov (2000) states that nuclear power plant operators need to improve the level of management to increase the level of public trust, and should be engaged in further technological research to enhance safety in NPPs based on the results of their scientific research.

Previous studies have demonstrated that public acceptance of NPPs is influenced considerably by people's energy supply benefit perception, and to a far lesser extent, by their perceptions of the mitigation of climate change or risk. There have been numerous studies suggesting that benefit perception is far more important than risk perception when it comes to the acceptance of a hazard (Siegrist et al., 2011), and so it is apparent that societies value the benefits rather than the risks of a perilous technology when deciding whether or not to accept it.

This study addresses the influence of Trust, Environmental and Energy Benefit, and Risk Perceptions of university students on their acceptance of NPPs. Of course, the questionnaire should be distributed to a wider population if more realistic and accurate decisions are to be made. Furthermore, this issue can be discussed in more detail with different viewpoints and more comprehensive models, and can take into account other factors that are not included in the model used in this study

REFERENCES

- Beck, P.W. (1999). Nuclear Energy in the Twenty-First Century: Examination of a Contentious Subject. *Annual Review of Energy and the Environment*, 24, 113-137.
- Bhanthumnavin, A. and Bhanthumnavin, V. (2014). The empirical development of cognitive, affective, and behavioral tendency measures of attitudes toward nuclear power plants in Thai university students. *Progress in Nuclear Energy*, 73, 86-95.
- Bird, D.K., Haynes, K., van den Honert, R., McAneney, J., Poortinga, W. (2014). Nuclear power in Australia: a comparative analysis of public opinion regarding climate change and the Fukushima disaster. *Energy Policy*, 65, 644–653.
- Brody, C. J. (1984). Differences by Sex in Support for Nuclear Power. *Social Forces*, 63(1), 209-228.
- Byrne, B. (1998). *Structural equation modelling with LISREL, PRELIS and SIMPLIS: Basic concepts, applications and Programming*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Carr, J., Devgun G. (2011). Safety of the nuclear industry: A case study of public awareness and perceptions; SYMPOSIUM SERIES NO. 156- Hazards XXII.
- Choi, Y.S., Kim, J.S. and Lee, B.W. (2000). Public's perception and judgement on nuclear power. *Annals of Nuclear Energy*, 27, 295-309.

- Chung, J.B., Kim, H.K. (2009). Competition, economic benefits, trust, and risk perception in siting a potentially hazardous facility. *Landscape and Urban Planning*, 91(1), 8-16.
- Corner, A., Venables, D., Spence, A., Poortinga, W., Demski, C., Pidgeon, N. (2011). Nuclear power, climate change and energy security: Exploring British public attitudes. *Energy Policy*, 39 (9), 4823–4833.
- Çelik, E. H., Yılmaz, V. (2015). *LISREL 9.1 ile Yapısal Eşitlik Modellemesi, Temel kavramlar-uygulamalar-programlama* (Structural Equation Modeling with LISREL 9.1, Basic concepts-applications-programming), Anı Yayıncılık, Ankara.
- Eurobarometer, Europeans and Nuclear Safety, Special Eurobarometer 271/Wave 66.2-TNS Opinion&Social Fieldwork, Report, February, 2007.
- Fang, X. (2013). Local people's understanding of risk from civil nuclear power in the Chinese context. *Public Understanding of Science*, 23(3), 283-298.
- FORATOM (European Atomic Forum) (2017). What people really think about nuclear energy. https://www.foratom.org/publications/#topical_publications. Retrieved: 10.01.2018.
- Frewer, L.J. (1999). Risk perception, social trust, and public participation into strategic decision making: implications for emerging Technologies. *Ambio*, 28(6), 569-574.

- Fornell, C., Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Greenberg, M., Lowrie, K., Burger, J., Powers, C., Gochfeld, M., Mayer, H. (2007). Nuclear waste and public worries: public perceptions of the United States' major nuclear weapons legacy sites. *Human Ecology Review*, 14, 1-12.
- Guo, Y., Ren, T. (2017). When it is unfamiliar to me: Local acceptance of planned nuclear power plants in China in the post-fukushima era. *Energy Policy*, 100, 113-125.
- Hair, J., Anderson, R., Tatham, R., Black, W. (1998). *Multivariate Data Analysis*, (5th Edition). Upper Saddle River, NJ: Prentice Hall.
- He, G., Mol, A.P.J., Zhang, L., Lu, Y. (2013). Public participation and trust in nuclear power development in China. *Renewable and Sustainable Energy Reviews*, 23, 1-11.
- Karabulut, E. (1999). *Enerji kaynakları (Energy sources)*. Ankara: Ankara Üniversitesi Basımevi.
- Kim, Y., Kim, W., Kim, M. (2014). An international comparative analysis of public acceptance of nuclear energy. *Energy Policy* 66, 475-483.
- Kline, B.R. (2005). *Principles and practice of structural equation modeling*. Second Edition, The Guilford Press, New York London.

- Liu, C., Zhang, Z., Kidd, S. (2008). Establishing an objective system for the assessment of public acceptance of nuclear power in China. *Nuclear Engineering and Design*, 238, 2834-2838.
- Midden, C.J.H., Verplanken, B. (1990). The stability of nuclear attitudes after Chernobyl. *Journal of Environmental Psychology*, 10, 111-119.
- Mourogov, V.M. (2000). Role of nuclear energy for sustainable development. *Progress in Nuclear Energy*, 37, 19-24.
- Özdemir, N., Çobanoğlu, O. (2008). Prospective Teachers' Attitudes Towards the Use of Nuclear Energy and the Construction of Nuclear Plants in Turkey. *H. U. Journal of Education*, 34, 218-232.
- Palabıyık, H, Yavaş, H. and Aydın, M. (2010). Nuclear Energy And Social Acceptance Problem: A Critical Literature Review on Nimby Syndrome. *Suleyman Demirel University The Journal of Faculty of Economics and Administrative Sciences*, 15(1), 45-66.
- Peters, H. P., Albrecht, G., Hennen, L., Stegelmann, H. U. (1990). Chernobyl" and the nuclear power issue in West German public opinion. *Journal of Environmental Psychology*, 10, 151–167.
- Pidgeon, N.F., Lorenzoni, I., Poortinga, W. (2008). Climate change or nuclear power—No thanks! A quantitative study of public perceptions and risk framing in Britain. *Global Environmental Change*, 18, 69–85.

- Poortinga, W., Pidgeon, N.F. (2005). Trust in risk regulation: cause or consequence of the acceptability of GM food. *Risk Analysis*, 25(1), 199-209.
- Renn, O., (1990). Public responses to Chernobyl accident. *Journal of Environmental Psychology*, 10,151-167.
- Richman, D.B. and Boerner, C. (2006). A Transaction Cost Economizing Approach to Regulation: Understanding the NIMBY Problem and Improving Regulatory Responses. *Yale Journal on Regulation*, Winter 23(1), 29-76.
- Rosa, E.A., Clark, D.L. (1999). Historical routes to technological gridlock: nuclear technology as prototypical vehicle. *Research in Social Problems and Public Policy*, 7, 21-57.
- The 2002 Annual Report of the OECD Nuclear Energy Agency (NEA), Paris, June 2003. NEA/COM (2003)2. JT00146748.
- Sjöberg, B. D. ve Sjöberg, L. (1990). Risk perception and worries after Chernobyl accident. *Journal of Environmental Psychology*, 10, 135–149.
- Siegrist, M., Cvetkovich, G. (2000). Perception of hazards: the role of social trust and knowledge. *Risk Analysis*, 20(5), 713-719.
- Siegrist M., Connor M., Keller C. (2011). Trust, confidence, procedural fairness, outcome fairness, moral conviction, and the acceptance of GM field experiments. *Risk Analysis*, 32(8), 1394-1403.
- Slovic, P. (1993). Perceived risk, trust, and democracy. *Risk Analysis*, 13(6), 675-682.

- Stoutenborough, J.W., Sturges, S.G., Vedlitz, A. (2013). Knowledge, risk, and policy support: Public perceptions of nuclear power. *Energy Policy*, 62, 176–184.
- Tanaka, Y. (2004). Major psychological factors determining public acceptance of the siting of nuclear facilities. *Journal of Applied Social Psychology*, 34, 1147-1165.
- Timm, H. N. (2002). *Applied Multivariate Analysis*. Springer – Verlag New York, 720p.
- Viklund, M.J. (2003). Trust and risk perception in Western Europe: a cross-national study. *Risk Analysis*, 23(4), 727-738.
- Visschers, V.H.M., Keller, C., Siegrist, M. (2011). Climate change benefits and energy supply benefits as determinants of acceptance of nuclear power stations: investigating an explanatory model. *Energy Policy*, 39(6), 3621-3629.
- Visschers, V.H.M. and Siegrist, M. (2013). Nuclear Power Plant Accident Influences Acceptance of Nuclear Power: Results of a Longitudinal Study Before and After the Fukushima Disaster. *Risk Analysis*, 33(2), 333-347.
- Wang, Y., Li, J. (2016). A causal model explaining Chinese university students' acceptance of nuclear power. *Progress in Nuclear Energy*, 88, 165-174.
- Whitfield, S.C., Rosa E.A., Dan A., Dietz T. (2009). The future of nuclear power: value orientations and risk perception. *Risk Analysis*, 29(3), 425-437.
- Zsóka, Á., Szerényi, Z.M., Széchy, A., Kocsis, T. (2012). Greening due to environmental education? Environmental knowledge,

attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production*, 48, 126-138.

CHAPTER 4

TECHNOLOGY-ENHANCED EDUCATION AS A SOLUTION TO THE PROBLEMS OF HISTORY TEACHING IN TURKEY¹

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INTRODUCTION

Since the day of foundation, the Turkish Republic has aiming to reach the level of first World countries. After all of these years and reforms, it seems that Turkey hasn't been able to fulfill her national goal yet. In 2004 this unfortunate failure has been accepted and proclaimed by Tayyip Erdogan that Turkey has failed in her transition process from a traditional agricultural society to an industrialized one.³ Moreover, Turkey also faces the danger of lagging behind the information age. Therefore, as early as in 2004 during the 2nd Council of Informatics (November 2004), former Prime Minister Erdogan has set a new objective for the Turkish nation:

Our new goal is to become an information society... A new educational reform is needed to fulfill this transition, which will be based on innovative thinking and production instead of memorization...Computer literacy will become an important part of formal education... Our goal is to train 500,000 new informatics manpower in the next ten years.

The way to an information society passes through technology-enhanced education in which various media and computer-related technologies are used in classrooms to support teaching and learning. The use of educational technology to support learning would revolutionize the traditional education system. It could expand learning resources, increase flexibility to reach out to students with various learning styles,

³ <http://www.bilisimsurasi.org.tr>

and it also would have a positive effect on motivation and achievement (Reeves, 1998). The use of educational technologies in classroom activities and including technology literacy into the curriculum can help to establish what is called “the information society.”

Today, technology is fully integrated with our daily lives. This involvement had changed our lifestyles as well as the way we communicate, receive information, and learn, particularly for the younger generation. To meet these changes and make education more relevant to the younger generation’s lifestyle, many countries are using educational technology to create effective learning environments for their students. They emphasize technology literacy in the curriculum and spend huge amounts of money to put new technological materials in classrooms. Despite their expenses, these materials are necessary for technology-enhanced education, because of they:

- arouse interest and stimulate learning,
- connect new information with what has been learned previously,
- relate the subject matter to students’ life experiences,
- provide opportunities for students accessing and evaluating information,
- respond to pressing needs of society,
- enable students to portray the world as they see it,
- condense information for ease of understanding,
- increase self-instruction (Hackbarth, 1996).

1. TECHNOLOGY-ENHANCED EDUCATION

Technology-enhanced education connects learners of all ages and learning resources through educational technology, including, but not limited to TV, VCR, radio, projector, personal computer, CD-ROM, the Internet, cellular phone, and other audiovisual or interactive tools that can be used in the process of education. Technology-enhanced education opens remarkable new avenues for learning and skills development. Today, information and communication technologies offer the possibility of radical changes within the school framework in which schools can fulfill their aims and missions. In this new framework, technology can be a vital new tool for schools in helping individuals to develop their learning, critical and creative thinking skills.

"Educational technology" is a term widely used in the field of education (and other areas), but it is often used with different meanings. The word "technology" is used by some to mean "hardware" or "software" but for those working in the field, technology is "a systematic process of solving problems by scientific means" (Ely, 1993). Therefore, educational technology properly refers to a particular "approach" to achieving the ends of education. "Instructional technology" refers to the use of such technological processes specifically for teaching and learning (Ely, 1993). Other terms, such as "instructional development" or "educational media," which refer to particular parts of the field, are also used by some to refer to the field as a whole (Ely, 1993). Educational technology is not just a list of technological devices used

in the classroom, but it is “the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning” (Seels & Richey, 1994). The Association for Educational Communications and Technology (AECT) defines educational technology as:

Educational technology is a term widely used in the field of education (and other areas), but it is often used with different meanings. The word technology is used by some to mean hardware--the devices that deliver information and serve as tools to accomplish a task--but those working in the field use technology to refer to a systematic process of solving problems by scientific means. Hence, educational technology properly refers to a particular approach to achieving the ends of education (n.p.).⁴

The notion of educational technology has been introduced in the 20th century and gained attention especially during and after the Second World War. During the war, several psychologists and educators were called on to conduct research and develop audio-visual materials to train soldiers. Some of these researchers continued to work in the area of educational technology to solve instructional problems in general education (Dick, 1987). The USSR’s launching of Sputnik in 1957 started a series of events that would eventually have a major impact on instructional technology. In response to the launching of Sputnik, the United States government, shocked by the success of the Soviet effort,

⁴ www.aect.org

poured millions of dollars into improving math and science education in the United States. The first instructional technology-based materials developed with the government funds were usually developed by subject matter experts without an extensive study on their effects on students. However, a few years later it was discovered that many of these materials were not particularly effective (Reiser, 2001).

During the 1970s, instructional technology became so popular all over the world from business to the military that many institutions developed an interest in the instructional design process. In the mid-1970s, several branches of the United States military adopted an instructional design model, universities created instructional development centers to improve the quality of their instruction, many graduate programs were created in instructional technology, and finally many nations, such as South Korea, Liberia, and Indonesia, saw the benefits of using instructional technology to solve instructional problems in their countries (Reiser, 2001).

1.1. Why Technology-enhanced Education?

Research shows that successful technology-rich schools generate impressive results for students, including improved achievement; higher test scores; improved student attitude, enthusiasm, and engagement; richer classroom content; and improved student retention and job placement rates. Among the hundreds of studies that show positive benefits from the use of technology, the two most referenced studies are those funded by the U.S. Department of Education and

Apple Computer, Inc. The first, a U.S. Department of Education-funded study of nine technology-rich schools, concluded that the use of technology resulted in educational gains for all students regardless of age, race, parental income, or other characteristics.⁵ The second, a 10-year study ACOT, supported by Apple Computer, Inc., concluded that students provided with technology-rich learning environments “continued to perform well on standardized tests but were also developing a variety of competencies not usually measured. Students explored and represented information dynamically and in many forms; became socially aware and more confident; communicated effectively about complex processes; became independent learners and self-starters; and knew their areas of expertise and shared that expertise spontaneously.”⁶ The benefits of the use of technology in education are well known not only by researchers and educators but also the by general public, perceptions verified by a Microsoft / Intelliquest a public survey conducted in 1995. The results of this public survey show that:

- 89% of parents (84% of the general population) believe computer skills are important to educational success.
- 86% of computer-using children believe computer skills are important to getting good grades in school.
- 92% of children think computer skills will help them earn higher salaries in future jobs.

⁵ www.inet.ed.gov

⁶ <http://www.apple.com/education>

- 77% of teachers (67% of the general public) think computers help each child learn at his/her own pace.
- 61% of Americans (56% of teachers) believe that computers help develop children's creativity.⁷

Reeves's (1998) study of examining fifty years of educational research shows us that technology-use in schools has positive effects on teaching and learning. Reeves's extensive review revealed that:

- "Television has a positive effect on students' learning and school achievement especially with programs that were produced for instructional purposes, as long as students watch less than two hours of TV in a day.
- Computers motivate students and students who use computers as tutors get higher scores on standardized achievement tests.
- Compared with traditional instruction, students can complete a given set of educational objectives in less time with computer-based instruction.
- Educational technology materials provide students an opportunity to involve actively in the learning process "rather than absorbing representations preconceived by others.
- Educational technology materials support reflective thinking which is necessary for meaningful learning.
- Educational technology materials enable "mindful, challenging learning rather than the effortless learning

⁷ Importance of Technology. <http://www.nsba.org/sbot/toolkit/tiol.html>

promised but rarely realized by other instructional innovations.”

- The use of educational multimedia programs as cognitive tools engages many skills in learners such as: “project management skills, research skills, organization and representation skills, presentation skills, and reflection skills” (Reeves, 1998, p. 3).

1.2. Benefits of Technology-enhanced Education

A review of the literature on this topic (and related topics such as technology-rich environments, educational technology, instructional technology, etc.) helps us narrow down the areas that generally benefit from technology-enhanced education:

- active learning/learning by doing (study at your own pace and on your own time),
- teaching content better,
- reaching out to students with different learning styles, skills, needs, cultural backgrounds,
- motivation.

1.2.1. Active Learning

Active learning can be defined as instructional activities involving students in doing activities and reflecting upon what they are doing (Bonwell and Eison,1991). According to Connor at al (1996) active learning is a "hands-on and minds-on involvement in the learning process." Bonwell and Eison (1991) go into more depth with these

descriptions of active learning and define active learning as a learning process that promotes:

- More students involved in classroom activities rather than just listening,
- More emphasis on skill development rather than transmitting information,
- More student involvement in higher-order thinking (e.g., reflection, synthesis, evaluation, problem-solving, and application),
- Greater emphasis on students' exploration of their attitudes and values (Bonwell & Eison, 1991).

The use of active learning techniques in the classroom is vital because of their powerful impact on students' learning. Research shows that there is a significant correlation between how much people are involved in the learning process and how much they remember as time passes. For example, students who actively involved in classroom activities by giving a speech, participating in a discussion or simulation, etc., tend to remember 70%-90% of what they said or did after two weeks. Whereas, students who passively involve in classroom activities by reading, listening and watching tend to remember only 10%-30% of what they read, heard, and saw after two weeks (Dale, 1969).

Several studies have shown that students prefer strategies promoting active learning to traditional lectures. Research evaluating students' achievement has demonstrated that active learning methods are “comparable to lectures in promoting the mastery of content but

superior to lectures in promoting the development of students' skills in thinking and writing” (Bonwell and Eison,1991). Furthermore, some cognitive research has shown that “a significant number of individuals have to learn styles that are better served by other pedagogical techniques other than lecturing” (Bonwell and Eison, 1991). According to the National Council for the Social Studies (1994), an effective way to engage students actively in ‘authentic problem-tackling or decision-making context’ is to incorporate technology into the social studies classroom. As for the essential nature of guiding learning and using technology to effectively engage learners, two leading educators have stated:

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves (Chickering & Gamson, 1987, p. 3).

1.2.2. Teaching Content Better

For decades educators and experts in history have recommended methods that go beyond text and teacher-centered instruction to engage students actively in history courses. Despite these recommendations, traditional teacher/text-centered instruction still dominates history instruction. Over-reliance on textbooks, worksheets and lectures failed to stimulate students’ interest and support higher-level cognitive goals

(Goodland, 1984). Due to the falling behind in educational reform efforts, students' achievement and historical knowledge are very low in history courses (Nash, at all, 1997; Wineburg, 2001). Technology can expand learning resources and open the classroom to the world. Computers and the Internet are the new gateways for teaching and learning. Instructors can use the Internet to find new resources and to share ideas with other teachers. Also, with the help of computer-related technologies, the content could be presented in various ways that teachers could not provide with traditional methods. By varying, the methods in instruction teachers can teach the content better and fulfill their teaching objectives.

1.2.3. Reaching Out to Students with Different Learning Styles, Skills, Needs, and Cultural Backgrounds

Students possess a variety of learning styles, but not every style is present to the same degree. Only about one-third of young people have a single dominant learning style, one-third have two, one-third have no clear preference (Lemire, 1995). Based on genetic background, parents' child-rearing practices, educational experiences, career, and social interactions some learning style preferences are better developed and more relied on. The other preferences somewhat stay ineffective, but they can be easily activated with sufficient support and exercise. Due to the nature of multi-media devices involved, a technology-enhanced teaching model can provide more ways of addressing the different learning styles than traditional teaching methods (Gardner 1983). By doing so, it provides students a chance to exercise their nondominant

learning style preferences. Diaz and Cartnal (1999), compared students in a traditional instruction setting with those in a technology-enhanced setting. Those in the technology-enhanced settings were less dependent on their dominant learning styles as learners. That data sets the stage for a middle-ground approach to the appropriate relationship between technology and learning style. This middle ground is illustrated in the work of Ross and Schulz (1999) in which they examined the relationship between the learning style and online education. They report that online education can enhance different learning and thinking styles of students. They provide numerous illustrations of how an online course might structure information to make it compatible with the needs of various types of learners.

As stated before technology-enhanced environments provide various ways or tools for the presentation of information and the structuring of class activities or assignments to meet students' learning style preferences. Below is a list of the intelligence as defined by Gardner (1983) and the educational technology tools that can be used to help students improve these intelligences.⁸

Verbal/Linguistic intelligence: This intelligence addresses oral and written communication skills. Word processing, audio & video recording, web broadcasting, and communication (such as e-mail and internet messaging) programs can be used in the classrooms to help students improve their verbal/linguistic intelligences.

⁸ <http://www.nsba.org/sbot/toolkit/tiol.html>

Logical/mathematical intelligences: This intelligence is defined as logical, mathematical and analytical thinking skills. Videos or math and science software can be used to graphically illustrate the concepts.

Visual/spatial intelligence: This intelligence is defined as the ability to understand the world through what we see and imagine and to express ideas through the graphic arts. Paint programs, camcorders & movie-making programs, and virtual tours can be used in the classrooms to address this intelligence.

Bodily/kinesthetic intelligence: This intelligence is defined as the ability to learn and express oneself through physical activities. Educational games, robot construction and programming, and virtual tours can be used in classroom activities to address this intelligence.

Musical intelligence: The ability to understand, appreciate, perform, and create music by voice or instruments or dance. Dance teaching games and videos, music creating and editing software, and audio recording software can be included in classroom activities to address this intelligence.

Interpersonal intelligence: The ability to work, communicate and understand other people. Email and internet messaging programs can be used in the classroom to address this intelligence.

Intrapersonal intelligence: The ability to act based on self-knowledge and making decisions based on an accurate picture of oneself. Video diaries, videotaped interviews, and multimedia portfolios can be included in classroom activities to address this intelligence.

1.2.4. Motivation

Research shows that student motivation and performance improves when instruction is adapted to student learning preferences and styles. For example, when computers were used in history classes, students demonstrated increased motivation and recall and took less time to complete the unit (Yang, 1992). Educational technology helps motivate the student because it engages student enthusiasm and lets the student become actively involved in the education process. Active participation in the process of education is core to establishing a connection between the learner and the subject matter. Wlodkowski (1984) described six steps to motivate learners in a time continuum model. The model identifies two steps to be used at the beginning of instruction, another two in the middle of instruction, and two at the end to enhance learning. Those six steps are;

2. Ascertaining student needs,
3. Ascertaining student attitudes toward learning,
4. Creating stimulating instructional events,
5. Paying attention to the classroom's effect,
6. Providing assessment and recognition of personal competence,
7. Reinforcement for future learning whether self-directed or institutionally guided (Wlodkowski, 1984).

Implementation of Wlodkowski's motivation steps requires a radical change in the traditional teacher role, in which teachers would no longer be instructors, but they become the facilitators for students. High-quality facilitation is necessary to optimize students' learning

experiences (Fox *et al.*, 2001). Rolfe (1993) states that the facilitator's role in any educational program requires the setting up of a physical, social and psychological environment appropriate for learners. This environment can be best created by technology enhancement. In a technology-enhanced environment, teachers must be equipped not only with skills of facilitation but also with the skills required to use information technology and confidence to use various educational technology tools. With these facilitation skills and the use of technology skills, teachers can accomplish the "six steps of motivation" easily.

2. Critiques of Technology-Enhanced Education

Despite its benefits stated above and the optimism expressed by research and government documents, there are also many criticisms of the use of media and technology in education. A cover story of *The Atlantic Monthly* entitled "The Computer Delusion" illustrates a critical view of technology in education, beginning with this opening sentence:

There is no good evidence that most uses of computers significantly improve teaching and learning, yet school districts are cutting programs – music, art, physical education – that enrich children's lives to make room for this dubious nostrum, and the Clinton Administration has embraced the goal of "computers in every classroom" with credulous and costly enthusiasm (Oppenheimer, 1997, p.45).

Cuban (1986) states that research examining the effectiveness of media and technology in schools can be traced back to almost eighty years and

yet many questions about the value and impact of these approaches remain unanswered. Consider the following two quotes:

Bringing the electronic media into the schools could capitalize on the strong motivation qualities that these media have for children. Many children who are turned off by school are not turned off by one or another of the electronic media; quite the opposite. An educational system that capitalized on this motivation would have a chance of much greater success. I think it would also make education more tied to the real world... Each medium has its profile of cognitive advantages and disadvantages, and each medium can be used to enhance the impact of others (Greenfield, 1984, p.178).

All in all, the media's symbolic forms and computers' afforded activities often have skill-cultivating effects. However, to claim that these effects are specific to any one medium or media attribute is difficult..... There is a growing consensus that past media comparison, media attributes, and motivation studies indicate that media do not influence whether someone learns from instruction. Learning seems to result from factors such as task differences, instructional methods, and learner traits (including attitudes) but not the choice of media for instruction (Clark, 1992, p.806).

Greenfield's (1984) comment on "*each medium has its profile of cognitive advantages and disadvantages*" is true for any type of instructional method. Even the most criticized method, lecturing, has

both advantages and disadvantages. Then what seems to make educational technology popular among other instruction methods may be the effect of modern life on people. As you can see in the following section, life-style and culture have an important impact on learners' learning style preferences.

2.1. Cultural Issues in Technology-Enhanced Education

Culture can be viewed, very broadly, as the beliefs, philosophy, observed traditions, values, perceptions, and patterns of action performed by individuals and groups. In this broad view, culture has a role in education which can be seen in the learning style preferences of students from different cultures. Recent developments in educational technologies have led some instructional designers to claim that technological tools are now available for culturally sensitive instructional design (Chen et al., 1999). The influence of culture on learning style preferences should be regarded as a significant concern in the design of technology-enhanced learning systems. It has been included as one of the five essential foundations of effective student-centered learning environments. The other foundations are psychological, pedagogical, technological, and pragmatic (Chen and Mashhadi, 1998, quoted by Chen et al., 1999). Recognizing cultural differences is essential to meeting students' educational needs as well as to building trust between the teacher and the learner. The existence of trust will positively affect various aspects of education such as motivation, discipline, engagement, and reinforcement. It is also especially important for technology-enhanced education to design

appropriate (culturally sensitive) instruction and to buy the right equipment to support it. As stated by Harkrider;

There is often a natural tendency to accept that rapidly emerging technology itself is the empowering agent. Quite the opposite is true. A computer is simply a tool that offers us expanded and alternative modes of communication. The computer does not generate meaning but simply provides the mode of transportation. Humans create 'reflective space' for sharing ideas and generating solutions to challenges (Harkrider, 1999).

Are these cultural differences and preferences being accepted and considered in the process of educational technology? Unfortunately, most of the time the answer is, NO! McIsaac (1993) points out that media materials and services are often inappropriately used without sufficient recognition of the recipient is a cultural setting.

CONCLUSION

Today schools are trying to educate the generation of the information age. We all know how fast the technology is changing, and as educators, most of us, somehow, can adapt to these changes. But the generation that we deal with is not adapting to those changes, they live with them; they grow with them. Today more than the majority of adolescents in the USA (ages 13-18) have access to computers, cell phones, and game consoles.⁹ Also, adolescents (ages 12-18) are the ones that use the

⁹ Born to be Wired: The Role of New Media for Digital Generation; A new Media Landscape Comes of Age: Executive Summary. Yahoo and Carat Interactive, July 2003 (Press Release). Available at: http://biz.yahoo.com/bw/030724/245198_1.html

Internet more often than any other age group in the USA.¹⁰ So technology is a part of their lifestyle now. No wonder they expect to see and use the same technology at school. Technological developments spread much faster than educational revolutions. Therefore, like the youth all over the world, Turkish youth are being involved with various technological materials more and more in their daily lives, and they want to see these technological materials being used in their schools. The use of educational technology is not only necessary to meet the young generation's needs or to make the educational process more relevant to their lifestyle, but it also necessary to revolutionize the educational process itself.

Technology-enhanced education can widen access to information, increase flexibility, motivation, and achievement. Information technology can change instructional methods and materials that can be used to facilitate learning. The nature of technology-enhanced learning also provides the potential to change teacher and student roles in the educational process. In this role shift, the teacher will have a facilitating role rather than transmitting facts and students will become active participants in the learning process rather than an observer. Such a shift has the potential to enhance student learning and to bring satisfaction for teachers. However, the planning and implementation of technology-enhanced learning require attention if it is to be a comprehensive learning experience. We need well-planned and appropriately research-

¹⁰ Bailey, J., (2003). Students in today's schools. Available at: <http://nationaledtechplan.org>

supported approaches to technology-assisted education to create a meaningful and complete learning experience for students. At the same time, we need to consider the diversity of the students to accommodate all learners' learning preferences. Otherwise just filling up schools and classrooms with technological instruments will develop only space and funding problems not a revolution in the educational process. This situation will make things much harder for the Turkish educational system since it is already dealing with infra-structure and funding problems.

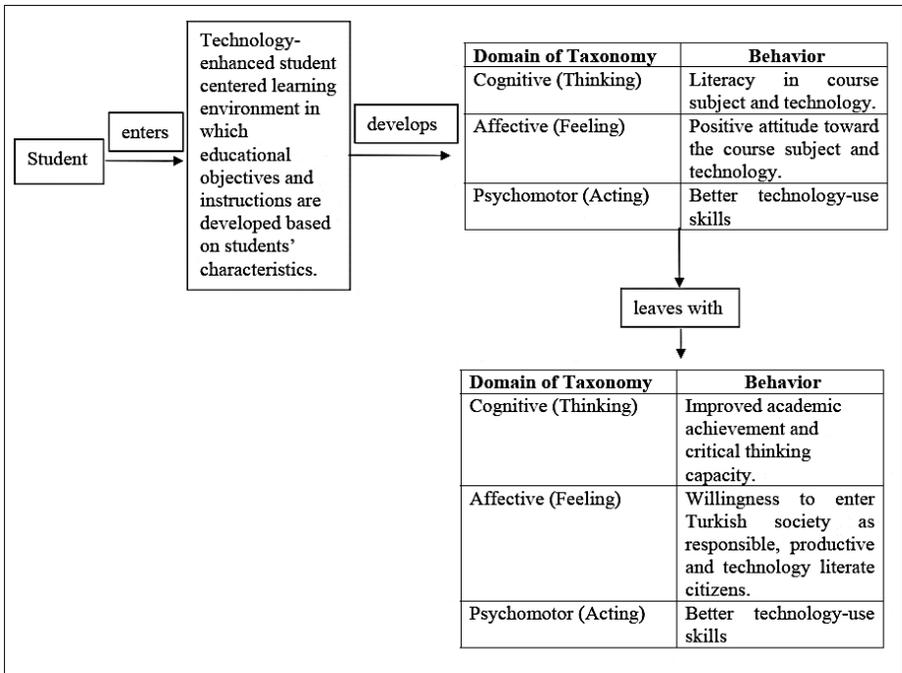


Figure 1. Educational Objectives of Technology-Enhanced Student-Centered Education

Figure 1 portrays a model for creating a technology-enhanced, student-centered learning environment that tries to realize educational objectives addressing all three domains of educational objectives (cognitive, affective and psychomotor). The technology-enhanced, student-centered learning environment given in this model has been created based on the three main factors of student achievement: 1) Student characteristics, 2) Curriculum and standards, and 3) Instructional methods and materials. Figure 1 model takes into account all three taxonomies of educational objectives while establishing an interconnection between the taxonomies of educational objectives and students' learning styles in a technology-enhanced education environment. All three domains of educational objectives are needed for broad-based student education. Plus, taking all three domains into account when developing educational objectives will support student achievement. For example, any curriculum programs may fail in the area of student motivation and involvement if the affective domain is not taken into account (Atman, 1971). Educational technology plays two roles in this model. First, it assures that students will reach the goal of technology literacy. And second, by enriching classroom instruction it helps students develop cognitive, affective and psychomotor abilities at the same time. Finally, learning styles leads toward success in this model, since it makes this model fit students' characteristics.

BIBLIOGRAPHY

- Atman, K. S. (1971). *Integrating the relationship between cognitive and affective components of instruction in a social studies unit* (Unpublished Dissertation). University of Pittsburgh, Pittsburgh.
- Bonwell, C. C. & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. *ASHE-ERIC Higher Education, ED340272* September 1991.
- Chen, A., Mashadi, A., Ang, D., and Harkrider, N. (1999). Cultural issues in the design of technology-enhanced learning systems. *British Journal of Educational Technology*, Vol. 30, Issue 3.
- Chickering, A. W. & Gamson, Z. F. (1987). Seven principles for good practice. *AAHE Bulletin* 39, p. 3-7.
- Clark, R. E. (1992). Media use in education. In M. C. Alkin (Ed.), *Encyclopedia of Educational Research*: p. 805-814. New York: Macmillan.
- Connor, M. L., Wright, E., Curry, K., DeVries, L., Zeider, C., Wilmsmeyer, D., & Forman, D. (1996). *Learning: The critical technology, 2nd Ed.* Wave Technologies International, Inc.
- Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. New York: Teachers College Press.
- Dale, E. (1969). *Audio-visual methods in teaching* (3rd Edition). New York: Holt, Rinehart, and Winston.
- Diaz, D., and Cartnal, R. B. (1999). Student learning styles in an online course and an equivalent on-campus class. *College Teaching* 47(4): p. 130-135.

- Dick, W. (1987). A history of instructional design and its impact on educational psychology. In J. Glover & R. Roning (Ed.), *Historical Foundations of Educational Psychology*. New York: Plenum.
- Ely, D. P. (1993). The field of educational technology: A dozen frequently asked questions. *ERIC Digest # ED366330*.
- Fox, N., O'rourke, A., Roberts, C. & Walker, J. (2001). Change management in primary care: design and evaluation of an internet delivered course. *Medical Education*, 35, p. 803-805.
- Gardner, H. (1983). *Frames of mind: the theory of multiple intelligences*. New York: Basic Books.
- Greenfield, P. M. (1984). *Mind and media: The effects of television, video games, and computers*. Cambridge, MA: Harvard University Press.
- Goodland, J. (1984). *A place called school*. New York: McGraw Hill.
- Hackbarth, S. (1996). *The educational technology handbook: A comprehensive guide*. New Jersey: Educational Technology Publication.
- Harkrider, N. (1999). The wired teacher: Using internet for personal professional development *React On-line*, Issue 1. Retrieved from: <http://www.soe.ntu.edu.sg:8000/react/1999/Online/1999-1.html>
- Lemire, D. S. (1995). *Learning and interpreting modality instrument*. Reno: Creative Therapeutics Publishers.
- McIsaac M. S. (1993). Economic, political and social considerations in the use of global computer-based distance education. In Muffoletto Rand Knupfer N (Ed.), *Computers in Education:*

- Social, Political and Historical Perspectives*, pp. 219-232.
Cresskill, NJ: Hampton Press.
- Nash, G. B., Crabtree, C., & Dunn, R. E. (1997). *History on trial. Culture wars and the teaching of the past*. New York: Alfred A. Knopf.
- Oppenheimer, T. (1997). The computer delusion. *The Atlantic Monthly*, p. 45-62.
- Reeves, T. C. (1998). *The impact of media and technology in schools: A research report prepared for the Bertelsmann Foundation*. Retrieved from: http://www.athensacademy.org/instruct/media_techireevesO.html
- Reiser, R., A. (2001). A history of instructional design and technology: part II: A history of instructional design. *ETR&D*, Vol. 49, No.2, 2001, p. 57-67.
- Rolfe, G. (1993). Towards a theory of student-centered nurse education: Overcoming the constraints of a professional curriculum. *Nurse Education Today*, 13, p. 149-154.
- Ross, J., and R. Schulz. (1999). Using the world wide web to accommodate learning style diversity in the college classroom. *College Teaching* 47(4): p. 123-9.
- Seels, B. and Richey, R. (1994). *Instructional technology: The definition and domains of the field*. Washington, D.C.: Association for Educational Communications and Technology.
- Yang, Y.C. (1992). The effects of media on motivation and content recall: Comparison of computer and print based instruction.

Journal of Educational Technology Systems, Volume 20, p. 95-105.

Wineburg, S.S. (2001). Historical thinking and other unnatural acts, charting the future of teaching the past. Philadelphia, PA: Temple University Press.

Wlodkowski, R. (1984). *Motivation and teaching*. Washington, DC: U. S. Department of Education.

CHAPTER 5

THE PLACE OF HALAL FOODS IN THE FAITH TOURISM: THE CASE OF KONYA - TURKEY

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INTRODUCTION

Tourism is a sector that presenting wide employment opportunities in international area. Approximately it is giving job 300 million people in the world. In this sense importance that given to tourism is increasing in the world, tourism inclinations gaining variety, new places and new tourism types are attracting people (Emekli, 2005). This sector, from past to present, has reached the position that is taking interest from developed and developing countries (Yıldızlı, 2011). Variety of natural, historical and cultural sources, favorable climate and geographic conditions for different tourism products, hospitality, powerful tourism industry, professional organizations and non-governmental organizations' attentive to preservation-use balance and tourism, are strong aspects of Turkish tourism (Emekli, 2005).

Our country besides coastal tourism, have unique opportunities in the sense of alternative tourism (health and thermal tourism, winter sports, mountain and nature tourism, tableland tourism, agritourism and ecotourism, fair and convention tourism, cruise and yacht tourism, golf tourism etc.) too (Culture and Tourism Ministry, 2007). With much progress of the coastal tourism in the World and now besides coastal tourism more of a commune with nature, seeing on site of early cultures' traces, cultural contacts, lifestyles, beliefs, handicrafts, shopping environments, recreation activities have became peoples' interest. For this reason, cities which have got historical specialties have become important potential tourism places (Tapur, 2009). Peoples' interests are effective on countries they will go, selection of

places and for what purpose they will go. With the vary of traveling reasons, religious purposely travels especially for last 30 years have made great progress. Consideration of visiting holy places by tourist from various religion in tourism fact is defined “religious tourism” (Şahinler, 2012). Religious tourism, providing a spiritual relief, besides a nice traveling for tourist it is providing opportunities to see how cultural, historical and religious heritages affect today’s life (Şahinler, 2012). For this reason, cities which have got historical specialties have become important potential tourism places. Konya is in the status alternative tourism center featuring historical and cultural values too (Tapur, 2009). After the Turks’ housing on Anatolia, Konya became one of the location which has got great effect on widespread and root of Turkish culture and civilization in Anatolia. In the scope of cultural and religious tourism in Konya, International Commemorative Ceremony of Mevlana (01-17 December), Konya Scops Fest, Nasreddin Hodja Festival, Beyşehir Tourism Festival, Industry and Exported Goods Fair and such social, cultural and social activities as congress, symposium, seminars and panels are taking part which organized by such agency and institutes Selçuk University, Konya Governorate, Provincial Directorate of Tourism, Metropolitan Municipality (Tapur, 2009).

Today, a lot of accommodation facilities are opening their doors to tourists, who want to maintain their traveling according to their religious beliefs. In these facilities during the serving products and services proper to religious condition, producers and consumers

should pay attention firstly to service permit such as halal food. In Turkey, where Muslim population is in predominate, halal is coming into prominence in food sector and thereby this concernment effected domestic and foreign tourist want to understand how adequate halal food and product service in hotels. In this context our study was done with the aim of detect active businesses' giving food and beverage services' (hotels and restaurants) attention of being halal food quality on foodstuffs, using food preparation, in Konya.

1. LITERATURE SUMMARY

Today's consumers, compare to past, has become more aware because of such reasons as developments of information technologies, increasing number of communication opportunities, growing challenges between businesses day by day, becoming economically better status of consumers. From now on, consumers are making tiny distinctions and more careful on buying products. There are many factors effecting consumers' buying choices. One of these is religious beliefs that supposed in cultural factors (Kurtoğlu and Çiçek, 2013). One of the most important reasons of tending halal food concept is rapidly growing of Muslim population. Halal food defined as a product that has not contain any forbidden elements in frame of Islamic rules, prepared, processed, transported, stored in purified places and purified equipments from these forbidden elements and has not direct contact to them in prepare-process-store stage (Parlak, 2012). Human being wants to carry his life and vita proper to his religious duties (whatever his religious belief is). Despite partially in

advance, halal food seeking in Turkey came up clearly in 1970's. Every producer and consumer institutions, foundations and associations interested with this topic construct their own food commission and has continued their works in this way. Especially started with revulsion to margarine and continued with religious sensitive butchers. In 2003, through a web site under the name of FOOD REPORT was set up by some volunteers, it signatored under important successes until today. With the view of these types of studies wouldn't be sufficient, in 2005, the same volunteer group expanded their service size by setting up an association named "Food and Necessaries Control Surveys and Certification Association" (GİMDES). Since 2005, Gimdes has been continuing their studies on the halal food topic (Batu, 2012). There are many institutions carrying on halal food certification studies international area. One of those is Islamic Food and Nutrition Council of America (IFANCA) whose center in Chicago, certifying halal food in 20 countries. Also it's certifies recognized by Islamic Committee of Thailand, Indonesian Ulema Council (MUI), Islamic Religious Council of Singapore (MUIS), Muslim Word League (MWL), Ulema League of Philippines and U.S Department of Agriculture. In addition to this, there are some foundations carrying studies on improvement to international halal standards too. One of them is World Halal Council (WHC). It is qualified as a federation of halal certifying foundations in the world. Another international foundation is World Halal Forum (WHF) (Tekin, 2013).

1.1. Studies of Halal Certification in Turkey

People who have different beliefs and mentality like, koşer, vegan, vegetarian build their own standards fit to their beliefs and lifestyles. So, emergence of Muslim's awareness of demanding halal standards also started recently.

The term halal which was started using by international "The Codex Alimentarius Commission" in 1997, in Turkey 2007 even attempts, for the purpose of provide giving halal food certification in accordance with the standards prepared by Muslim countries, was made within The Standing Committee for Economic and Commercial Cooperation of the Organization of the Islamic Cooperation (COMCEC) barely on 14 July 2011 by Turkish Standards Institute, halal food certification according to halal food standards, published by The Standards and Metrology Institute for Islamic Countries (SMIIC), was started and Turkey became 3rd country giving halal certification after Malaysia and U.S.A in the world (Gündüz, 2013; Anonymous, 2015).

Halal certifying institutions in Turkey was announced as; Turkish Standards Institute (TSE), World Halal Union, Gimdes, Konya Halal Association (HELALDER), Halal Food Control and Certification Center" (HEDEM), Artıbel Kalite Sistem Belgelendirme ve Eğitim, KAS Uluslararası Sertifikasyon Gözetim Teknik Kontrol Hizmetleri Ltd. Şti, Netsert Yönetim Sistemleri Eğitim Belgelendirme Gözetim Muayene San. ve Tic. Ltd. Şti, World Certification Services Ltd.

(WCS Ltd.) (Tekin, 2013). According to conducted researches from February 2013 as 86 companies' 165 product' halal food suitability was certified, from end of the September 2013. Halal certification was given to 205 numbers of products (Table 1). Products, which is taking place in the scope of halal food, contains standard, meet and meet products, milk and dairy products, egg and egg products, grain and grain products, vegetable and animal oils and fats, fruit and vegetable and their products, sugar and candy products, beverage (soft drinks), honey and by-products, food supplements, water and it's other products and services (Gündüz, 2013; Şimşek, 2013).

Table1. January 2015, Product range which has halal food suitability certification (Gimdes, 2015).

Food products	251
Fruit juice and water	12
Cleaning and cosmetic	20
Additive substances	11
Logistic	2

1.2. Religious Tourism and Cultural Intimacy in Turkey

People's customs and traditions which are building their culture, language and religion, lifestyle have affected on their traveling choices. People for holiday a number of factors, from country they will go, to facility that they will stay, from travel agent, to restaurant that they will eat, have been affected by cultural choice. Again religious values and judgements being a part of culture, have appeared

as another extend (Batman, 2013). Cultural affect have been mentioned in two ways, one of these is his own culture, and another is country's culture that they will go. While some people prefer close to their culture some prefer other countries and places because of tending know other cultures. Batman's (2013) study on Turks living in Germany, it was observed that people prefer tourism destinations which are close to their cultures.

2. MATERIAL AND METHOD

In this study was determined to pay attention to the feature of the food served of halal during their preparation and use in food and beverage services of Konya hotels and restaurants via qualitative research methods that is used in more exploratory research design (Gegez, 2005). There are operating three five-stars hotels in Konya (TUROB, 2014). Universe of the research are composed of the five star hotels businesses and tourist restaurants in Konya. Three five-star hotels and seven touristic restaurants in the city center were evaluated. Interview and participatory observation methods were used and semi-structured interview technique (included seven question) was applied for data collection. These questions were developed according to the halal food criteria which was prepared on the basis of previous research (Stephenson, 2014). In the hotels and the retaurants head chefs were interviewed to get information about the status of attention to halal food in food preparation. Totally, twelve interviews were conducted with randomly selected tourist restaurants head chefs in February-April 2014 and February 2015. The obtained data are evaluated

statistically by SPSS 17.0 software. The data were evaluated as a result of interviews and observations by descriptive analysis method. S1: What do you understand the mention of halal food?, S2: Which foods are halal food? S3: Do you pay attention to halal certification when purchasing products? (Yes/No), S4: Reason to pay attention to certification or not, S5: Do you prefer to halal certified products? (Yes/No). S6: , S7: What's more they prefer as halal?

3. RESEARCH FINDINGS

Results from interviews conducted and observations gained during the fieldwork in Konya have shown that they are not worried about halal food because they think they get materials from companies that Halal production. (Table 2).

Table 2. The Halal food and use in the kitchen. The percentages of the data was calculated by the SPSS 17.0 software.

Factors	Rate of Percentage (%)			
	5	star (n:3)	hotels restaurants	Touristic (n:7)
1.What do you understand the mention of halal food? %		33.3 %		71.43
		(only meat and alcoholic products)		
2. Which foods are halal food? %		33.3%		71.43
		(only meat and alcoholic products)		
3. Do you pay attention to halal certification when purchasing products? (Yes/No) %		66.6%		71.43
		(Those who do not pay attention)		
4. Reason to pay attention to certification or not		They believe that they are working with certified institutions		
5. Do you prefer to halal certified products? (Yes/No) %		66.6 %		57.14
		(Prefer to halal certified products)		
6. Do customers have halal food demands ? (Yes/No) 14.28%		66.6%		
		(customers don't have halal food demands)		
7. What's more they prefer as halal?		66.6%		14.28%
		(animal foods and beverages)		

4. DISCUSSION

Today, with the increase of globalization, consumers' getting awareness and becoming economically better status brought increasing on the people's traveling opportunities and changing their expectations from tourism view, result of this, it caused increase of expectations from tourism and food and beverage businesses. With the increase of Muslim population in the worldwide and getting them more aware, expectations became different, increased and halal food gained importance. This study conducted with the purpose of evaluate importance food and beverage businesses attach to halal in Konya and four and five stars hotels taken as a basis in this study.

Konya, being one of religious tourism center, every passing year has become increasing number of visiting domestic and foreign tourists' destination. Demands about halal service of religious tourism tourists, who have becoming more aware on halal food consuming, from both tourism establishment and food and beverage businesses have widely increased. However according to findings acquired from our study, four and five stars hotels servicing in Konya, despite paying attention to halal food using in their businesses according to guests' precisions and demands on this topic, they haven't obtained halal certification. On the other hand, five stars hotels and touristic restaurants not only haven't obtained halal certification but also they haven't paid attention to halal food using, were pointed out. Nearly 300 food companies obtained halal certification (Gimdes, 2015). This shows that certification studies in our country are continuing. This

situation has caused thinking that it is not important whether four and five stars hotels' certifications cared or not. Thus, tourism sector has been affecting by halal industry positive or negative way (Bon and Hussain, 2010).

In our study; when halal food term was asked to define by five star hotels and touristic restaurants, it was observed that they have insufficient information. In the studies on fish restaurants it was observed that they closed result of wrong or insufficient informing about halal (Toumi, 2012). Countries in which Muslim populations is in the minority, because of acquiring halal food is short, halal industry (market, café, restaurant etc.) is getting growing (Stephenson, 2014). As it is in our study, there is perception of halal concept is only animal food (especially meat products) and beverages (firstly alcohol beverages) in our country.

In some countries in the world, such as Malaysia and Thailand, concept which is proper to Islam, has been developed in all departments of tourism sector (Stephenson, 2010). In some countries 3 hotel concepts have been developed as a proper to Islam tolerance alcohol and alcohol products unavailable hotels, partially Islamic hotels (Partially SCH), and beginning from preparing proper to Islam hotels (Saad et al., 2014). In our country although there are many hotels fit to Islamic hotel concept, they couldn't obtained halal certification due to hardness of certification process. For this reason, businesses observed in our study are partly proper to Islamic hotels concept. In our study it was pointed that businesses which are unfit to

halal standards, also didn't pay attention to producing companies' certification in buying process.

Domestic and foreign tourist have become looking for condition of having halal certification on foods serviced by accommodation and food and beverage businesses. In this situation halal food became more efficient on Muslim consumer's buying choices. In our study, it was pointed that profiles of local guests' have not paying attention to halal food; on the other hand Muslim tourists especially have paid attention to Korean's halal certification. In Malaysia not only in food and beverage department, but also in the all hotel scope, standardization studies have been conducting and getting awareness has been provided in large area such as producer, consumer, enterpriser (Samoria and Sabtub, 2014).

As a consequence hotels and restaurants in Konya;

1. Haven't paying attention to halal food production and certification,
2. Though hotels and restaurants paying attention to food using, certification is insufficient,
3. Price of obtaining halal certification is high,
4. Paying attention to certification only in buying process,
5. Domestic and Muslim tourists' halal expectations are low, for that reason they (hotels and restaurants) haven't paid attention,
6. Necessity of halal standardization in hotels for Muslim tourists,
7. Businesses having lack information about production in halal food concept were observed.

CONCLUSION

Direction of this results price of halal certification should be cheapen, difficulties in the certification process should be cleared and in business necessary information should be informed about halal food and provided completing their equipments. With evaluating not only tourism businesses but also domestic and foreign tourists' views of halal food supply and demand should be increased and awareness should be created.

REFERENCES

- Anonim, (2015). Dünya Gıda, Helal'de rekor artış, Erişim Tarihi; 27.02.2015, www.dunyagida.com.tr/haber.php?nid=3396.
- Batman, O. (2013). *Kültürün Turist Tercihleri Üzerine Etkileri: Almanya'da Yaşayan Türkler Üzerine Bir Araştırma*. Sakarya Üniversitesi, İşletme Fakültesi, Turizm İşletmeciliği Bölümü, 10-14.
- Batu, A. (2012). Türkiye'de Helal (Mahzursuz) Gıda ve Helal Belgelendirme Sistemi. *Gıda Teknolojileri Elektronik Dergisi*, 7 (1):51-61.
- Bon, M. ve Hussain, M. (2010). Tourism in the Muslim World. *Bridging Tourism Theory and Practice*, 2:47-59.
- Emekli, G. (2005). Bu bağlamda dünyada ve ülkemizde turizme verilen önem artmakta, turizm eğilimleri çeşitlilik kazanmakta, yeni yerler yeni turizm türleri insanların ilgisini çekmektedir. *Ege Coğrafya Dergisi*, 14: 99-107.
- Gegez, A. E. (2005). *Pazarlama Araştırmaları*. İstanbul: Beta Basım Yayım.
- GIMDES, (2015). <http://www.gimdes.org>
- Gündüz, M. Ö. (2013). TS OIC / SMIC 1 Helal Gıda Genel Kılavuzunun Uygulanması. Uluslararası 2. Helal ve Gıda Kongresi, syf: 397-399, 7-10 Kasım 2013, Konya, TÜRKİYE.
- Kurtoğlu, R., Çiçek, B. (2013). Tüketicilerin Helal Ürünler Hakkındaki Algılama, Tutum ve Beklentilerini Tespit Etmeye Yönelik Bir Araştırma. *Eskişehir Osmangazi Üniversitesi İİBF Dergisi*, 8 (3):181-205.

- Parlak, D. (2012). *Kutsalından Arındırılmış Din: Helal Gıda'nın Ekonomi-Politik Analizi*. Yüksek Lisans Tezi, Antalya, Akdeniz Üniversitesi, Sosyal Bilimler Enstitüsü, syf 51.
- Saad, HE., Ali, BN., Abdel-atı, AM. (2014). Sharia-compliant hotels in egypt: concept and challenges. *Advances in Hospitality and Tourism Research (AHTR)*, 2(1): 1-15.
- Samoria, Z., Sabtub, N. (2014). Developing Halal Standard for Malaysian Hotel Industry: An Exploratory Study. *Social and Behavioral Sciences*, 121, 144 – 157.
- Stephenson, M. L., Ali, N. (2010). *Tourism, travel and Islamophobia: post 9/11 journeys of Muslims in non-Muslim states*. In N. Scott, & J. Jafari (Eds.), *Tourism in the Muslim world* (pp. 235e251). Bingley, UK: Emerald Group Publishing Limited.
- Şahiner, T. (2012). *İnanç Turizmi Potansiyeli Ve Halkın İnanç Turizmine Bakışı Açısından Karaman*. Yüksek Lisans Tezi, Karamanoğlu Mehmetbey Üniversitesi Sosyal Bilimler Enstitüsü, İşletme Anabilim Dalı, Karaman, syf. 27-28.
- Şimşek, M. (2013). Helal Belgelendirme Ve SMIIC Standardı. *İslam Hukuku Araştırmaları Dergisi*, 22: 19-44.
- Tapur, T. (2009). Konya İlinde Kültür Ve İnanç Turimi. *The Journal of International Social Research*, 2 (9): 474-478.
- T.C. Kültür ve Turizm Bakanlığı. (2007). *Türkiye Turizm Stratejisi 2023 Eylem Planı 2007- 2013*.
- Tekin, ÖA. (2014). İslami Turizm: Dünyadaki Ve Türkiye'deki Genel Durum Üzerine Bir İnceleme. *The Journal of International Social Research*, 7 (29): 29-30.

- Toumi, H. (2012). Qatar names and shames restaurants. Gulf News, 16.
- TUROB (Ministry of Culture and Tourism) (2014). İstanbul Turizm İstatistikleri, Ocak-Haziran 2014, İstanbul il Kültür ve Turizm Müdürlüğü, http://www.turob.com/tum_haberler.aspx.
- Yıldız, Z. (2011). Turizmin Sektörünün Gelişimi Ve İstihdam Üzerindeki Etkisi. *Süleyman Demirel Üniversitesi Süleyman Demirel Üniversitesi Vizyoner Dergisi*, 3 (5): 54-71.

CHAPTER 6

INSIGHTS OF FOREIGN MEDICAL TOURIST ON MEDICAL TOURISM IN TURKEY: A CONTENT ANALYSIS¹

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INTRODUCTION

Thanks to several factors such as the quality of medical education, use of advanced medical technology, having a high success rate in the diagnosis and treatment process, the presence of internationally accredited health institutions, accessibility, opportunity to integrate with other tourism types (gastronomy tourism, cultural tourism, shopping tourism etc.) and cost efficiency; medical tourism, which is considered as an alternative type of tourism and is regarded with health tourism in Turkey in the past decade, has become an important type of tourism with high income generating effect in time due to the aforementioned reasons. However, the development of medical tourism in recent years also brought up a new “S” (surgery) in the 3S concept (sea, sand, sun) in Turkey (Buzcu and Birdir, 2019: 312).

Medical tourism is deemed as an important type of tourism also by contributing to obtain a sustainable competitive advantage in tourism in the world and in Turkey. As well, the economic size of medical tourism growing incrementally with each passing year and its contribution to the balance of payments with its high foreign exchange effect increases its importance. *Patients Beyond Borders* (2020) predicts that 20-24 million medical tourists travel, spending an average of \$ 3.410 per visit per year, the market size is \$ 65-87.5 billion, while the Medical Tourism Association (2020) proposes that this size is 100 billion dollars. The World Tourism Organization and the European Travel Commission (2018) state that it is difficult to predict the size and growth of the medical tourism market due to the

variable definitions of healthcare tourism and its components. Turkey, on the other hand, works with the aim of generating more income from the medical tourism market.

Regarding the efforts for promoting healthcare tourism, thus medical tourism in Turkey; in 2010, the “Health Tourism Unit” was established under the General Directorate of Primary Health Care Services of the Ministry of Health. In 2011, the unit was transferred to General Directorate of Treatment Services under the name of “Health Tourism Coordination Unit”. The unit was restructured as “Health Tourism Department” within the General Directorate of Health Services. As of 2016, it continues to be in service as “Health Tourism Department” under the General Directorate of Health Services (T.R. Ministry of Health, Health Tourism Department, 2020a).

In addition, “Health Tourism Coordination Council-SATURK”, which was established in 2015 (T.R. Ministry of Health, Health Tourism Department, 2020b), is considered as a significant step for the development of health tourism.

On the other hand, “The Development of Health Tourism”, which is among the priority topics of priority transformation programs within the objectives of the “Tenth Development Plan” (2014-2018) is regarded as important for the development of medical tourism. Through this program, it is aimed to increase the competitive capacity by increasing the service quality in medical tourism, thermal tourism and advanced age-disabled tourism, where Turkey is the rising market

in the world, besides, in relation to medical tourism, it is aimed to be among the top 5 destinations in the world and to generate revenue of 5.6 billion dollars (T.R. Ministry of Development, 2013: 182).

Medical tourism service is a body of services covering a large spectrum from welcoming to sending-off and even post-operative follow-up and rehabilitation process (Kılınç, 2017: 133). Determining the factors affecting the expectations and preferences of the patients called medical tourists in medical tourism will be a guide in providing more qualified service. Therefore, investigating the consumer insights is a prior condition for taking healthy steps in medical tourism.

Theoretical information about the concept of health tourism and medical tourism takes place in the first chapter of the study, while a content analysis was carried out to determine the insights of foreign medical tourists in the second chapter. In the conclusion part, on the other hand, assessments and suggestions related to the subject are included.

1. LITERATURE REVIEW

1.1. Health Tourism and Medical Tourism

Health tourism is a tourism type that occurs as a result of the cooperation of the health sector and tourism sector in general. In the literature, medical tourism is regarded as a subcomponent of health tourism. To explain medical tourism, the concept of health tourism should be examined first.

The Health Tourism Department, T.R. Ministry of Health (2019c; Tontuş, 2019) describes the health tourism as “*the individuals’ visits from their home country to abroad aiming at receiving both preventive, therapeutic and health-promoting services*”. According to the Regulation Concerning International Health Tourism and Tourist Health (2017), international health tourism refers to the “*any healthcare services and related support services rendered to natural persons coming to Turkey from abroad temporarily for health purposes, and are not citizens of the Republic of Turkey or are residents abroad as citizens of the Republic of Turkey*”.

Health tourism includes the concepts of thermal health tourism, medical tourism, senior tourism (3rd age tourism), and accessible tourism (Tontuş, 2019). Spa-wellness tourism is also evaluated under thermal health tourism.

The services provided in health tourism are examined under four main titles (Tontuş, 2020);

- *Elderly care services*; services provided to elderly people without any complaints while traveling abroad for temporary care purposes.
- *Health-promoting services*; complementary and alternative, Spa-wellness, thermal spring-originated health, medical herbalism, massage, etc.
- *Rehabilitation services*; dialysis, anti-addictive program, etc.

- *Therapeutic services*; medical tourism (plastic surgery, cardiac surgery, eye operation, cancer treatment, etc.).

Gülen and Demirci (2011: 74) defines the medical tourism as “*international travels, which take place in the subject of classical medicine, to receive some treatment methods performed by physicians in hospitals*”, while Ghazali, Thirumoorthi and Doshi (2012: 3) states that it covers “*all activities related to the travel and accommodation of a tourist staying at least one night in the destination area for the purpose of protecting, improving or restoring his/her health through medical intervention*”.

The focus of medical tourism is to obtain the best treatment option with the best-price and best-quality. Meanwhile, state hospitals, university hospitals, training and research hospital and private hospitals that provide medical diagnosis, treatment and rehabilitation services, and transportation agents, accommodation enterprises, food and beverage companies, travel agencies and entertainment-oriented businesses operate together.

T.R. Ministry of Health, Health Tourism Department (2010) states that medical tourism includes treatments such as advanced treatments performed in health institutions and organizations (cardiovascular surgery, radiotherapy, cyber-knife etc.), transplantation, infertility (IVF treatment), plastic surgery and ophthalmological, dental, and dialysis treatments (www.saglikturizmi.saglik.gov.tr, 2020).

Pursuant to the Directive on Health Services to be Provided under Health Tourism and Tourist Health (2013); the fact that tourists, who are temporarily present in Turkey for any reason, receive health services in sudden diseases and emergencies during their stay in Turkey is considered as “*tourist health*”, while the person temporarily visiting Turkey from abroad for treatment and rehabilitation purposes is defined as an “*international patient*”. Additionally, Tontuş (2019) describes people who travel from the country of domicile to another to get well, as “*medical tourists*”. Patients Beyond Borders (2019) defines a medical tourist as “*anyone crossing international borders to receive medical care*”.

Tontuş (2019) lists the factors affecting the development of medical tourism as follows:

- Cost differences, developments in technology and transportation,
- Quality network,
- Increasing health expenditures,
- Legislative regulations,
- Accredited health organizations,
- Quality human resources,
- Globalization of health,
- Natural thermal springs and
- Increasing old-age rates.

Medical tourism is a type of tourism that supports other types of tourism all over the world. In addition, due to its structural feature, thanks to attracting tourists with high-income from industrial and developing countries, health tourism is a type of tourism that contributes not only to industrial countries but also to small or poor regions that are rich in terms of traditional health methods (Jagyasi, 2014).

In their report titled “Mapping the Market for Medical Travel”, Ehrbeck, Guevara and Mango (2008: 4) listed the reasons for the medical travels as follows: advanced technology (40%), medical treatment in better quality (32%), faster access to medical treatment (15%), lower cost (9%) and lower cost for optional cares (4%).

Table 1 shows the number of international patients coming to Turkey by year.

Table 1. Number of International Patients by Year (2008-2017)

Years	Public Hospitals	Private Hospitals	Total
2008	17.817	56.276	74.093
2009	21.442	70.519	91.961
2010	32.675	77.003	109.678
2011	41.847	114.329	156.176
2012	84.000	186.000	270.000
2013	130.251	279.077	409.328
2014	142.359	353.965	496.324
2015	130.938	262.012	392.950
2016	153.063	206.605	359.668
2017	143.811	268.913	412.724

Resource: T.R. Ministry of Health, General Directorate of Primary Health Care Services, Health Tourism Department akt: Solak, 2017.

Improvements made in the field of health and providing a qualified service in Turkey increase the number of patients coming from abroad, while the private sector also operates within the scope of medical tourism with internationally accredited hospitals by investing in this area. Pursuant to the Article 4/ğ of Regulation Concerning International Health Tourism and Tourist Health (2017), an international health tourism healthcare facility is defined as “*a public, university-affiliated or private healthcare institution or organization that holds a healthcare facility license and has been granted an international health tourism authorization certificate by the Ministry*”. Article 5 of the same regulation specifies that “*the healthcare provider and the intermediary organization shall obtain international health tourism authorization certificates in order to operate within the scope of international health tourism*”. At this point, accreditation becomes an important issue.

Accreditation is a system developed in many countries and sectors to ensure the quality of the programs and services offered to the society with a systematic approach. The following examples can be given for international accreditation systems: QHA (Quantum Health Automation) Trent, ACHS (Australian Council on Health Care Standards), JCI (Joint Commission International) (SATURK, 2020), AAAHC (The Accreditation Association of Ambulatory Health Care), AAAS (The American Association for Accreditation of Ambulatory Surgery Facilities).

One of the institutions that provide internationally accredited services in the field of health is JCI (Joint Commission International). JCI (2020a) is an institution that works by providing education, publications, consultancy services, international accreditation and certification services to increase patient safety and quality of health services in the international community. Based on the data of 2020; a total of 34 health institutions in Turkey has been accredited by JCI, including (25) private hospitals accredited for the “Hospital Program”, (4) university hospitals accredited for the “Academic Medical Center Hospital Program”, (4) hospitals that provide services such as eye health, dental health and medical imaging accredited for the “Ambulatory Care Program” and (1) health institution accredited for the “Clinical Laboratory Program”.

Table 2 shows the distribution and number of accredited health institutions in Turkey by province.

Table 2. Provinces and Numbers of Hospital Accredited by JCI (June, 2019)

Provinces	Number of Hospitals
İstanbul	22
Ankara	4
İzmir	3
Adana	3
Antalya	1
Kocaeli	1
Total	34

Resource: JCI (Joint Commission International), 2020b.

Compared to other countries, Turkey has a significant competitive advantage in terms of medical fees. Table 3 shows the medical fees applied in 2020 comparatively. These are approximate costs and exclude expenses such as airfare, etc.

Table3. Comparative Medical Fees in 2020 (\$)

Treatment	USA	India	South Korea	Israel	Malaysia	Singapore	Turkey
Bypass	123.000	14.800	26.000	15.000	12.100	17.200	13.900
Angioplasty	28.200	5.700	17.700	7.500	8.000	13.400	4.800
Heart Valve Replacement	170.000	9.500	39.900	28.500	13.500	16.900	17.200
Dental Implant	2.500	900	1.350	1.200	1.500	2.700	1.100
Breast Implants	6.400	3.000	3.800	3.800	3.800	8.400	4.500
Rhinoplasty	6.500	2.400	3.980	4.600	2.200	2.200	3.100
Lasik (both eyes)	4.000	1.000	1.700	3.800	3.450	3.800	1.700
IVF Treatment	12.400	2.500	7.900	5.500	6.900	14.900	5.200

Resource: www.medicaltourism.com, 2020.

Table 4 shows the reasons of international patients visiting Turkey and countries targeted by Turkey in the medical tourism.

Table 4. The Reasons of International Patients Visiting Turkey and Countries Targeted by Turkey in the Medical Tourism

Grounds of Medical Tourism	Countries
Countries with close relations due to kinship ties	Bulgaria, Greece, Syria, Azerbaijan
Countries where the Turkish population lives densely	Germany, Netherlands, France
Developing countries with service shortages due to infrastructure troubles and physician shortage	Libya, Algeria, Iraq, Balkan countries, Turkmenistan
Countries where health care is expensive	USA, Germany
Countries with long waiting periods	UK, Netherlands, Canada
Countries where the insurance systems do not cover some services such as tooth diseases in repayment cover	France, UK, Ireland, Germany
Countries with high demand for special services	Middle East Countries, Balkan Countries,
Countries where the ratio of older individuals to the population is high	Norway, Sweden, Finland Netherlands, Japan

*Resource:*Tontuş, 2019.

2. METHODOLOGY

2.1. The Purpose of the Research

The main objective of the research is to determine the insights of foreign medical tourists in Turkey about medical tourism using the content analysis method. The main research question in the study is: “What topics do the medical tourists visiting Turkey frequently highlight in their experiences as a result of their travels?”. Positive or negative sharing of tourists about their medical treatment, travel and touristic experiences in Turkey are very important for the medical service industry.

Examining the literature about medical tourism in Turkey, it is seen that the articles on the subject (Buzcu and Birdir, 2019; Dökme, 2019; Sarı and Ulusoy Derin, 2019; Temizkan and Konak, 2018; Kılavuz, 2018; Ataman, Esen and Vatan, 2017; Kılınç, 2017; Akbolat and Deniz, 2017; Sayın, Yeğınboy and Yüksel, 2017; Yiğit, 2016; Öncü, Çatı and Yalman, 2016; Yüzbaşıođlu and Dođan, 2016; Görener, 2016; Birdir and Buzcu, 2014; Ozan-Rafferty et al., 2014; İçöz, 2009; Gümüş and Büyük, 2008) have increased in the last decade. In addition, it was found that, as of February 2020, there are 43 master's theses and 9 doctoral theses related to medical tourism.

Buzcu and Birdir (2019: 324) state that making studies to determine the opinions, satisfaction levels, requests and suggestions of medical tourists visiting Turkey will contribute to the literature in terms of medical tourism sector. Accessing a limited number of studies determining insights of foreign medical tourists about medical tourism in Turkey using content analysis (Ozan-Rafferty et al., 2014), thus, it is aimed to contribute to the literature in this direction. The findings shall guide businesses to better serve medical tourists and implement competitive strategies. This study is thought to contribute to other research examining at the brand image of Turkey in medical tourism. The data obtained will also be a basis for survey-based quantitative research.

2.2. Method of the Research

The research was carried out by using content analysis among the qualitative methods. Content analysis is a technique used to characterize and compare documents' transcripts or records. A content analysis basically consists of defining the analysis unit, selecting categories, coding the materials, tabulating the materials, and displaying (presenting) the materials (Altunışık et al., 2007: 271). It aims to systematically describe the contents of the participants' views (Altunışık et al., 2007: 268-269).

In this context; health care organizations that provide services for medical tourists visiting Turkey and their online narratives about the destinations within the scope of their visits were retrieved, thematic categories were determined by content analysis, frequency analyzes were performed and tabulated. In order to limit the population, the five-month period covering June 2019 and November 2019 is based on. Simple random sampling method was used in the study.

The online narratives selected in the research generally include the following narratives; medical, health, health tourism, overseas treatment, health or medical travel, dental treatment, IVF, breast implant and rhinoplasty, plastic surgery, cardiac and organ transplantation.

The keywords of the above-mentioned medical treatments are entered one by one. To give an example of dental treatments; to get the data, the phrase of "Dental Treatment" was typed on the Google search

engine and 304.000.000 data were reached. The number of data is 25.600.000 when you type “Dental Treatment in Turkey”. When “Dental Implants in Turkey” was typed, a total of 9.310.000 results were reached. In the search, when “Dental Implants Turkey” was written on Whatclinic.com, which is a website that many tourists use to get health services in different destinations, the phrase “All 429 Dental Implants Clinics in Turkey” was reached. By entering these 429 clinics, data of individual medical tourists, who are customers, were reached.

All the data of the study were obtained by applying the same method of finding data to the areas of IVF, breast implant, rhinoplasty, plastic surgery, cardiac and organ transplantation. Data on the relevant sites suggest that post-treatment reviews of individuals visiting Turkey for medical purposes.

In order to ensure the reliability of the data, attention was paid to the fact that the customer representatives in the relevant clinic responded to each medical customer review. Foreign medical tourists reflected their post-treatment insights and being approved by the relevant medical tourist as a customer was stipulated. As a result of all this detailed analysis, online insights of approximately 185 medical tourists were analyzed. The insights of these medical tourists have been translated from English, German, French, Russian and Arabic languages into Turkish. The comments of medical tourists are meaningful because they are sincere, truthful and uncensored comments.

Data analysis was provided by the field expert and the result of the analysis obtained was read and examined carefully and in detail. While coding the data, the coding system of C1, C2, C3, which means “customer”, was used as the coding system. In the study, it was paid attention in terms of customers, saying their names and in terms of service provider, writing an answer addressing the relevant name, thus, internal and external validity of the study was provided. However, in terms of demographic variables, it was not possible to determine how many customers were male and how many were female.

2.3. Findings

Table 5 shows the categories obtained as a result of analysis and as of their frequency, these categories are as follows: experience of physician, good quality, staff quality, e-wom, cost factor, poor quality, destination, translator effect, cleaning and hygiene factor, additional services, the speed of transactions, equipment quality, operation procedures, accommodation, interactive quality, bandwagon effect.

Table 5. Categories and Frequencies Obtained in Content Analysis

No	Category	Frequency
1	Experience of physician	71
2	Good quality	56
3	Staff quality	51
4	e-WOM	40
5	Cost factor	29
6	Poor quality	16
7	Destination	15
8	Translator effect	13
9	Cleaning and hygiene factor	11
10	Additional services	11
11	Speed of transactions	10
12	Equipment quality	9
13	Operation procedures	5
14	Accommodation	3
15	Interactive quality	3
16	Bandwagon effect	3

Below are examples of categories and insights obtained in content analysis.

71 insights were reached in the category of experience of physician. *“I would like to thank my doctor for his professionalism.” M19. “My doctor knew English and was much better than doctors in the UK.” M29. “Turkey and Istanbul have the best doctors.” M85. “I worked with a friendly, experienced and well equipped doctor.” M92. “I came here for nose surgery, my doctor and his team were very interested from the beginning to the end.” M102. “I am very happy that my doctor found a solution to my baldness, and I will come for my*

nose surgery next year.” M103. “I was never satisfied with the team, equipment and doctors. I had a very painful experience.” M113. “I came from England and the doctors were very polite and knowledgeable. Everything was perfect. I can smile again.” M115. “Dentists offer more than a dentist. Dental treatment is world class.” M127. “Finding the right clinic with the right doctor differentiated the result. Thank you.” M176. “I was pleased with my doctor, who is an expert in facial plastic surgery, and his treatment. Thank you.” M179. “The ophthalmologist I owned was a wonderful, very nice lady and very professional.” M185.

56 insights were reached in the category of good quality. “My wife and I were very impressed by the excellent quality. If we have a problem, we will get service again.” C18. “The best quality dental clinic I have ever seen in my life. I am very satisfied.” C23. “One of the best clinics I have been served.” C31. “The whole team took care of me from start to finish. A good quality clinic.” C36. “I received good and high quality service. I’m satisfied.” C55. “Absolutely, 5 stars in all.” C100. “I had a hair transplant. You can see before and after in my photos. I am satisfied with every stage. I received quality service.” C138. “Earlier, I heard a lot of bad news concerning the conduct of these operations in Turkey, but I was very pleased from any stage. Thanks to the team.” C150. “Our baby dream has come true. Endless thanks to everyone.” C170. “All our dreams come true and now the little miracle is 3-months. Endless thanks.” C171. “We

have tried and failed before. Our dreams come true. We thank you for everything.” C173.

51 insights were reached in the category of staff quality. *“From the very beginning to the end, all the staff was very interested in me.” C4. “I found the staff very kind. Employees at the clinic shared their wi-fi passwords with me. They offered me coffee.” C15. “I came to Istanbul from Barcelona after my research. A great team, they did a great job!” C7. “Staff quality was great!” C32. “I am very happy that I did this surgery in Istanbul and met Murat’s team. They are nice people.” C185.*

40 insights were reached in the category of e-WOM. *“I would definitely recommend our orthodontist to everyone.” C14. “I was impressed with every aspect. I recommend this clinic to everyone.” C29. “It has been 3 months since the transplant was done and everything is fine, I would definitely recommend it.” C38. “I will recommend it to family and friends.” C51. “I never recommend!” C75. “We recommend to all those who want to come and our loved ones.” C117.*

29 insights were reached in the category of cost factor. *“Cost was the determining factor for me. Instead of £ 1,800 for each transaction, I did all my transactions for just £ 300.” C2. “It was much better than the dental veneers I made in the UK, and its cost was three times less.” C22. “Prices were expensive compared to other clinics!” C40. “Low price applies to quality work” C50. “The price is also very*

reasonable, students will also get a discount...” C27. *“I did all my work for a fifth of the price in New York.”* C76. *“I finished four times cheaper than I would pay in Ireland.”* C112. *“We only got one operation and two operations were charged to us. Costs were too much. I complain!”* C140.

16 insights were reached in the category of poor quality. *“Everything in this clinic is scam, watch out!”* M5. *“Please stay away, they said you will get help from a professional doctor, but it did not”.* C40. *“This is not a clinic, but a butcher’s shop that wants to keep people entertained.”* C177. *“This hospital is looking for ways to get money. Their doctors are bad. They decide without blood tests.”* C178.

15 insights were reached in the category of destination. *“The clinic was very close to historical sites. Hagia Sophia and Blue Mosque. This was impressive for us.”* C18. *“It was in a central place in Istanbul where everything was resolved quickly.”* C22. *“I preferred it because it was close to my destination and I was satisfied.”* C24. *“While on holiday in Istanbul, I preferred it because it was close to where I stayed.”* C29. *“Besides, I stayed for a week in Kuşadası.”* C112. *“While solving my health problems, having a holiday in Kuşadası was great.”* C128. *“I had both treatment and vacation. What an amazing place, Kusadasi.!”* C132. *“I was treated and I had a holiday in Antalya with my family at the same time!”* M185.

13 insights were reached in the category of translator effect. *“They have professional multilingual staff.”* C28. *“It was very good they have a Russian-speaking staff.”* C32. *“They have very good English-speaking staff.”* C64. *“Everyone is very professional and everyone speaks English very well.”* C132.

11 insights were reached in the category of cleaning and hygiene factor. *“I can honestly say that I have never seen such a clean place.”* C3. *“It’s a very clean and professional clinic.”* C108. *“The clinic was very clean in every sense.”* C127. *“It was a really clean and hygienic environment.”* C160.

11 insights were reached in the category of additional services. *“Perfect service! They welcomed me at the airport and took me to a 5-star hotel as promised. The hotel meals and hotel service were very good. They also informed me about the first day.”* C9. *“They have excellent service that takes you from the airport to the hotel and from the hotel to the clinic.”* C33. *“In addition, all transfers (airport, hotel, hospital) were carried out by the team.”* C36. *“Everything from the reservation to the airport transfer, from the hospital to the hospital, before and after the consultation, and back home are well organized. After arriving home, they were interested in all the stages, until how my treatment lasted. I have definitely made the right decision by being with you!”* C101. *“The services we received from the airport to the clinic were great. Although I tried to communicate from Ireland, there was no problem. Communication was perfect.”* C110. *“Hotel and car service was as they promised!”* C181.

10 insights were reached in the category of speed of transactions.

“My transactions completed very quickly.” C16. *“It was a fast and efficient process.”* C27. *“My aesthetic and root canal treatment procedures were done very quickly and accurately.”* C34. *“I completed my transactions very quickly and easily.”* C90. *“My transactions started on Saturday, everything was finished on Tuesday!”* C112.

9 insights were reached in the category of equipment quality.

“It is a high-tech clinic.” C33. *“They have the best quality equipment in the world.”* C63. *“A modern clinic with new technology and equipment.”* C87. *“I was amazed at how high technology it is and its cleanliness!”* C153.

5 insights were reached in the category of operation procedures.

“The operation was smooth and painless.” C9. *“Our surgery was very good.”* C174. *“Healing goes well and stiffness decreases. No bruises, surgery scars will be gone over time.”* C175. *“The operation was great.”* C176. *“My rhinoplasty was vague and everything well!”* C181.

3 insights were reached in the category of accommodation.

“The hotel I stayed in was great.” C9. *“When I looked as a tourist, the accommodation was great.”* C13. *“I stayed in a nice and big hotel.”* C102.

3 insights were reached in the category of interactive quality.

“My kids love my doctor.” C14. *“This clinic definitely cares about their*

patients.” C25. “Clinical staff is also very friendly and interested.” C116.

3 insights were reached in the category of bandwagon effect. “I entered to the site about my treatment and when I saw that many British and Europeans were treated in Antalya, I decided to be treated, too!” C1. “In my research, I found that most of the foreign tourists came to this country for treatment purposes.” C67. “I found Turkey via Instagram.” C7.

CONCLUSION

According to the Tourism Statistics General Evaluation Report of the T.R. Ministry of Culture and Tourism, General Directorate of Investments and Enterprises (2019), compared to 2018, the number of visitors visiting Turkey increased by 12.2% in 2019 and reached a total of 51.7 million and 45.1 million of these visitors were foreign visitors. In terms of tourism revenues, compared to 2018, it has earned 34.5 billion dollars with 16.9% increase and average expenditure was 666 dollars per person. Again according to the same report, Turkey ranks 6th in the world ranking of the number of visiting tourists by country, ranks 15th in the world ranking of tourism revenues by countries.

In terms of tourism of Turkey, the increase in the number of tourists, as well as the increase in tourism revenues and per capita spending and rising to the top of the world ranking are among the most important issues. Regarded as a health tourism, thanks to being

performed all year round, as it does not have seasonality feature, and the high per capita expenditure, the feature of increasing tourism revenues, medical tourism is seen as an important tourism type. Therefore, determining the insights of foreign medical tourists visiting Turkey becomes important. With the study, the necessary data were tried to be obtained in order to increase the quality of the service and to create a brand image and competitive strategies.

In the study, an analytical generalization was tried to be reached by using content analysis, which is one of the qualitative analysis methods. The categories obtained as a result of the analysis are as follows: experience of physician, good quality, staff quality, e-wom, cost factor, poor quality, destination, translator effect, cleaning and hygiene factor, additional services, the speed of transactions, equipment quality, operation procedures, accommodation, interactive quality and bandwagon effect.

In his study on factors affecting patient preference in medical tourism, Dökme (2019) conducted a literature review and determined that the socio-economic and political situation, legislation, intermediary institutions, transportation and other tourism activities were effective in the country selection; while quality, cost, waiting time, communication, promotion and technology factors were taken into consideration in the selection of the institution. In their content analysis about medical tourism in Malaysia and Thailand, Mutalib et al. (2017) analyzed 43 online narratives and revealed several categories such as cost, tourist attraction factors (local dishes, culture,

recreation activities, etc.), presence of facilitating factors (friendliness, accessibility, effective and good English speaking, etc.), past experience and expertise of physicians serving, bandwagon effect. Rezaee and Mohammadzadeh (2016) listed the effective factors in medical tourism as follows: the quality of health services, a high level of expertise, the cost of health care, visa facilities, the state's facilitating role, intermediary institutions and general tourism services. Analyzing the narratives of 36 medical tourists, Ozan-Rafferty et al. (2014) reached the conclusion that the factors attracting medical tourists to Turkey were as follow: lower costs, doctors' expertise and responsiveness, familiarity with or interest in Turkey, and that the majority of medical tourists visiting Turkey were satisfied with the results of operation and care. The categories that emerged in the study support the literature.

On the other hand, while the frequency category of the categories is seen to be higher in other studies, it is seen that the study ranks fifth in the study. This finding supports the study of Veerasoontorn, Beise-Zee and Sivayathorn (2011). Veerasoontorn, Beise-Zee and Sivayathorn (2011) state that the model behind the globalization of healthcare is the socio-psychological process rather than the economic process. They state that communication, which can be described as deeply attachment with doctors and nurses, has an impact on patient satisfaction and return visits, although the cheaper price increases the interest in medical treatment abroad. They underline the importance of providing unexpected experiences to medical tourists with

organizational innovations and service quality based on superior patient-doctor-nurse relationship in order to create successful health destinations.

In addition, insights categorized as poor quality were found in the study, moreover, negative insights were also found within the doctor's experience, e-wom and cost categories. These insights are thought to result from receiving services from unaccredited health institutions. In this context, it is important that institutions wishing to serve in health tourism are accredited and to raise awareness of medical tourists on this issue.

As a result of study, it can be said that the quality of the personnel serving in the field of health, as in tourism, is at the forefront to be effective in health tourism. Having professional staffs focused on the needs of medical tourists, and having innovative and strong communication will provide a competitive advantage among other health tourism destinations. Again in the study, regarding health tourism, the effect of e-wom on both enterprises, destination, and visits to Turkey, as well as brand image.

In further academic studies, studies based on insights of medical tourists receiving services from accredited health institutions can be conducted. Studies evaluating the data related to a single medical service rather than all medical services can be carried out. As strengths and weaknesses of the province in terms of medical tourism can be revealed by examining the medical tourism reviews of a single

province, a comparative study can be developed by making comparisons between different provinces. The insights of medical tourists of a single country about medical tourism in Turkey can be examined.

REFERENCES

- Akbolat, M. & Deniz, N. G. (2017). "Türkiye'de Medikal Turizmin Gelişimi ve Bazı Ülkelerle Karşılaştırılması", *Uluslararası Global Turizm Araştırmaları Dergisi*, 1(2), 123-139.
- Altunışık, R., Coşkun, R., Bayraktaroğlu, S. & Yıldırım, E. (2007). Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı. Sakarya Yayıncılık, 5.th edition, Sakarya.
- Ataman, H., Esen, F. & Vatan, A. (2017). "Medikal Turizm Kapsamında Sunulan Sağlık Hizmetlerinde Kalite ve Hasta Güvenliği", *Uluslararası Sağlık Yönetimi ve Stratejileri Araştırma Dergisi*, 3(1), 28-44.
- Birdir, K. & Buzcu, Z. (2014). "JCI Akreditasyon Belgesine Sahip Olan Sağlık Kuruluşlarının WEB Sitelerinin Medikal Turizm Açısından Değerlendirilmesi", *Çağ Üniversitesi Sosyal Bilimler Dergisi*, 11(1), 1-19.
- Buzcu, Z. & Birdir, K. (2019). "Türkiye'de Medikal Turizm İncelemesi: Özel Hastanelerde Bir Çalışma", *Gaziantep University Journal of Social Sciences*, 18 (1), 311-327.
- Directive on Health Services to be Provided under Health Tourism and Tourist Health (2013). <https://www.saglik.gov.tr>, 2020.
- Dökme, S. (2019). "Medikal Turizmde Hasta Tercihini Etkileyen Faktörler", *International Social Sciences Studies Journal*, 5(30), 825-831.
- Ehrbeck, T., Guevara, C. & Mango, P. D. (2008). "Mapping The Market for Medical Travel", *McKinsey Quarterly*, 1-11.

- Ghazali, M., Thirumoorthi, T. & Doshi, D. (2012). "Travel Behaviour among inbound Medical Tourists in Kuala Lumpur", *Current Issues in Tourism*, 15(6), 1-19.
- Görener A. (2016). "A SWOT-AHP Approach for Assessment of Medical Tourism Sector in Turkey", *The Journal of Operations Research, Statistic, Econometrics and Management Information Systems*, 4(2), 159-170.
- Gülen, K. G. & Demirci, S. (2011). Türkiye’de Sağlık Turizmi Sektörü. *İstanbul Ticaret Odası Yayınları*, no.2011-39, İstanbul.
- Gümüş, F. & Büyük, Ö. (2008). "Sağlık Turizminde Yeni Açılımlar: Tıp Turizmi", III. Balıkesir Ulusal Turizm Kongresi, 17-19 Nisan, *Kongre Bildiri Kitabı, Balıkesir*, 433-442.
- İçöz, O. (2009). "Sağlık Turizmi Kapsamında Medikal (Tıbbi) Turizm ve Türkiye’nin Olanakları", *Journal of Yasar University*, 4(14), 2257-2279.
- Jagyasi, P. (2014). "Economic Benefits of Medical Tourism", <https://www.medicaltourism.com>, 2020.
- JCI (Joint Commision International) (2020a). <https://www.jointcommissioninternational.org>, 2020.
- JCI (Joint Commision International) (2020b). JCI-Accredited Organizations, https://www.jointcommissioninternational.org/about-jci/jci-accredited-organizations/?c=Turkey&F_All=y, 2020.
- Kılavuz, E. (2018). "Medical Tourism Competition: The Case of Turkey", *International Journal of Health Manag. and Tourism*, 3(1), 42-58.

- Kılınç, I. (2017). “Türkiye Medikal Turizm Sektöründe Hizmet Kalitesi ve Memnuniyet Üzerine Bir Alan Araştırması”, *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, 8(17), 130-143.
- Medical Tourism Association (2020). <https://medicaltourismassociation.com>, 2020.
- Mutalib, N.S.A., Soh, Y., Wong, T., Yee, S., Yang, Q. & Murugiah, M. (2017). “Online Narratives About Medical Tourism in Malaysia and Thailand: A Qualitative Content Analysis”, *Journal of Travel & Tourism Marketing*, 34(6), 821-832.
- Ozan-Rafferty, M.E., Johnson, J.A., Shah, G.H. & Kursun, A. (2014). “In the Words of the Medical Tourist: An Analysis of Internet Narratives by Health Travelers to Turkey”, *Journal of Medical Internet Research*, 16(2):e 43, 1-16.
- Öncü, M. A., Çatı K. & Yalman F. (2016). “Medikal Turizm Kapsamında Gelen Yabancı Hastalar ile Yerli Hastaların Memnuniyet Fuar ve Sadakatlerinin Karşılaştırılması”, *Bartın Üniversitesi İ.İ.B.F. Dergisi*, 7(14), 45-71.
- Patients Beyond Borders (2020). “Medical Tourism Statistics & Facts”, <https://patientsbeyondborders.com>, 2020.
- Regulation Concerning International Health Tourism and Tourist Health (2017). <http://www.ttb.org.tr>, 2020.
- Rezaee, R. & Mohammadzadeh, M. (2016). “Effective Factors in Expansion of Medical Tourism in Iran”, *Medical Journal Islamic Republic of Iran*, 30: 409, 1-6.

- Sarı, C. & Ulusoy Derin, A. (2019). “Medikal Turizm ve Antalya’daki Uygulamalar Üzerine Bir Araştırma: Akdeniz Üniversitesi Hastanesi Örneği”, *Uluslararası Dil, Eğitim ve Sosyal Bilimlerde Güncel Yaklaşımlar Dergisi*, 1(2), 121-143.
- SATURK (2020). “Sağlık Turizmi”, <http://www.saturk.gov.tr>, 2020.
- Sayın, K. Ş., Yeğinboy, E. Y. & Yüksel, İ. (2017). “Türkiye’de Medikal Turizm Uygulamaları: Bir Üniversite ve İzmir Sağlık Serbest Bölgesi Değerlendirmesi”, *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 32 (2), 289-313.
- Solak, M. (2017). “Medikal Turizmi ve Geleceği”, Sağlıkta Ortak Çözüm Toplantıları, Antalya, <https://www.ohsadkurultayi.org>, 2020.
- T..R. Ministry of Health, Health Tourism Department (2010). <https://saglikturizmi.saglik.gov.tr>, 2020.
- T.R. Ministry of Culture and Tourism, General Directorate of Investments and Enterprises (2019). “Turizm İstatistikleri Genel Değerlendirme 2020”, <https://yigm.ktb.gov.tr>, 2020, 1-52.
- T.R. Ministry of Development (2013). “Tenth Development Plan 2014-2018”, <http://www.sbb.gov.tr>, 2020.
- T.R. Ministry of Health, Health Tourism Department (2020a). <https://saglikturizmi.saglik.gov.tr/TR,184/tarihcemiz.html>, 2020.
- T.R. Ministry of Health, Health Tourism Department (2020b). <https://saglikturizmi.saglik.gov.tr/TR,175/saglik-turizmi-hakkinda.html>, 2020.

- T.R. Ministry of Health, Health Tourism Department (2020c). “Sağlık Turizmi Nedir?”, <https://dosyamerkez.saglik.gov.tr/Eklenti/10944,02pdf.pdf?0>, 2020.
- Temizkan, S. P. & Konak, S. (2018). Medikal Turizmde Medikal Seyahat Planlayıcılarının Web Siteleri Üzerine Bir Analiz, *Journal of Gastronomy Hospitality and Travel*, 1(2), 26-36.
- Tontuş, H. Ö. (2019). “Sağlık Turizmi Nedir?”, <http://www.saturk.gov.tr>, 2020.
- Veerasonorn, R., Beise-Zee, R. & Sivayathorn, A. (2011). “Service Quality as A Key Driver of Medical Tourism: The Case of Bumrungrad International Hospital in Thailand” *Int. J. Leisure and Tourism Marketing*, 2(2), 140–158.
- Whatclinic.com (2019). <https://www.whatclinic.com/dentists/turkey/implants>, 2020.
- World Tourism Organization and the European Travel Commission (2018). Exploring Health Tourism-Executive Summary, UNWTO, Madrid, <https://doi.org/10.18111/978928442030.8>, 2020.
- Yiğit, V. (2016). “Kamu Hastanelerinde Medikal Turizminin Gelişimini Etkileyen Faktörler”, *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, 7(15), 107-119.
- Yüzbaşıoğlu, N. & Doğan, O. (2016). “Medikal Turizm İşletmelerinde Misyona İfadeleri: Sağlık Kuruluşlarına Yönelik Bir Araştırma”, *Uluslararası Alanya İşletme Fakültesi Dergisi*, 8(2), 27-37. <https://medicaltourism.com/Forms/price-comparison.aspx>, 2020.

CHAPTER 7

IMPACT OF ORGANIZATIONAL ETHICAL CLIMATE PERCEPTION ON TASK SATISFACTION WITHIN THE CONTEXT OF THE STREET LEVEL BUREAUCRATS

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The street level bureaucrats being in direct contact with the citizens have the peculiarity of being the exposed face of the public administration. Therefore, it may be stated that the high task satisfaction to be owned by this personnel is a significant determinant of the visual activity of the public services. Likewise, it is clear that the level of the ethical climate perception belonging to these personnel in their present organization will have a clear impact on the conduct of the public services according to the codes of conduct taking into account the fact that they perform their tasks as face to face with the citizens. The objective of this research is to determine the impact of the organizational ethical climate perception on the level of task satisfaction within the context of the street level bureaucrats. As part of the study, a face to face survey study was conducted on the sample that consisted of the street level bureaucrats and a high ratio and linear impact of the level of the organizational ethical climate perception was determined for task satisfaction.

Introduction

The street level bureaucrats emerged as a reform strategy method so as to enhance the quality of the public services. The street level bureaucrats, who activate in diverse political spheres and administrative correlation, started to place their performance strategies into multiple organizational levels. In the meantime, they acted in the organizational ethical climate correlation and the said two variables affected one another. Up to now, study was carried out as the said two literatures independent of one another to a great extent and as

separated to methodological and sectoral differences. However, they possess aspects which affect one another and that are overlapping. In our study, the relationship between these two literatures and their aspects affecting one another will be examined. Accordingly, the concept of the organizational ethical climate will be examined and an infrastructure will be provided for the study in the first place. In the continuation of the study, the concept of the street level bureaucracy which brings the effective groups of the society together such as the police, teachers, judges will get examined. The interactions that are present in this group will get examined in the axis of the concept of the organizational ethical climate and the relationship between the street level bureaucracy and the organizational ethical climate will be handled.

Street Level Bureaucrats

The political scientists have started to get concerned with what the measuring of the impact of the state on people means in recent years. In line with this tendency, the concept of the street level bureaucrats emerged. In this section of the study, the concept of the street level bureaucrats will be tried to get clarified in the axis of “The Street Level Bureaucracy” as the thesis of Lipsky.

The general focal point of the thesis which was studied on by Lipsky starting from the ending of the 1960’s and which was published in the year 1992 is upon the bureaucrats who study at the level of contact of the state with public. Lipsky examines the common traits of the street level bureaucrats as well. Following this thesis of Lipsky, the topic of

“the street level bureaucrats” was handled by the political scientists many times. If assessed in line with the literature, the street level bureaucrats possess a critical position at the decision taking and practice levels; however, they possess a determinant importance on the lives of people taking into account the given impacts. The common trait of that kind of bureaucrats is the fact that they are in direct contact with the public and they perform a service aiming at people. The street level bureaucrats may use initiatives relating to matters such as reallocation of revenues. It is expected that the bureaucrats upon whom such a considerable importance is placed will provide a direct benefit to the circles to whom they provide a service. According to Lipsky, the street level bureaucrats assume a role as those preventing the social crisis. Thus, the majority of the protests that emerged starting from the 1960’s consisted of public services such as education and health. As a response to it, the street level bureaucrats assume a key role in the matter of the reconstruction of the social control (Aşkar, 2019: 98).

The street level bureaucrats are defined as people who have been employed by the state. The major occupational groups which constitute the class of the street level bureaucrats are teachers, civil servants, health service, security service and public personnel who are a part of daily life all the time. This segment who is working in the frontlines of the government are being qualified as the policy implementers.

The said people have to possess the following peculiarities:

1. A call will be made for regular interaction with the citizens through their task.
2. They possess a significant level of independence in their task decisions.
3. They possess a wide impact on the lives of their clients as a potential.

The segment whose level of work is strongly affected by the said three conditions becomes a part of the scope of the street level bureaucrats (Lipsky, 1969: 3).

The individuals who possess that kind of bureaucratic roles develop mechanisms to deal with problems. Such mechanisms provide protective bureaucratic service in the first place.

The considerable impact of the street level bureaucrats before the society may be explained as based on these five major factors:

- Firstly, the street level bureaucrats are actually the public personnel that consist of the personnel who remain in the foreground which will come to the meaning that they in general function below the organizational hierarchy.
- The conventional examples for the frontline personnel are teachers and social personnel. Nevertheless, other authorities such as correctional officers may be deemed as the street-level bureaucrats.
- Secondly, the street level bureaucrats in general interact with the clients and the citizens as directly (face to face).

- In most instances, such individuals are their involuntary clients who have not picked up a service by a specific public institution and who are not willing for a local service at another spot (like a citizen who has been halted by a police officer).
- A third key component for the frontline personnel is the fact that the change the rules and laws that have been assigned for the public personnel will go through could be permitted depending on their implementation even if their performance was established in the best way.
- According to Lipsky (2010), this discretion is a result of the complex decisions for which the street level bureaucrats have to interpret and implement the general policies in some instances.
- Fourthly, they possess a significant autonomy in decision-making depending on this discretion and their operations are frequently not being inspected. For example, a teacher is almost all the time alone in a class and is not subject to an administrative inspection directly.
- The fifth and the last key peculiarity of the frontline personnel is the fact that in fact and maybe when they are in the position of final policymakers, they are not acceptable as a part of the policy process on paper; these are the last policymakers and maybe those with the biggest impact.

The working of the street level bureaucrats may be hard and demanding; they are frequently under a lot of pressure, have to deal

with working using limited resources and have to tackle with the expectations from the part of both clients and their employers (Bosma, et al., 2017: 9-10). Whereas, in some instances, it was evident that the actions and decisions of the street level bureaucrats represented or implemented the policies of their organization. Nonetheless as Lipsky said: "...the decisions of the street level bureaucrats, the practices that they build and the devices that they form so as to deal with uncertainty and job pressure become the public policies which they conduct effectively. (Lipsky, 1980: 118).

By way of focusing on such informal aspects of accountability, the street level bureaucracy literature focuses on the accountability dilemmas that the individuals encounter in their multiple social roles in the procurement of the public service beyond a narrow mentality of the policy implementation in the form of the conduct of the rules that were established centrally as hierarchically (Pollitt and Hupe: 2011: 645).

In summary, there are too many studies that are supporting the theory of the street level bureaucracy and the concepts that form the basis of it. The said studies have turned towards the matters that are related to access to the services indicating that access to services are limited for some (disadvantageous) populations, some clients and civilians.

Organizational Ethical Climate

In order to explain the concept of Organizational Ethical Climate that drew the interest of many researchers in the 2000's and then got searched, we have to explain the meanings of the concepts of "ethical

climate” and “ethical morality” in the first place. The concepts of ethics and morals which replace one another frequently consist of differing meanings in essence.

While the concept of ethics is being qualified as the reflection of values of the reaction that an individual has developed to a situation that he encounters; the concept of morals is being explained as one to one implementation of the said reflection of values. For the correlation of the individual and the groups, the concept of morals determines what is right and wrong, how the forms of behaviour should be and the standards relating to it. Whereas, the concept of ethics is being qualified at more abstract level and is made up of the moral standards in written form (Aksoy, et al., 2017: 134). If we have to carry out a general assessment, ethics is the collection of the leading values determining how the form of doing work for a human being specifically and for the society generally. Whereas, the concept of “climate” with a root in Greek bears the meaning of “tendency” and “being prone to” (Büte, 2011: 172). The ways to administer the routine behaviours and actions of organizations that are expected from them and that are being supported by the personnel are being qualified as the ethical climate in some way.

According to what Bulutlar and Öz said, the relationships between the members of an organization, their behaviours and the organizational outcomes that emerged as a part of this correlation constitutes the concept of ethical climate. The determinant of the widespread ethical climate that is present in the organization depends on the preference of

the individual between right and wrong (Bulutlar and Öz 2009: 273) According to what DeConnick says, the behaviours of the individual constitutes the concept of ethical climate (DeConnick 2010: 384). The researches that are done as relating to the ethical climate does not only include the variables that are related to the ethics but at the same time, the said studies include the organizational outcomes as well (Martin and Cullen 2006: 179). Even though there are many task climates within the organization, the ethical climate of the organization matters since it shapes the ethical behaviours of the individual (DeConnick 2011: 618). In this case, the determinant factor of the organizational ethical climate is the preference of the individuals as its members between right and wrong.

The Relationship between the Organizational Ethical Climate and the Street Level Bureaucrats

In this section of the study, the impact of the concept of the organizational ethical concept on the street level bureaucrats who were assigned to implement the performance administration reforms will be examined.

The organizational ethical climate plays a part in the shaping of the behaviours and performances of the street level bureaucrats. In relation to this matter, Wilson emphasized the importance of the working of such personnel in public bureaucracy. According to Wilson, the street level bureaucrats must have fulfilled the challenging tasks such as the observation, analysis, control of the harmony in their

society in the context of the organizational ethical climate (Ricucci 2005; Wilson 1989).

The behaviours of the street level bureaucrats are different than those of the public administrators; additionally, it derives its power from differing resources. More explicitly, the present scholarship emphasizes the importance of the organizational context and makes it considered that the peer norms and the organizational conditions may have an impact on the behaviours of the street level bureaucrats (Lipsky, 1980: 131).

On the matter of procurement of the connection among the organizational reliability, decision taking and performance, the concept of the organizational ethical climate becomes the determinant (Bryk and Schneider, 2002: 11) The impact of the concept of the organizational ethical climate on the street level bureaucrats becomes not limited to it. Thus; on the whole of the authority of the members, the process of the decision taking, the interpersonal relations and the perceptions relating to the task itself, the organizational ethical climate plays a part as a determinant.

A positive organizational climate promises a climate possessing a high reliability degree, a strong personnel voice and an open discourse norms within the society with which it interacts. Schneider and et al. accept that a positive organizational climate “has an impact on more than one policies, practices, procedures (and) awards at the same time.” (Schneider, 1996: 12). If we take this opinion as a basis, in the communities on which the street level bureaucrats have an impact, the

organizational ethical climate perception may directly affect the policies and activities.

Among these, the human relations climate that includes the participation, autonomy, inspection support of the personnel and the attitudes for the organizational learning and the personnel welfare is related to the interpersonal reliability and organizational change studies. Thus, the street level bureaucrats are studying as based on a high level of discretion. While one branch of this discretion is the official discretion that is fulfilled by the administrative supervisors, another branch of it is the implicit discretion that is performed by the organizational connection (Wilson, 1989: 103).

According to what Denison stated (1996), a research community as based on an organizational behaviour and psychology performed a study that searches the relation between the organizational behaviour and performance in the working environment. According to this literature, there is a strong connection between the organizational ethical climate and innovation and performance. In parallel to this, this is true for each occupational group of the street level bureaucrats. As a result, the organizational ethical climate affects and motivates the street level bureaucrats in terms of innovation and performance (Denison, 1996: 624).

Relationship between Task Satisfaction and the Organizational Ethical Climate from the Perspective of the Street Level Bureaucrats

If the literature is examined within the scope of the relevant topic, it emerges that there is a direct relationship between the organizational ethical climate and task satisfaction. The ethical climate is being defined as “the meaningful perceptions of the organization members as relating to the present ethical procedures and policies for their organizations and organizational subunits which are steady and psychological”.

Whereas, task satisfaction is the whole of the positive and the negative judgments and assessments that a person makes on the aspects of his work or working environment together with his colleagues. It is in general stated as a part of the studies carried out on task satisfaction that a limitation key, task satisfaction level have to take into account the diverse aspects and objects of a person. The determinants of task satisfaction may be enumerated as follows: company policy and support, promotion and progress, payment, colleagues, inspection, clients and the general task itself.

Şimşek and his colleagues define the concept of task satisfaction as the positive emotional reactions at the workplace against the occupational roles by the personnel. According to this definition, task satisfaction is constituted by the financial interest, the satisfaction derived by the colleagues from working together and happiness that

the work created together with their colleagues provides (Şimşek et al. 2003: 150).

In another definition, task satisfaction is defined as the situation that arises from the difference between the thought of what is being deserved and what is derived from the working environment as a result of the task that the individual has created. Therefore, in the situations in which the working individual cannot derive what he believes to have deserved, task dissatisfaction emerges. The positive attitude of the personnel with which he is satisfied with his professional life makes up task satisfaction (Parsak, 2010: 43).

Nerkar and his colleagues separated task satisfaction and its aspects into three dimensions given below as based on the psychological, sociological and economic theories:

1. Instrumental satisfaction
2. Social satisfaction
3. Egocentric satisfaction

Accordingly, it may be stated that the opinions of Nerkar and his colleagues relation to task satisfaction reflect the positive reactions that arise from fulfillment of the task responsibilities by the person in a way to support the organizational targets (Nerkar, 1996: 169-170).

Whereas, according to Herzberg and his colleagues (1959: 52-55), instrumental satisfaction that is like the motivation factors describes the progress. In the context of this opinion, the ethical climate and task satisfaction constituted by one personnel at the time of performing his task in order to prevent lack of performance are directly proportional.

The ethical climate of an organization determines the acceptable and unacceptable behaviours for their personnel. It indicates the ways to tackle with the ethical climates that arise as a result of the task responsibilities of a person as well as the daily interactions with the persons around and outside the workplace.

If the individuals sense a disharmony in the organizational environments, they get immediately affected by this situation and go through a change in attitude in the negative direction which reduces task satisfaction and which increases the tension among their colleagues.

When satisfaction reduces as a result of disharmony, individuals become more motivated to reduce the presence of disharmony by way of doing one of the three things given below:

1. To change the personnel cognition
2. To prevent the same action from happening in the future
3. To develop additional cognitions that is helpful to minimize the differences in the thinking processes.

When we make a general assessment on the relationship between the ethical climate and task satisfaction, it comes to the forefront as a generally acceptable fact that the organizations cannot obtain an optimum efficiency unless they cover the expectations of the personnel and satisfy their needs. Accordingly, it becomes evident that

task satisfaction is an important concept for the organizations of our age.

The root causes for the reason why task satisfaction that any personnel possesses at the time of performing his task are crucial for the organizations that are personnel-focused may be defined as below:

If any personnel who cannot attain task satisfaction becomes unhappy and restless at the time of performing his task, he may become an incompatible individual psychologically, physiologically and sociologically. Therefore, some negative signs may appear with the personnel such as alienation, disinterest towards work, willingness to leave work, continual dissatisfaction about the organization, possessing an anxiety for the future professionally and despair (Toplu 1998: 32).

The study conducted by Tsai and Huang in 2008 included that when the ethical climate policies and rules were helpful in minimizing the cognitive disharmony of the individuals, the satisfaction of the individual relating to his colleagues, superiors, wages and general work was on the increase (Tsai and Huang, 2008: 570).

When we assess the relation between the street level bureaucrats and task satisfaction, this appears as interesting for both the academicians and the implementers. It is evident why task satisfaction matters. Personnel with a high rate of task satisfaction provide the property and services of the government to people more effectively, concernedly and meticulously than dissatisfied personnel. In this context, the

satisfaction that increases in the same way increases both the performance and accountability (Aşık, 2010: 32-33).

As has been summarized before, the official decision models indicate that sanctions, supervision, incentives, education and convincing are tools that are equally effective in shaping the street level behaviour however the personnel are subject to threats and microadministration once again as pragmatically. As long as satisfied personnel are more productive than their peers voluntarily, efforts will continue for the perfect union of the measures that encourage cooperation without focusing on the superiority of the thriving inspection authority (Boymul and Özeltürkay, 2017: 95-96).

The street level bureaucrats as a group are subject to pressures and demands from both upward and downward with them having the quality of a state worker class as strengthened. In this context, they possess the opportunity to diminish their task or replace their interests by those of public as a routine. “The personnel at the street level reduce the importance of the personal interests and in general make their efforts succeed with it being more challenging, unpleasant, hazardous and less formal to respond to the needs of individuals.” (Maynard-Moody and Musheno, 2000).

The majority of the present literature as relating to the street level bureaucrats is on the fact that they are the defenders of the domination of the personal interests as for the government personnel. The street level bureaucrats accept that satisfaction in professional life is inevitable and they make use of it to minimize their work load, to

facilitate their task and to prefer the public interests rather than the personal interests in general in order to provide personnel satisfaction. In this context, as a part of the general assessment, it becomes evident that there is a directly proportional relation between both the impact of the organizational ethical climate and the actions of the street level bureaucrats and task satisfaction.

ASSESSMENT OF THE DATA THAT WAS OBTAINED IN ORDER TO DETERMINE THE IMPACT OF THE ETHICAL CLIMATE PERCEPTION ON THE LEVEL OF TASK SATISFACTION OF THE PUBLIC PERSONNEL

In this section, the findings that were obtained from the survey data as relevant to the connection between the ethical climate perception of the public personnel and their level of task satisfaction. After talking about the personal traits of the participants of the survey, the data that was obtained will be indicated in tables and then will be interpreted as such.

Objective, Scope and Method of the Research

The research was conducted in 357 personnel in total who officiate in Nevşehir Provincial Security Directorate (236) and Nevşehir Provincial Gendarmerie Command (121) so as to determine the state and level of impact of the ethical climate perceptions of the public personnel and the relevant tendencies on task satisfaction of the public personnel. In the research, the survey method was made use of as face to face.

The survey that was prepared for the research consists of three sections. The first section is made up of 2 questions that were prepared in order to determine the demographical particulars of the participants. The second section consists of 20; the third section of 19 questions in order to determine the level of task satisfaction and occupational satisfaction of the public personnel that were prepared using the 5 point likert scale.

The scale that was prepared as relating to the task satisfaction was formed by revising in terms of public administration the Short Form Minnesota Satisfaction Questionnaire (SFMSQ) Scale that was formed by Weiss et al. (1967). And ethical climate perceptions scale was formed by revising in terms of public administration the Organizational Ethical Climate Scale developed by Victor and Cullen (1988).

The results of the scale reliability test that were calculated by way of using SPSS P. 18 programme as part of the research survey have been given below:

Table 1: Results of the Scale Reliability Test

	Cronbach's Alpha Value	Scale Item Number
Ethical Climate Perception Scale	,924	20
Task Satisfaction Level Scale	,917	19

As Cronbach's Alpha Test was implemented; the reliability of the Ethical Climate Perception scale was calculated as ".924" and that of the Task Satisfaction scale as ".917". The said values indicate that both scales have "a high reliability" (Büyüköztürk, 2007).

In the research model, the independent variable was estimated as the ethical climate perception; whereas, the dependent variable as the level of task satisfaction. In the research, in order to test the hypothesis in the form of H: "*As the ethical climate perception of the organization personnel change in the positive direction, the task satisfaction level is on the increase*", the correlation analysis and regression analysis from among the statistics tests were made use of using the SPSS P.18.

Assessment of the Research Findings

In this section of the study, the demographical and occupational particulars of the participants of the survey are stated together with the findings of the testing of the hypothesis of the study (the presence, direction and level of the possible relation between the ethical climate perceptions and work satisfaction of the personnel).

Demographical Particulars of the Participants

The frequency and the percentage distributions that were calculated as relevant to the variables relating to the demographical particulars of the participant organization personnel on whom the research survey was implemented are indicated in the Table 2.

Table 2: Demographical Particulars of the Participants

Sex	f	%	Term of Office	f	%
Woman	108	30,3	1-5 years	130	36,4
Man	249	69,7	6-10 years	82	23,0
			11-15 years	50	14,0
			16 and above	95	26,6
Total	357	100	Total	357	100

As is evident from the Table: 2, 30,3 % of those participating in the survey are woman and 69,7 % of them are men. While the participants were made up of personnel by 36,4 % who started to officiate with a range of 1-5 years newly relatively; 23,0 % of them stated that their office time is equal to 6-10 years, 14 ,0 % of them said it was equal to the range of 11-15 and 26,6 % of them as 16 years and above.

Analysis of the Research Findings

The findings that were obtained could be analyzed under two titles, which are the level of ethical climate perception and task satisfaction.

Level of Ethical Climate Perception

The responses of the organization personnel to the questions for determining the ethical climate perceptions are being analyzed below. According to it;

The majority of the personnel that is equal to 73,1 % state that the most important responsibility in the organization is efficiency; on the other hand, the personnel that is equal to 13,7 % state their negative opinions on this matter. 52,7 % of the personnel in the organization stated that effective solutions were looked for for the issues of the organization all the time. Whereas, the personnel with a negative opinion on that the solution looked for the issues were not effective made up of a segment of 22,1 %. While the personnel that is equal to 48,1 % state that the most correct way was all the time the most efficient one, a segment that is equal to 22,9 % stated an opinion to the contrary.

While the ratio of the personnel who made a statement in the positive direction on the fact that what was expected from them was all the time to do the most correct for their stakeholders was 80,7 %, it draws the attention that a segment that is equal to 7,8 % gave a negative opinion. The personnel who stated that they bore a strong responsibility feeling against those who are outside the organization constitutes a segment of 60,5 %. On the other hand, a segment that is equal to 14,8 % considers that they do not bear a strong responsibility feeling for those who are outside the organization. While the

personnel that is equal to a ratio of 60,5 % observed the interests of the organization stakeholders, the personnel that is equal to a ratio of 18,8 % gave an opinion to the contrary.

The ratio of the personnel who stated that the matter of first priority for the organization was the impact of the decisions on the stakeholders was told to be 50,7 %. Whereas the personnel that constituted a ratio of 20,7 % considered that the said impact was not of first priority for the organization. A segment of a ratio of 46 % from among the personnel attaches importance to the team spirit within the organization. On the contrary, a segment of 25,5 % did not attach importance to the team spirit.

While the personnel ratio who told that the decisions at the organizations got formed according to its contribution to the organization objective amounted to 69,4 %, only a segment of 11,2 % told that the decisions got formed as based on another objective.

30,8 % of the participants stated that the organization personnel were not concerned with anything outside of the organization's interests; whereas a segment of 45,9 % said that the personnel were concerned with things outside of the organization's interests. The ratio of the personnel who gave a positive opinion on the fact that follow-up of the organization's rules and procedures strictly was highly important amounted to 73,4 %; whereas a segment of 13,4 % gave a negative opinion.

While a segment of 86,3 % approved to the fact that compliance with the law was a priority for decision-making in the organization, it was determined that a segment equal to 7 % that gave an opinion to the contrary was present. A participant at a ratio of 80,7 % stated that every single personnel was expected to observe the organization's rule and procedures; whereas a participant at a ratio of 11,5 % stated that no such expectation existed.

The ratio of those who considered that the successful people acted in compliance with the rules within the organization was determined as 74,7 %. A segment that is equal to 10,9 % gave a negative opinion on this matter. The ratio of those who gave a positive opinion on the fact that the successful people were strictly attached to the organization policy was observed as 66,1 %. A personnel that is equal to a ratio of 13,7 % gave a negative opinion.

To the contrary of the personnel that is equal to a ratio of 43,7 % who considered that what was good for themselves was good for the organization as well, a segment that is equal to 28,8 % gave a negative opinion on this matter. According to the outcome that was observed positively at a ratio of 28,3 %, the biggest anxiety of the organization personnel is what's the best for the other. On the other hand, a segment of 30,5 % considered that they did not have that kind of an anxiety. 71,5 % of the participant personnel stated that they were after what's best for them, a ratio of 12,1 % had an opinion to the contrary.

The ratio of the personnel who took a decision for what's good and bad for themselves is equal to 75 %; whereas the ratio of the personnel who gave a negative response on this matter is equal to 9,2 %. A segment out of the personnel that is equal to 46,2 % stated that they were directed as based on their own personal ethical principles. Whereas, a segment that is equal to 23,5 % gave a negative response.

If the outcomes of the survey are analyzed on a ratio basis, it may seem possible to state that a segment of the personnel who worked in the sample organizations that is almost equal to a ratio of 60-65 % have a positive perception at the level of ethical climate; whereas the other personnel have a negative perception as relatively.

Level of Task Satisfaction

After the analysis of the responses by the participant personnel of the organizations to the questions for measuring of the level of task satisfaction; it was determined that a personnel at a ratio of 82,4 % stated that the task that they conducted was occupying them; whereas a segment of 11,4 % gave a negative response to this question. While 40,1 % of the personnel considered that the task that they conducted provided them with free working opportunity, a segment that is equal to 37,8 % stated that they did not have that kind of opportunity. Likewise, the ratio of the personnel who considered that the task that they conducted provided them with the opportunity to perform differing things at times was determined as 53,5 %. Whereas, for the organization personnel which constituted a significant ratio that is

equal to 30,6 % who gave a negative response, to observe the reasons that stem from task monotony could be possible.

The ratio of the personnel who stated that they conducted a task which made them gain prestige in the society was determined as 63,3 % and it was observed that a participant ratio that is equal to 19,3 % had a negative thought on this matter. While the ratio who considered that the administrators administered the people under their administration well was equal to 46,8 %, the ratio that is equal to 61,9 % who considered that they had decision-making skills as relatively was equal to 61,9 % and the difference in between that is equal to 15,1 % refers to the relation of “subordinate-superior” at the time of the decision-making process within the organization and that this relation is a positive concept ethically. Furthermore, it may be stated that the fact that a high ratio that is equal to 84,8 % stated that the task that they conducted imposed a conscientious responsibility on them supports the opinion that the personnel attached importance to the ethical matters.

The segment who considered that the task that they conducted provided them a future with a guarantee constitutes a ratio of 57,7 %. On the other hand, the personnel who have a statement to the contrary was considered as 14,9 %. The ratio who considered that the task that they conducted provided them with the opportunity to contribute to others was equal to 80,9 % and that who had a thought to the contrary was equal to 10,9 % and as based on it, it seems possible that to relate the high ratio of the level of task satisfaction belonging to the

personnel on this matter with the ethical matters in line with the capability of being useful.

A personnel ratio that is equal to 68,9 % considers that the task that they conduct constitutes an opportunity to direct people; on the contrary a segment that is equal to 10,9 % has the opinion that they do not possess this opportunity. Likewise when it was asked whether the task that they conducted provided them with the opportunity to do things using their skills, a segment that is equal to 68,9 % responded positively and a segment that is equal to 18,4 % responded negatively. As based on it, it is considered that rather than the fact that the ratios of the positive responses to the said two questions were in parallel, the difference that is almost equal to 8 % with those who had a negative thought could stem from the limited task definitions as based on the present hierarchical order. In the end, as the outcome which is supporting this opinion: the ratio of those who considered that the task that they conducted provided them with the opportunity to make use of their opinions with ease was determined as 36,9 % and the ratio of those who had a negative opinion as 41,7 %.

When the material elements with the level of task satisfaction were examined, while the personnel ratio who is satisfied with the wage that they receive was equal to 43,4 %, the personnel that is equal to 38,1 % stated that they were dissatisfied. On the other hand, when the question whether they had a promotion opportunity was asked, only a segment that is equal to 29,1 % gave a positive response. It seems possible to explain the majority of the segment who gave a negative

response on this matter with a ratio of 53,5 % by connecting it with the segment of 38,1 % who are dissatisfied with their salary. Even if a segment that is equal to 56,3 % who have the opinion that the working conditions of the task they are conducting are good was determined, a segment that is equal to 28,8 % gave a negative opinion on this matter. The personnel who stated that they made use of their own methods at the time of the task is equal to 72,2 %. Whereas, the personnel who gave a an opinion to the contrary on this matter was determined as equal to 21,3 %.

When the relatively high satisfaction ratios with the other (ethical) matters are examined in comparison to the task satisfaction with the material elements; the personnel who had the opinion that the relationship of their colleagues with one another was good constituted a segment that is equal to 56,3 %; to the contrary, only a segment that is equal to 16,3 % had a negative opinion.

A personnel segment that is equal to a ratio of 67,2 % stated that they made use of their own methods during their task that they conducted; whereas, a personnel segment that is equal to 21,3 % stated that they did not use their own methods. While it was observed that the personnel who had the opinion that they were appreciated at the time of performing their task was equal to 49,6 % in ratio, the personnel segment who had the opinion that the task that they conducted gave him a feeling of success was determined as 66,7 %. When a relationship was built between the ratio who had a positive opinion at the point of the feeling of success that the task gave and the ratio who

had the opinion that they were appreciated, it is considered that the difference that emerged could stem from the ethical matters such as task awareness.

Findings relating to the Relationship between the Ethical Climate Perception of the Personnel and the Level of Task Satisfaction together with the Testing of the Hypothesis

For the testing of the hypothesis of the research stated in the form of “*H: As the ethical climate perception of the organization personnel changed in the positive direction, their level of task satisfaction is on the increase.*”, the correlation and Anova f variance tests were conducted with SPSS 18.0 statistical analysis programme.

Table 3: State and Direction of the Relationship between the Ethical Climate Perception and the Level of Task Satisfaction of the Personnel with Anova F Variance Analysis

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>
<i>Regression</i>	29511,342	1	29511,342	281,668
<i>Residual</i>	37194,614	356	104,774	
<i>Total</i>	66705,955	357		

The fact that the p value is equal to (.000), $p < 0.05$ indicates that there is a relationship between the ethical climate perception of the personnel and their satisfaction level about the task in the positive direction.

Table 4: Correlation Test for the Relationship between the Ethical Perception Level and Task Satisfaction Level of the Personnel

	<i>Ethical Climate</i>	<i>Task Satisfaction</i>
<i>Pearson Correlation (r)</i>	1	,665**
<i>Ethical Climate Sig. (2-tailed) (p)</i>		,000
<i>N</i>	357	357
<i>Pearson Correlation (r)</i>	,665**	1
<i>Task Satisfaction Sig. (2-tailed) (p)</i>	,000	
<i>N</i>	357	357

There is a directly proportional and a meaningful and clear connection at “,665” level between the ethical climate personnel and task satisfaction level of the personnel. According to this, it seems possible to explain the change in task satisfaction with the change in the ethical perception at a ratio of 66,5 %.

As a result, when the statistical test practices that are stated in Table 3 and Table 4 are assessed altogether ($p = ,000$; $r = 0,665$), it becomes

evident that there is a positive and meaningful relationship between the ethical climate perception and the level of task satisfaction belonging to the personnel. Furthermore, it was determined that the level of relationship was at a significant ratio equal to 66,5 %. Therefore, the hypothesis of the research that is expressed in the form of *“As the ethical climate perception of the organization personnel changed in the positive direction, their level of task satisfaction is on the increase.”* was acceptable.

CONCLUSION

The Street Level Bureaucrats are the public personnel who have to build a direct and mutual affinity with the citizens as a requirement of the quality of the public service which they are conducting. Due to this affinity, they are working with a dense pace of work. The officers in question who are in direct contact with the citizens and who are working in an area which is too open for abuse ethically may be consumed in their task motivation rapidly. The fact that they are conducting their tasks as focused on citizens and in line with the approach of the public administration and as part of the codes of conduct makes a considerable positive contribution to the image and prestige of the public administration. It is evident that this contribution could be provided with task satisfaction of the said personnel being high.

In this study, the relationship between the organizational ethical climate and task satisfaction was examined in the context of the street

level bureaucrats. As a result of the survey research that was conducted, it was determined that the level of the organizational ethical climate perception had an impact on the street level bureaucrats in the sense of increase of task satisfaction. Indeed, this fact strengthens the individual performance and the perception of reliability. Furthermore, the opinion was held that the high organizational ethical climate perception had a strong and positive impact on the trust placed by the street level bureaucrats on their organization personally and as a requirement of the task.

It is evident that the organizational ethical climate assumes a significant role among the street level bureaucrats in the sense of the balance that has to be kept among the quality of public service procurement and public expenditures as well as the efficiency level of the relevant service. This fact could be explained by putting forward the leading and restraining impacts that the concept of the organizational ethical climate has.

As such, as the fact that the organizational codes of conduct are combined with legal regulations and sanctions and are manifested openly and are supported by the hierarchical top positions will enhance the level of task satisfaction of the personnel, it could be stated that it will have a direct impact on the quality and pace of the public services.

REFERENCES

- Aksoy, S., Erdil, O., Ertürk, A. (2017). Etik İklim: Kavramsal Gelişimi, Bireysel ve Örgütsel Etkileri, *Journal of Doğuş University*, 18 (2), 133-151.
- Aşık, N. A. (2010). Çalışanların İş Doyumunu Etkileyen Bireysel ve Örgütsel Faktörler ile Sonuçlarına İlişkin Kavramsal Bir Değerlendirme. *Journal of Turkish Administration*, 467, 31-51.
- Aşkar, G. (2019). Bürokraside Temsil Sorunu: Temsili Bürokrasi Yaklaşımı , *Dumlupınar University Journal of Social Sciences*, 59, 95-104.
- Bosma, A.Q., Kunst M.J.J., Dirkzwager, A.J.E., Nieuwebeerta, P. (2017). Selection Processes in Prison- Based Treatment Referrals: A Street-Level Bureaucracy Perspective, *Crime & Delinquency*, 1-32.
- Boymul, E. and Özeltürkay, E. Y. (2017). İş Tatmini ve Örgütsel Bağlılığın Tükenmişlik Sendromu Üzerindeki Etkisi: Bir Sanayii Kuruluşunda Uygulama, *Journal of Yaşar University*, 12(46), 93-102.
- Bulutlar, F. and Öz, E.Ü. (2009). The Effects of Ethical Climates on Bullying Behaviour in the Workplace, *Journal of Business Ethics*, 86, 273-295.
- Büte, M. (2011). Etik İklim, Örgütsel Güven Ve Bireysel Performans Arasındaki İlişki, *Atatürk University Journal of Economics and Administrative Sciences*, 25(1), 171-192.
- DeConnick, J. (2011). The Effects of Ethical Climate on Organizational Identification, Supervisory Trust, and Turnover among Salespeople, *Journal of Business Research*, 64, 617-624.
- DeConnick, J. (2010). The Influence of Ethical Climate on Marketing Employees' Job Attitudes and Behaviors, *Journal of Business Research*, 63, 384-391.

- Denison, D. R. (1996). What Is The Difference Between Organizational Culture And Organizational Climate? A Native's Point Of View On A Decade Of Paradigm Wars. *Academy of Management Review*, 21, 619–54.
- Duyar, İ. (1995). Kamu Politikası Uygulamalarında Birleştirici Bir Teoriye Doğru, *Journal of A.U. Faculty of Educational Sciences*, 28 (2), 107-123.
- Fein, C. E., Tziner, A., Lusky, L., & Palachy, O. (2013). Relationships between ethical climate, justice perceptions, and LMX. *Leadership & Organization Development Journal*, 34(2), 147–163.
- Herzberg, F., Mausner, B., Snyderman, B. (1959), *The Motivation at Work*, Wiley, New York.
- Kaplan, M., Öğüt, A., Karayel, S., İlhan, İ. (2013). The Effects Of Ethical Climate Types On Job Satisfaction: The Case Of Tourism İndustry, *Journal of Hacettepe University Economics and Administrative Sciences*, 31(2), 117–133.
- Kaptı, A., Alaç, A. E. (2013). Kamu Politikalarının Uygulama Aşaması, M. Yıldız ve M. Z. Sobacı içinde, *Kamu Politikası Kuram ve Uygulama*, Ankara.
- Lipsky, M. (1969). *Toward a Theory of Street- Level Bureaucracy*, University of Wisconsin.
- Lipsky, M. (1980). *Street-Level Bureaucracy: Dilemmas Of The İndividual In Public Services*, Russell Sage Foundation, New York.
- Martin, K. D., Cullen, J. B. (2006). Continuities and Extensions of Ethical Climate Theory: A Meta-Analytic Review, *Journal of Business Ethics*, 69, 175-194.

- Maynard-M., S., Michael M. (2000). State Agent or Citizen Agent: Two Narratives of Discretion, *Journal of Public Administration Research and Theory*, 10, 329-358.
- Nerkar, A. A., McGrath, R. G., MacMillan, I. C. (1996). Three Facets Of Satisfaction And Their Influence On The Performance Of Innovation Teams, *Journal of Business Venturing*, 11(3), 167-188.
- Özen, F. and Durkan, E. (2016). Algılanan Örgütsel etik iklim ile Öğretmenlik Meslek Etiği Arasındaki İlişki, *Journal of Education Management in Theory and Practice*, 22(4), 593-627.
- Parsak, G. (2010). Örgütlerde Yabancılaşma ve İş Tatmini İlişkisi: Çukurova Üniversitesi Çalışanları Üzerinde Bir Uygulama, Çukurova University Institute of Social Sciences, Master Thesis, Adana.
- Pollit, C., Hupe, P. (2011). Talking About Government: The Role of Magic Concept, *Public Management Review*, 13(5), 641-658.
- Pülzl, H., Treib, O. (2007). Implementing Public Policy. F. Fischer, G. J. Miller, M. S. Sidney, *Handbook of Public Policy Analysis*, Boca Raton: CRC Press.
- Riccucci, N. (2005). How Management Matters: Street-Level Bureaucrats and Welfare Reform, Georgetown University Press, Washington DC.
- Schneider, B., Brief, A., Guzzo, R.(1996). Creating Aclimate And Culture For Sustainable Organizational Change, *Organizational Dynamics*, 24, 7-19.
- Şimşek, M.Ş., Akgemici, T., Çelik, A. (2003). Davranış Bilimlerine Giriş ve Örgütlerde Davranış, Adım Pub., Konya.
- Toplu, D. B. (1998). Kamu Kurum Arşivlerinde Çalışan Personelin İş Tatmini, *Journal of Hacettepe University Institute of Social Sciences*, Ankara.

- Tsai, M.T. ve Huang, C.C. (2008). The Relationship Among Ethical Climate Types, Facets Of Job Satisfaction, And The Three Components Of Organizational Commitment: A Study Of Nurses İn Taiwan, *Journal Of Business Ethics*, 80(3), 565-581.
- Tüzün, İ.K. ve Çağlar, İ. (2009). Investigating the Antecedents of Organizational Identification, *Journal of Doğuş University*, 10 (2), 284-293.
- Victor, B. and Cullen, J. B. (1988). The Organizational Basis Of Ethical Work Climates, *Administrative Science Quarterly*, 33(1). (Retrieved from on 22.12.2019: https://www.researchgate.net/profile/John_Cullen6/publication/228298420)
- Wang, Y. and Hsieh, H. (2013). Organizational Ethical Climate, Perceived Organizational Support, And Employee Silence: A Cross Level Investigation, *Human Relations*, 66(6), 783-802.
- Weiss, D. J., Dawis, R. V. England, G. W. ve Lofquist, L. H. (1967). *Manual for the Minnesota Satisfaction Questionnaire*, Minnesota Studies in Vocational Rehabilitation, Minneapolis: University of Minnesota, Industrial Relations Center, 22.
- Wilson, J. Q. (1989). *Bureaucracy: What Government Agencies Do And Why they Do It*, Basic Books, New York.

CHAPTER 8
TERROR MANAGEMENT THEORY: STUDIES CONDUCTED
IN TURKEY

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INTRODUCTION

The universe becomes meaningful in contradictions. Everything in the world makes sense with its opposite. The value of such concepts can be understood only with their opposites: hot with cold, happiness with sorrow, light with darkness, etc. Similarly, life finds meaning with its opposite, death. As we all know, death is an inevitable fact of life. As everything that has a beginning has an end, this is also valid for life: namely, birth and death. Everyone is born and everyone will die in a particular time in future. When one realizes that he/she is mortal or when he/she confronts with it, he/she feels a sense of terror.

Death has different meanings for people living in different cultures. Some see it as an end, the other as a salvation and still some see it as an anxious situation. The meaning of death in different cultures as well as in the same culture may be different due to the fact that the interpretation of death varies according to the religious and cultural worldviews of individuals.

In this chapter, following a concisely overview of Terror Management Theory, the variables used in testing the theory in Turkey will be presented.

Terror Management Theory: Theoretical Approach

Terror Management Theory (TMT) was developed by Greenberg, Pyszczynski, & Solomon (1986) and grounded on the works of Ernest Becker, entitled *The Birth and Death of Meaning* (1962), *The Denial of Death* (1973), and *Escape from Evil* (1975). TMT was benefited from

different disciplines such as sociology, anthropology, existential philosophy and psychoanalysis (Solomon, Greenberg, & Pyszczynski, 2015). This theory has been developed in order to give answers to the following questions: what is self-esteem, why do we need self-esteem and how does our self-esteem affect our behaviours (Pyszczynski, Solomon, & Greenberg, 2015).

Focusing more on laboratory experiment findings than real world phenomena caused social psychologists to distract social psychology from other academic disciplines. In this sense, the failure of considering psychoanalytic and existential ideas in theory formulation is one of the reasons for the emergence of TMT. It is clear that the attempt to explain human behavior without addressing the subject of death would be incomplete. The theory assumes that the fear of death is important in understanding psychological motives and human behavior; but it is not the only important motivation (Greenberg et al., 1986; Pyszczynski et al., 2015).

As we all know death is a composite, miscellaneous and distressing side of human existence that people have the fear of death because of many reasons (e.g., uncertainty, decay of the body, fail to complete important tasks, loss of control and loss of social bonds) (Pyszczynski et al., 2015; Solomon et al., 2015). All living beings are born with biological systems to protect themselves from external threats. For protection of the organism itself, the fear of death must exist but it should not always exist in the mental functioning of a person, otherwise the organism cannot function effectively. Despite the advances in technology and in

science, disease and death are processes that still exist and they keep men engaged. However, there are other problems such as to disappear, to leave from the world and to be forgotten. The whole life of a human being is a scenario in which he/she refuses to be forgotten and tries to pass beyond death with symbolic methods. Besides, man is often uninterested in his own death and the only way to defeat man's worthlessness in the world is to idealize his ego (Becker, 2013).

Since human beings have cognitive capacity unlike animals or other living beings, they know that the universe is uncontrollable and the death is inevitable, and they can imagine possible future events. Besides cognitive capacity, human beings are cultural animals that culture contributes a basis for valuing the individual's himself/herself. If the individual lives up to the cultural criteria, he/she can have a sense of worth. To refrain from terror feelings, individuals need to believe that they are good and valuable, in other words individuals need to have self-esteem to buffer anxiety. It is possible to say that self-esteem is culture dependent so in order to have self-esteem, individuals should meet the requirements of the culture that they belong. By providing a common understanding of symbolic reality that brings order, predictability, importance and permanence to our lives, culture reduces the terror resulting from death awareness. To maintain our self-esteem on a certain level, we change our attitudes, beliefs and perceptions. When people's self-esteem is threatened, they develop some strategies to maintain their self-esteem on a certain level (Greenberg et al., 1986; Pyszczynski et al., 2015; Solomon et al., 2015).

As the brief introduction is provided above, there are two basic psychological resources to deal with the knowledge that we are mortal. In other words, TMT is based on two hypotheses: the Mortality Salience Hypothesis and the Anxiety Buffer Hypothesis. The *mortality salience hypothesis* suggests that mortality salience increases individuals' need for protection. This protection is generally provided by cultural worldviews and self-esteem. Cultural worldviews provide order, meaning, permanence, significance and eternity. Self-esteem means the sense of personal importance and leads us to think that we are significant living beings rather than material creatures. The self-esteem concept can also be defined as the individual's feeling good about himself/herself and his/her belief in the concept that he/she is valuable in a meaningful universe. The theory defines self-esteem as an individual judgement of the extent to which an individual adheres to the values associated with cultural worldviews. This sense of personal importance keeps our deepest fears away from us. People with low self-esteem levels have to cope with both anxiety and psychological difficulties. It is possible to say that self-esteem protects individuals from physical and existential fears (Solomon et al., 2015). Mortality salience leads people to react negatively to those who do not live up to cultural values and to react positively to those who bolster our beliefs. According to the *anxiety buffer hypothesis*, in a threatening environment, if a psychological structure functions as an anxiety buffer, human beings will want to increase this structure to reduce anxiety. For this reason, self-esteem can be thought as an anxiety buffer because of the fact that when one's self-esteem increases, it enables to relieve

anxiety (Greenberg, et al., 1986; Pyszczynski, et al., 2015; Solomon et al., 2015).

To express again, the theory assumes that the awareness of mortality affects thoughts, emotions, motivations and behaviors of individuals. It can be said that as human beings, individuals avoid anxiety by believing in cultural worldviews and increasing their self-esteem. The theory also assumes that self-esteem buffers anxiety which is the result of the awareness of the inevitability of death, and cultural worldviews give meaning and purpose to the life of an individual (Greenberg, et al., 1986; Pyszczynski, et al., 2015).

Individuals living in accordance with cultural worldview standards are promised a real or symbolic immortality. Real immortality is the belief of life after death and symbolic immortality is leaving valuable contributions after death as books, memories, families and music. Living in accordance with cultural worldviews makes one feel as a valuable individual in a meaningful universe, and this is also necessary for self-esteem. Since the body will die, people distance themselves from their bodies and focus on abstract concepts such as mind and spirit. As a result, in religions, people are taught to believe and live up according to the values of religion for literal immortality (Greenberg, et al., 1986; Pyszczynski, et al., 2015; Solomon et al., 2015).

Since objective tools are rare to determine whether individual complies with cultural worldview standards, he/she needs an assessment of other individuals how well he/she fits into these standards (cultural worldview and self-esteem) to buffer anxiety. While those who have

the same worldview or those who make positive evaluations increase the value of the individual, people with different worldviews or those who make negative evaluations reduce the value of the individual (Greenberg, et al., 1986; Pyszczynski, et al., 2015).

In previous literature, it can be seen that different methods (e.g., seeing gory accident footage, writing one sentence about death, standing near a funeral parlor or cemetery, death anxiety scales, etc.) are used for mortality salience manipulation (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992; Solomon et al., 2015). Some examples of these are listed below:

- The Projective Life Attitudes Assessment

This includes two open-ended questions.

“Please briefly describe the emotions that the thought of your own death arouses in you.”

“Jot down, as specifically as you can, what you think will happen to you as you physically die, and once you are physically dead.”

- Sample Word Completion Task

The participants are asked to complete the blanks with the first word that comes to mind to create words.

B U R _ _ D

C O F F _ _

G R A _ _

- Death Anxiety Scales

There exists many scales that measure death anxiety/fear (see Templer, 1970; Thorson & Powell, 1992).

A standart experimental process in TMT can be seen in Figure 1.

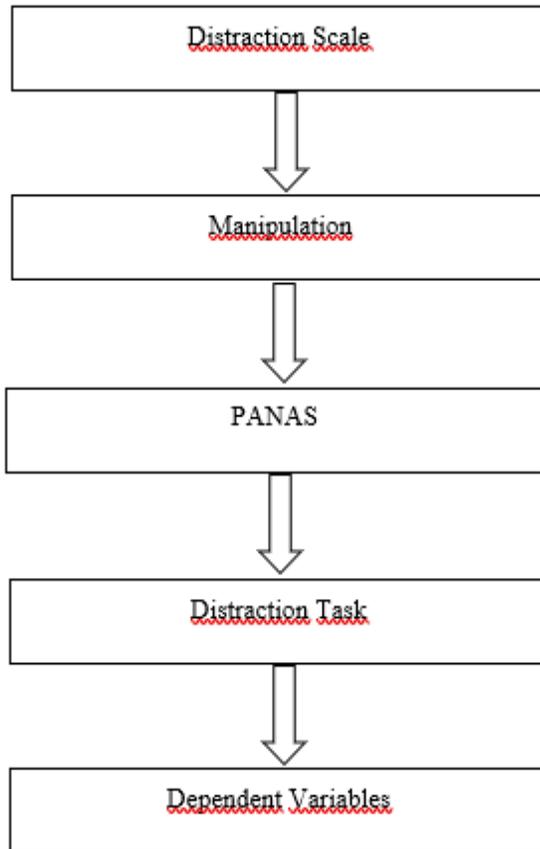


Figure 1. Schematic representation of TMT process

In the first step of the experiment a scale is applied to distract the main purpose of the study (e.g., personality measure), and then, the participants are divided randomly into two groups as experimental

group and control group. The participants in the experimental group are reminded of death and the participants in the control group are not reminded of death (the only difference in the experiment is in this step). Later, PANAS, a positive and negative affect scale is applied in order to examine if there is a difference between control and experimental groups in their affect, not expected any difference. As a distraction task, generally a puzzle is used to make a delay because MS effects occur after a short delay. Lastly, dependent variables are applied to the participants.

The Studies Conducted in Turkey to Test Terror Management Theory

Self Esteem

A study conducted by Aslıtürk (2001) in his Master's dissertation tested the fear of death and self-esteem among 473 undergraduates. Contrary to expectations, participants with high self-esteem report more mortality salience effects. Another study (doctoral dissertation) carried out with 484 undergraduates by Şimşek (2005) supposed that death anxiety motivates individuals in cultural worldview validation and in self-esteem enhancing but the results do not support these assumptions. Again in another doctoral dissertation by İncirli (2014) with 95 undergraduates, self-esteem is used to determine whether individuals' satisfaction with themselves has a preventive effect as a buffer against anxiety. In other words, it is aimed to measure whether individuals who are satisfied with themselves have lower levels of reactions towards alleviating their anxiety than individuals who are not satisfied with

themselves. In this context, the findings have shown that self-esteem does not have any significant effect.

TMT assumes that self-esteem buffers anxiety arising from the consciousness of inevitability of death (Greenberg, et al., 1986; Pyszczynski, et al., 2015). Although self-esteem did not function as an anxiety buffer in the aforementioned studies, in many previous studies conducted abroad (e.g., Greenberg et al., 1992; Harmon-Jones, Simon, Greenberg, Pyszczynski, Solomon, & McGregor, 1997; Solomon, Greenberg, Pyszczynski, 1991; Greenberg, et al., 1997), self-esteem functions as an anxiety buffer.

Attachment / Commitment

Şimşek (2005) tested whether attachment styles can be the third defense mechanism in addition to self-esteem and cultural worldviews. The results showed that attachment styles of individuals play a mediator role among the fear of death, distal defenses of self-esteem and cultural worldviews. In a Master's dissertation, Dalda (2011) examined whether commitment to a close relationship would affect death anxiety on 161 individuals who have close relationships. The results showed that participants who imagined separation from close relationship partner with high commitment, experience lower levels of death anxiety than participants with low commitment.

TMT states that individuals protect themselves against the fear of death by maintaining their cultural worldviews, self-esteem and attachments to close relationships (Pyszczynski, Sullivan, & Greenberg, 2015). According to TMT to deal with anxiety, the relationship between a child

and a parent in the attachment process, is similar to the way individuals use to deal with anxiety in the face of death (Pyszczynski et al., 2004). The studies conducted abroad showed that mortality salience increases attachment motivation (e.g., Harmon-Jones et al., 1997; Mikulincer, Florian, & Hirschberger, 2003).

Religion /Aggression

Aksüt-Çiçek (2008) investigated the aggression levels of 160 undergraduates whose religious tendencies are threatened when they are reminded of their mortality in the framework of a Master's dissertation. The results showed that students whose religious tendencies are threatened when they are reminded of their own mortality, their aggressive trends are increasing. In a research article by Koca-Atabey & Öner-Özkan (2011) on 239 undergraduates, after mortality salience, participants with defensive religious orientation became more conservative whereas participants with existential religious orientation did not differ in term of conservatism. In a study with 1344 adults, God perceptions, religious coping styles, psychological well-being levels, and death anxiety levels between individuals who are directly and indirectly affected by terrorism are examined. It is also investigated whether there are any changes in praying, in worship and in the perspective of death after terrorist attacks. The results of the analysis showed that those who were directly affected by terror attacks were less afraid of death than those who were not directly affected. There was no significant difference between being directly affected by terrorist attacks and God perception, psychological

well-being and religious coping styles. In general, the habit of praying after the terrorist attacks increased; however there was no change in worship habits in the majority (Ceylan, 2018).

TMT assumes that religious orientation of individuals provides psychological security and the hope of immortality thereby serves as an anxiety buffer. Religion serves as a function to help people to cope with death (Vail et al. 2010). After reminding death, Christian participants evaluate the Jewish person more negatively (Greenberg et al. 1990). Another study showed that religious fundamentalists are more disconnected from the natural world after mortality salience (Vess & Arndt, 2009). The results of many studies showed that mortality salience leads individuals to aggressive behaviors against those who threaten their cultural worldviews (Abdollahi, Henthorn, & Pyszczynski, 2010; Lieberman, Solomon, Greenberg, & McGregor, 1999; McGregor et al. 1998).

Health Behaviors

A research article by Bozo, Tunca, & Şimşek (2009) examined the effect of death anxiety on health promoting behaviors among 100 adults. The results showed that participants in experimental group have reported more health-promoting behaviors than participants in control group. Similarly, Cihan (2013) tested TMT in the framework of health behaviors among 170 young adult female undergraduates in a Master's dissertation. Cihan (2013) tested whether mortality salience and socio-cultural attitudes towards physical appearance have any effect on diet pill usage. The results showed that participants in the experimental

group indicated that they have evaluated their physical appearance in terms of body relevant social norms and shown positive attitudes towards diet pills. A Master's dissertation carried out with 176 undergraduates by Derviş (2015) tested the effect of mortality salience on organ donation and the results showed that the effect of mortality salience on attitudes regarding organ donation cannot be detected.

The previous study results conducted abroad have shown that after mortality salience, respondents report more health promoting behaviors (e.g., Arndt, Schimel, & Goldenberg, 2003; Routledge, Arndt, & Goldenberg, 2004).

Consumer Behaviors

A Master's dissertation by Uğurlar (2011) examined how the anxiety derived from human awareness of mortality affects consumer behavior and materialistic consumption and the results showed that after mortality salience, the purchase intention of the participants ($n= 143$ undergraduates) are increased. The findings of a Master's dissertation conducted on 224 undergraduates by Biliciler-Ünal (2015) investigated the effect of mortality salience on consumers, and the findings showed that mortality salience has an effect on how much consumers want to have cash, how much they will spend on materialistic things and on the ratio of the amount of money they will spend on someone else for total expenditure budgets. In a doctoral dissertation on undergraduates by İncirliiler (2014), TMT is adapted to the field of marketing. After mortality salience, the difference in attitudes between status and neutral brands and also intention to purchase are examined. The results showed

that mortality salience has a significant effect on the attitude towards status brands and intention to purchase.

TMT assumes that people are inclined to buy since they believe that buying behavior protects them from basic existential fears. Mortality salience often strengthens materialistic desires; after mortality salience, people tend to purchase goods that support their cultural worldviews (Arndt, Solomon, Kasser, & Sheldon, 2004). Similarly, another study showed that mortality related thoughts increase consumers' spendings (Fransen, Fennis, Pruyn, & Das, 2008). Likewise, participants exposed to death are more greedier and consume more resources (Kasser & Sheldon, 2000).

System Justification

Doğulu (2012) examined the reasonable link between System Justification Theory (SJT) and TMT in a Master's dissertation among 198 undergraduates in gender context and from the perspective of intergroup relations. It is expected that mortality salience plays a moderator role but this expectation is not met. In a doctoral dissertation among 308 adults, Doğulu (2017) examined, after having controlled the earthquake exposure, how mortality salience and system threat influence fatalism, system justification, and earthquake preparedness. The findings showed that whereas the main effect of system justification was not observed, the main effect of mortality salience was observed only for earthquake fatalism.

According to SJT, individuals want to have cognitive consistency to reduce anxiety and uncertainty and to believe in a just world (Jost, Fitzsimons, & Kay, 2004; Jost & Hunyady, 2005) and therefore, support the existing system. On the other hand, TMT states that to buffer anxiety caused by mortality salience, individuals believe that they are valuable members of their cultures and culture provides them order, predictability and permanence (Greenberg et al., 1986). Thus, it is possible to say that SJT and TMT support an existing system or an cultural worldview (Anson, Pyszczynski, Solomon, & Greenberg, 2009).

Sociopolitical Variables

In a Master's dissertation carried out with 54 undergraduates, Güler (2014) examined the effects of mortality salience on attitudes towards peace, political trust, terrorism risk perception and social dominance orientation. After mortality salience, participants indicate lower attitudes towards peace, higher group based dominance hierarchies, uncertainty (terrorism risk perception) and political trust.

Many previous studies have shown that mortality salience leads to strengthen or change political attitudes of individuals (Anson et al., 2009; Cohen, Solomon, Maxfield, Pyszczynski, & Greenberg, 2004; Landau et al., 2004).

Football Fans

Kuzlak's (2014) study examining stereotyping among football fans after mortality salience in a Master's dissertation ($n= 235$ undergraduates) showed that after mortality salience, stereotyping among football fans are partly increased. Similarly, Sözen (2014) examined whether the mortality salience makes a meaningful difference in terms of football fanaticism, team identification and psychological commitment to the team in a Master's dissertation conducted among 60 undergraduates. The results showed that mortality salience does not affect football fanaticism, team identification and psychological commitment to the team.

In a study conducted abroad, after mortality salience, participants expressed more optimism about the match results of their soccer team (Dechesne, Greenberg, Arndt, & Schimel, 2000).

Driving Behavior

Alper & Özkan (2015) tested whether both desirableness of control and traffic locus of control moderate the effect of mortality salience on speeding up in a research article carried out with 208 young male drivers. According to the results, after mortality salience, whereas individuals with low desirableness of control have decreased intention to follow speed limit, individuals with high desirableness of control have increased intention to follow the speed limit.

As is well known, TMT asserts that mortality salience manipulation leads people to enhance their self-esteem. Many previous studies have shown that mortality salience increases risky driving behavior for whom driving is related to their self-esteem (e.g., Ben-Ari, & Findler, 2003; Ben-Ari, Florian, & Mikulincer, 1999).

Administrative Fine

Çetiner (2014) tested whether gendarmerie staff would impose more administrative fines on those who violated laws after reminding their mortality in his Master's dissertation with 196 gendarmerie staff and students. The findings showed that after mortality salience, gendarmerie staff and gendarmerie school students have suggested that administrative fines should be increased.

Similarly, studies conducted abroad have shown parallel findings. Mortality salience leads to increased punitive reactions to moral transgressors (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989).

Ostracism / Psychological Exclusion

In her Master's dissertation, Yavuz (2007) examined the effects of mortality and uncertainty salience. The samples consist of two groups: young (undergraduates) and older individuals. As expected, for the young group, mortality and uncertainty salience have an effect on defensive reactions towards a worldview and the effect size of uncertainty salience is greater than mortality salience. Besides, neither mortality nor uncertainty salience of elderly individuals has an effect

on cultural worldviews. A research article conducted by Yavuz and Van den Bos (2009) among undergraduates examined the effect of uncertainty salience and mortality salience on reactions to violations of norms and values. The results showed that both mortality salience and uncertainty salience affect reactions to essays about the basic rights of Turkish women negatively. Yavuz-Güzel (2012) examined the effects of uncertainty, mortality and ostracism salience on negative mood and cultural worldview defense reactions; the effects of mortality and ostracism salience on the accessibility of thoughts related to uncertainty, and lastly, the effects of psychological ostracism on the accessibility of thoughts related to uncertainty on three different sample groups ($n_1=120$, $n_2= 80$ and $n_3= 80$ undergraduates) within the scope of a doctoral dissertation. As expected, uncertainty, mortality and ostracism salience strengthened people's worldview defense reactions.

According to TMT, the awareness of being mortal creates such a paralyzing terror that this must be eliminated by cultural worldviews and self-esteem (Greenberg et al., 1986). Uncertainty management model assumes that the confrontation of personal uncertainty causes anxiety that must be eliminated by cultural worldviews (Van den Bos & Lind, 2009). The model of ostracism asserts that exposure to ostracism leads to an increase of negative mood which can also be excluded by cultural worldviews (Williams, 2007). As it can be seen, anxiety in these three models is tried to be buffered by cultural worldviews.

Disability Salience

Atabey (2011) examined loss anxiety within the framework of disability and TMT in a doctoral dissertation with 217 undergraduates. The results showed that like mortality salience, disability salience can be used in testing the TMT as an alternative experimental manipulation technique. After mortality and disability salience, people with high conservatism levels have become more conservative.

In contrary to this finding, many studies tested whether only mortality salience leads to worldview defense mechanism, or other salience states (e.g., *failure, uncertainty, worries about the future, general anxieties, meaninglessness, giving a speech in front of a large audience, social exclusion, paralysis, and physical pain*) have also the same effect. These studies showed that mortality salience produces different effects from other salience states (Pyszczynski et al., 2015: 43).

Other Variables

Organizational Behavior: Türköz (2018) conducted a Master's dissertation among 381 employees of mortality salient and non-mortality salient organizations to investigate whether there is a difference in submission to the organizational authority after mortality salience. The results showed that after mortality salience, employees in the mortality salient organizations are more submissive than those in the non-mortality salient organizations. Bulut (2015) conducted a study on 44 employees from communication sector to assess the effect of mortality salience on perceived organizational support. After mortality

salience, in contrary to the expectations, perceived organizational support has not increased.

Freedom of Headscarf: Çamlı (2010) tested attitudes towards headscarf freedom in a Master's dissertation among 208 undergraduates. After mortality salience, students who support freedom of headscarves at universities, evaluate both religious and secular articles positively; but liberal articles negatively.

State and Private Universities: In a research article by Kökdemir & Yeniçeri (2010), the evaluations of private and state universities are examined among 60 undergraduates from private university and 43 from state university. The results showed that after mortality salience, private university students evaluate texts with state universities' superiority negatively and similarly, state university students evaluate texts with private universities' superiority negatively.

Nationality: Kökdemir & Yeniçeri (2010) conducted a research on 90 private university undergraduates to test the country preferences of the participants. The findings have shown that after mortality salience, undergraduates want their country to have more international relations with Turkmenistan; but less with England and Greece.

Spirituality: Çoban (2014) suggested that people may not necessarily respond defensively to death's inevitability; it was suggested that the level of spirituality might determine how people cope with the awareness of death and she conducted a Master's dissertation on 204 adults. The results showed that spirituality does not have an effect on the relation between mortality salience and worldview defense.

Creativity: Miçooğulları (2016) conducted a Master's dissertation to investigate whether mortality salience increases creativity or not. The findings ($n_1= 104$ and $n_2= 60$ undergraduates) showed that participants who were reminded of their mortality have shown lower creative performance.

Prosocial values: In a Master's dissertation on 250 undergraduates by Yücel (2015), the existential motives underlying forgiveness and punishment were examined in intergroup relations. In contrary to the expectations, mortality awareness did not result in more tolerance for an incorrect in-group member. Unlike the findings, after mortality salience, individuals have shown increased tolerance for an in-group member (e.g., Schimel, Wohl, & Williams, 2006).

Self-compassion: It has been investigated whether self-compassion has an effect on reactions to the fear of death in a Master's dissertation carried out with 324 undergraduates by Kısa (2015). It was predicted that people with high self-compassion would be less affected by the fear of death. The main effect of TMT could not be found; therefore, it was not possible to draw a conclusion about the effect of self-compassion.

Xenophobia / Ethnocentrism: It has been assumed in a Master's dissertation conducted by Kaya (2009) on 507 adults that in a country under the threat of terrorism (Turkey), on a collective and individual basis, xenophobia and ethnocentrism will increase. The results have shown that after mortality salience, there is no increase in xenophobia and ethnocentrism.

Review and Other Studies

Mert (2010) aimed to inform the researchers who work on security issues about the TMT and contributed to the development of the theory. The basic assumptions and arguments of TMT were explained and the criticism directed to the theory was examined. It was observed that courage can respond to the critics. Consequently, it was considered that courage as a complement contributed the development of theory.

Bulut (2015) and Doğulu & Sakallı-Uğurlu (2015) reviewed the studies tested TMT in Turkey between the years of 2001 and 2014. Basic assumptions, hypothesis and methods of the theory were explained, the main areas studied in the scope of the theory were presented. As a result of the analysis, it could be concluded that while some of the studies supported the TMT hypothesis, some partially supported, and the other did not support it.

Yeniçeri (2016) aimed to introduce the basic assumptions of TMT by presenting the main researches and evaluated the reflections of the theoretical approach in business life. For this purpose, the studies tested the basic assumptions of the theory on corporate or organizational identities, and studies investigating the effects of individuals' business behavior and organizational identity were presented.

Çuvaş (2017) focused on TMT to present new viewpoints for the research in the rareness of collective guilt. Mortality salience can serve a function as an inhibiting factor for experiencing collective guilt.

Kıraç (2018) conducted a theoretical study to evaluate forbidden tree symbol in the light of empirical research findings of TMT. It has been claimed that the reality symbolized by the forbidden tree is the desire for immortality, and all human beings attempt for immortality in the world.

Koç & Kafa (2019) reviewed the studies on self-esteem and attachment within the framework of TMT. Attachment has an important role on human mental well-being, and this importance can be seen in managing the terror. The awareness of mortality is related to both self-esteem and attachment.

The studies listed above are summarized in Table 1 and Figure 2.

Table 1. The Studies Conducted in Turkey in the Framework of Terror Management Theory (sorted by year).

Author(s)	Research Subject	Research Type	Participants
Aslıtürk (2001)	Self-esteem	Master's Dissertation	Undergraduates
Şimşek (2005)	Self-esteem, attachment	Doctoral Dissertation	Undergraduates
Yavuz (2007)	Uncertainty salience	Master's Dissertation	Undergraduates and old individuals
Aksüt-Çiçek (2008)	Religion / Aggression	Master's Dissertation	Undergraduates
Bozo, Tunca, & Şimşek (2009)	Health-promoting behaviors	Research Article	Young and old adults
Kaya (2009)	Xenophobia, ethnocentrism	Master's Dissertation	Adults
Yavuz & Van den Bos (2009)	Violations of cultural norms/values	Research Article	Undergraduates
Çamlı (2010)	Freedom of headscarf	Master's Dissertation	Undergraduates
Mert (2010)	Theoretical Study	Research Article	-
Kökdemir & Yeniçeri (2010)	Attitudes towards universities, nationality	Research Article	Undergraduates
Uğurlar (2011)	Consumer behavior	Master's Dissertation	Undergraduates
Koca-Atabey & Öner-Özkan (2011)	Religious orientation	Research Article	Undergraduates
Dalda (2011)	Attachment / Commitment	Master's Dissertation	Individuals in a close relationship
Atabey (2011)	Disability salience	Doctoral Dissertation	Undergraduates

Yavuz-Güzel (2012)	Ostracism salience	Doctoral Dissertation	Undergraduates
Doğulu (2012)	System justification	Master's Dissertation	Undergraduates
Cihan (2013)	Health-promoting behaviors	Master's Dissertation	Undergraduates
Çoban (2014)	Spirituality	Master's Dissertation	Adults
İncirliiler (2014)	Self-esteem /Consumer behavior	Doctoral Dissertation	Undergraduates
Güler (2014)	Sociopolitical variables	Master's Dissertation	Undergraduates
Kuzlak (2014)	Football fanaticism	Master's Dissertation	Undergraduates
Sözen (2014)	Football fanaticism	Master's Dissertation	Football fans
Çetiner (2014)	Administrative fines	Master's Dissertation	Gendarmerie staff and students
Biliciler-Ünal (2015)	Consumer behavior	Master's Dissertation	Undergraduates
Alper & Özkan (2015)	Driving behavior	Research Article	Young male drivers
Derviş (2015)	Organ donation	Master's Dissertation	Undergraduates
Bulut (2015)	Perceived organizational support	Research Article	Employees
Yücel (2015)	Forgiveness and punishment	Master's Dissertation	Undergraduates
Bulut (2015)	Review	Research Article	-
Doğulu & Sakallı-Uğurlu (2015)	Review	Research Article	-
Kısa (2015)	Self-compassion	Master's Dissertation	Undergraduates
Miçoğulları (2016)	Creativity / Brainstorming	Master's Dissertation	Undergraduates

Yeniçeri (2016)	Review	Research Article	-
Doğulu (2017)	System justification	Doctoral Dissertation	Adults
Çuvaş (2017)	Review	Research Article	-
Türköz (2018)	Submission	Master's Dissertation	Employees
Ceylan (2018)	Religion, psychological well-being	Research Article	Adults
Kıraç (2018)	Theoretical Study	Research Article	-
Koç & Kafa (2019)	Review	Research Article	-

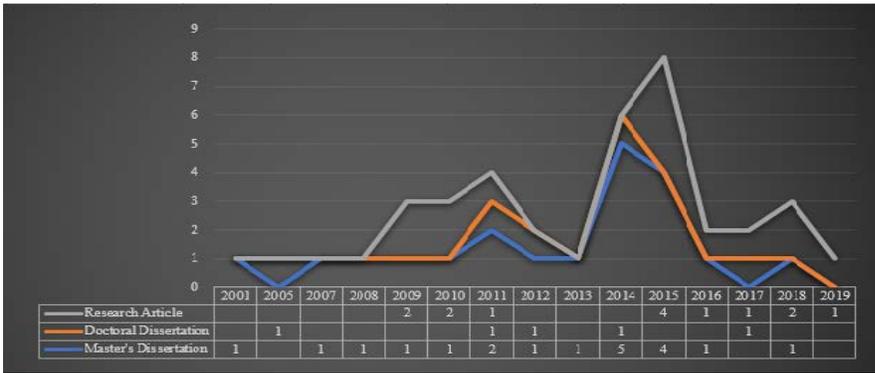


Figure 2. Schematic representation of studies

Conclusion

TMT is a social psychological theory that explains human behavior by referring to death which is usually an avoided topic by psychologists and researchers from other academic fields. This theory is originated from USA and spread to other countries in the world. Although the theory was developed in 1986, the first study testing the theory in Turkey was conducted in 2001. In total of 39 studies (20 of them are Master's dissertations, 5 doctoral dissertations and 14 research articles) can be reached in Turkey between the years of 2001 and 2019. From these 39 studies, 5 are review studies. Most of the participants ($n=21$) are undergraduates. As mentioned above, while some of the studies supported the TMT hypothesis, some partially supported and the other did not support it.

Since some studies did not support the TMT hypothesis, the cultural orientation of Turkish people can be seen as one of the reasons. As is well known, Turkey has a collectivistic culture which emphasizes group desires above individual desires. TMT is developed and mostly tested

in individualistic cultures (e.g., USA, Canada and Western Europe). According to Hofstede's (1980) research, Turkey has a higher score in collectivism. The individuals in collectivist cultures evaluate themselves as connected to others howbeit, the individualistic culture members see themselves as separate and autonomous (Markus & Kitayama, 1991; Matsumoto & Juang 2004; Oyserman, Coon, & Kimmelmeier, 2002). In addition to the collectivism/individualism dimension, Turkey has higher score in uncertainty avoidance and power distance. People with high in uncertainty avoidance have higher levels of stress under uncertain conditions; have a great need in rules and laws; see uncertainty as a threat; avoid errors and need consensus. Power distance means to what extent individuals accept the distinction among individuals with different power levels. Individuals with high scores in this dimension accept inequalities, also they have a need for hierarchy, and in these cultures powerful individuals have privileges (Hofstede, 1980). These clear differences among the cultural dimensions may lead to different results among Western and Eastern countries.

Another point is religious orientation. Islam is the dominant religion in Turkey and most of the Turkish citizens are Muslims (DIB, 2014). In regard to Islam, life is divided into two circuits: the first circuit is a kind of education and examination, the second is the process of eternity to be shaped by the results obtained in the first circuit. Death is a tool that connects these two periods of life and eternalizes human beings (<https://islamansiklopedisi.org.tr/olum>). Since Muslims have a belief in faith, people believe that there will be another life after death and in that life they will be questioned about their behaviors. Unlike Eastern

religions, life in most Western religions is seen as a ‘one-time’ phenomenon. In addition, death is thought to be the end of existence (Maheswaran & Agrawal 2003). This fundamental difference between Eastern and Western religious philosophies may counter the assumption that the fundamental basis of TMT would lead to terror.

Other important issue is about experimental manipulation. It is possible that this manipulation did not have any effect. The most probable situation for the effect of mortality salience is when individuals are least aware of these effects. People rarely think about death and when they think about it, it has little or no effect on them (Greenberg, Pyszczynski, Solomon, Simon & Breus 1994). In previous studies, different methods (e.g., open ended questions about death, death scales, proximity to funeral home, bloody accident images) are used for manipulation (Greenberg, Solomon & Pyszczynski 1997). In Turkey, mortality salience is activated usually by open ended questions about death. The milder mortality salience inductions may produce stronger effects than intensive mortality salience inductions (Pyszczynski et al., 2015). In addition to this, Atabey (2011) asserts that to succeed in experimental manipulation, the following three conditions should be satisfied: (a) moderate or moderate-high levels of fear, (b) highly imaginable/easily available and (c) high in self-relevance. If manipulation technique does not include these, then it will not lead to increase in worldview defense reactions.

Additively, as a manipulation technique not only mortality salience but also disability salience (Atabey, 2011), uncertainty and ostracism

saliency (Yavuz-Güzel, 2012) can be used in further studies. In addition to these, it is also possible to state that manipulations do not have any significant effect because of the order of the filled scales. Participants might respond to the questionnaires in different order; however, in order to ensure that death manipulation is effective, surveys must be answered in a certain order. This may disable manipulation. Online surveys can be applied to get rid of the row effect because it is not possible to move to another section before a part is completed. We can say that enabling participants to choose the time when they want to fill out the application is the advantage of online application, because generally, researchers determine the time and the place. Likewise, in order to have control over the participants, in further studies, the scales can be filled in a laboratory setting.

Another point is about the participants most of whom are undergraduates. Studies on different groups of participants can be repeated or original studies can be performed with different variables. Besides, the number of participants in these studies is relatively fewer. A greater number of people can be reached for the generalizability of the findings. Also, considering the differences between males and females, it is recommended that the number of males and females should be kept close to each other.

Although various age groups are included in TMT studies, very few researches have examined the theory among older adults. As younger adults show harsher evaluations after mortality saliency than older adults (Maxfield et al., 2007), it is obvious that in different life cycles,

the responses can change. Consequently, to get deeper information, more studies can be conducted on older adults and to investigate the changes in responses of participants in different life cycles, longitudinal studies can be performed.

In order to detect better the differences between the control and experimental groups, it is recommended to perform a pre-test for these groups. In addition, not only control and experimental group but also a neutral group can be added, as is done in many studies.

In conclusion, it is clear that the interest in TMT in Turkey has been increasing recently. However, the research articles are still few in number. Most of the studies conducted in Turkey are dissertations. As suggested by Bulut (2015), to make more accurate interpretations and inferences, more studies should be conducted to test the assumptions of TMT. It is recommended to use different manipulation techniques for mortality salience, and also this theory can be applied to different variables in the field of social psychology.

REFERENCES

- Abdollahi, A., Henthorn, C., & Pyszczynski, T. (2010). Experimental peace psychology: Priming consensus mitigates aggression against outgroups under mortality salience. *Behavioral Sciences of Terrorism and Political Aggression*, 2, 30-37.
- Aksüt-Çiçek S. (2008). *Dindarlık ile saldırganlık arasındaki etkileşimin Terör Yönetimi Kuramı çerçevesinde incelenmesi*, Yüksek Lisans Tezi. Mersin Üniversitesi, Sosyal Bilimler Enstitüsü, Mersin.
- Alper, S. & Özkan, T. (2015). Do internals speed less and externals speed more to cope with death anxiety? *Transportation Research Part F*, 32, 68-77. doi:10.1016/j.trf.2015.05.002
- Anson, J. M., Pyszczynski, T., Solomon, S., & Greenberg, J. (2009). Political ideology in the 21st century: A terror management perspective on maintenance and change of the status quo. In J. T. Jost, A. C. Kay, & H. Thorisdottir (Eds.), *Social and psychological bases of ideology and system justification* (pp. 210–420). New York: Oxford University Press. [Political Psychology series]
- Arndt, J., Schimel, J., & Goldenberg, J. L. (2003). Death can be good for your health: Fitness intentions as a proximal and distal defense against mortality salience. *Journal of Applied Social Psychology*, 33, 1726–1746.
- Arndt, J., Solomon, S., Kasser, T., & Sheldon, K. M. (2004). The urge to splurge: A terror management account of materialism and

- consumer behavior. *Journal of Consumer Psychology*, 14 (3), 198–212.
- Aslıtürk E. (2001). *A test of Terror Management Theory in a collectivistic culture: Buffering role of collective self-esteem*. Unpublished Master Dissertation. METU Graduate School of Social Sciences, Ankara.
- Becker, E. (2013). *Ölümü İnkâr*. İstanbul: İz Yayıncılık.
- Ben-Ari, O. T., & Findler, L. (2003). Reckless driving and gender: An examination of a terror management theory. *Death Studies*, 27(7), 603-618.
- Ben-Ari, O. T., Florian, V., & Mikulincer, M. (1999). The impact of mortality salience on reckless driving: a test of terror management mechanisms. *Journal of Personality and Social Psychology*, 76(1), 35-45.
- Biliciler-Ünal, G. (2015). *Effects of mortality salience on Turkish people's decisions to how much, for whom and what to consume*. Metu, Master's Dissertation, Ankara.
- Bozo O., Tunca A. & Simsek Y. (2009). The effect of death anxiety and age on health-promoting behaviors: A terror-management theory perspective. *The Journal of Psychology*, 143(4), 377-389.
- Cihan B. (2013). *The effects of mortality salience and body-related social norms on attitudes towards diet pill*. Master Dissertation. METU Graduate School of Social Sciences, Ankara.
- Cohen, C., Solomon, S., Maxfield, M., Pyszczynski, T., & Greenberg, J. (2004). Fatal attraction: The effects of mortality salience on

- evaluations of charismatic, task-oriented, and relationship-oriented leaders. *Psychological Science*, 15(12), 846-851.
- Çamlı S. (2010). *Attitudes towards allowance of headscarf in the universities: A Terror Management perspective*. Master Dissertation. METU Graduate School of Social Sciences, Ankara.
- Çetiner, A. (2014). *Ölüm farkındalığının kabahatler kanununun uygulanmasında jandarma personelinin belirlediği idari para cezası kararlarına etkisinin dehşet yönetimi kuramı açısından değerlendirilmesi*. Master Dissertation. Kara Harp Okulu.
- Çoban, E. (2014). *The Role Of Spirituality In Mortality Salience Effects*. Yüksek Lisans Tezi, İstanbul Bilgi Üniversitesi, İstanbul.
- Çuvaş, B. (2017). Kolektif suçluluğun öncüllerine tarihsel bir bakış: Dehşet yönetimi kuramı kolektif suçluluğun az rastlanır olmasına bir açıklama getirebilir mi? *Alternatif Politika*, 9(2), 164-191.
- Dechesne, M., Greenberg, J., Arndt, J., & Schimel, J. (2000). Terror management and the vicissitudes of sports fan affiliation: The effects of mortality salience on optimism and fan identification. *European Journal of Social Psychology*, 30(6), 813-835. Doi: 10.1002/1099-0992.
- Derviş, S. (2015). *Promoting Organ Donation Through Mortality Salience For Different Levels and Orientations of Religiosity*. Master's Dissertation, METU, Ankara.
- DİB (Diyanet İşleri Başkanlığı) (2014). *Türkiye’de Dini Hayat Araştırması*.

- Doğulu, C. (2017). A Terror Management Perspective To System Justification In Disaster Context: The Case Of Earthquakes In Turkey. Metu, Doctoral Dissertation, Ankara.
- Doğulu, C., & Sakallı-Uğurlu, N. (2015). Dehşet yönetimi kuramı üzerine bir derleme. *Türk Psikoloji Yazıları*, 18(35), 33-47.
- Fransen, M. L., Fennis, B. M., Pruyn, A.T. H., & Das, E. (2008). Rest in peace? Brand induced mortality salience and consumer behavior. *Journal of Business Research*, 61, 1053-1061.
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In R. F. Baumeister (Ed.), *Public self and private self* (pp. 189–212). New York: Springer.
- Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S., et al. (1990). Evidence for terror management II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology*, 58, 308-318.
- Greenberg, J., Simon, L., Pyszczynski, T., Solomon, S., & Chatel, D. (1992). Terror management and tolerance: Does mortality salience always intensify negative reactions to others who threaten one's worldview? *Journal of Personality and Social Psychology*, 63, 2112-220.
- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror Management Theory and self-esteem: Evidence that increased self-esteem reduces mortality

- salience effects. *Journal of Personality and Social Psychology*, 72, 24-36.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills CA: Sage Publications.
- İncirliler, H. (2014). Ölümlülüğe dikkat çekilmesinin tüketicilerin marka tutumları ve satın alma niyetleri üzerindeki etkisi: Özdeğer yaklaşımı ışığında bir inceleme. Marmara Üniversitesi, Doktora Tezi, İstanbul.
- Jost, J. T., Fitzsimons, G. & Kay, A. C. (2004b). The ideological animal. In J. Greenberg, S. L. Koole, & T. Pyszczynski (Eds.), *Handbook of Experimental Existential Psychology* (pp. 263-283). New York: The Guilford Press.
- Jost, J. T. & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Sciences*, 14, 260-265.
- Kasser, T. & Sheldon, K. M. (2000). Of wealth and death: Materialism, mortality salience, and consumption behavior. *Psychological Science*, 11, 348-51.
- Kaya, S. (2009). *Terör ve terörist algısı: Terör davranışının, davranışı gerçekleştirdiği öne sürülen etnik ve dini gruplara göre tanımlanması*. Kara Harp Okulu, Yüksek Lisans Tezi, Ankara.
- Kısa, G. (2015). *Self-Compassion And Terror Management: The Role Of Self-Compassion In Reducing Reactions To Mortality Salience*. Master's Dissertation. Metu, Ankara.
- Koca-Atabey M. & Öner-Özkan B. (2011). *Defensive or Existential Religious Orientations and Mortality Salience Hypodissertation*:

- Using Conservatism as a Dependent Measure. *Death Studies*, 35(9), 852-865.
- Koç, V., & Kafa, G. (2019). Dehşet yönetimi kuramı çerçevesinde benlik saygısı ve bağlanmanın rolü. *Psikiyatride Güncel Yaklaşımlar*, 11(1), 129-139.
- Kokdemir D. & Yeniceri Z. (2010). Terror Management in a Predominantly Muslim Country. *European Psychologist*, 15(3), 165-174.
- Landau, M. J., Solomon, S., Greenberg, J., Cohen, F., Pyszczynski, T., Arndt, J., Miller, C. H., Ogilvie, D. M., & Cook, A. (2004). Deliver us from evil: The effects of mortality salience and reminders of 9/11 on support for President George W. Bush. *Personality and Social Psychology Bulletin*, 30, 1136-1150
- Lieberman, J. D., Solomon, S., Greenberg, J., & McGregor, H. A. (1999). A hot new way to measure aggression: Hot sauce allocation. *Aggressive Behavior*, 25, 331-348.
- Maheswaran, D. & Agrawal, N. (2003). Motivational and Cultural Variations in Mortality Salience Effects: Contemplations on Terror Management Theory and Consumer Behavior. *Journal of Consumer Psychology* 14(3), 213-218.
- Markus, H. R., & Kitayama, S. (1991). Culture and the Self: Implications for Cognition, Emotion, and Motivation. *Psychological Review*, 98, 224-253.
- Matsumoto, D., & Juang, L. (2004). *Culture and Psychology*. Belmont: Wadsworth.

- Maxfield, M., Pyszczynski, T., Kluck, B., Cox, C. R., Greenberg, J., Solomon, S., & Weise, D. (2007). Age-related differences in responses to thoughts of one's own death: Mortality salience and judgments of moral transgressions. *Psychology and Aging, 22* (2), 341-353.
- McGregor, H. A., Lieberman, J. D., Greenberg, J., Solomon, S., Arndt, J., Simon, L., & Pyszczynski, T. (1998). Terror management and aggression: evidence that mortality salience motivates aggression against worldview-threatening others. *Journal of Personality and Social Psychology, 74*, 590–605.
- Miçooğulları, E. (2016). *Ölüm belirginliği ve görev koşulunun beyin fırtınasında yaratıcılığa etkisi*. Abant İzzet Baysal Üniversitesi, Yüksek Lisans Tezi, Bolu.
- Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review, 7*, 20–40.
- Pyszczynski, T., Solomon, S., & Greenberg, J. (2015). Thirty years of Terror Management Theory: From genesis to revelation. *Advances in Experimental Social Psychology, 52*, 2-349. doi:10.1016/bs.aesp.2015.03.001
- Pyszczynski, T., Sullivan, D., & Greenberg, J. (2015). Experimental existential psychology: Living in the shadow of the facts of life. In M. Mikulincer, P. R. Shaver, E. Borgida, & J. A. Bargh (Eds.), *APA handbooks in psychology. APA handbook of personality and social psychology, Vol. 1. Attitudes and social cognition* (pp. 279-

- 308). Washington, DC, US: American Psychological Association.
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory I: The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology*, *57*(4), 681-690.
- Routledge, C., Arndt, J., & Goldenberg, J. L. (2004). A time to tan: Proximal and distal effects of mortality salience on sun exposure intentions. *Personality and Social Psychology Bulletin*, *30*, 1347–1358.
- Schimmel, J., Wohl, M. J. A., & Williams, T. (2006). Terror management and trait empathy: Evidence that mortality salience promotes reactions of forgiveness among people with high (vs. low) trait empathy. *Motivation & Emotion*, *30*, 217–227. doi: 10.1007/s11031-006-9040-y
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). A terror management theory of social behavior: The psychological functions of self-esteem and cultural worldviews. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 91-159). San Diego, CA: Academic Press.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (2015). *The worm at the core: The role of death in life*. New York: Random House.
- Şimşek, O. F. (2005). *Paths from fear of death to subjective well-being: A study of structural equation modeling based on the Terror*

- Management Theory perspective*. Unpublished Master Dissertation, METU Graduate School of Social Sciences, Ankara.
- Templer, D. I. (1970). The construction and validation of death anxiety scale. *The Journal of General Psychology*, 82, 165-174.
- Thorson, J. A., & Powell, F. C. (1992). A revised death anxiety scale. *Death Studies*, 16, 507-521.
- Topalođlu, B. (2019, 5, 12). Ölüm. Retrieved from <https://islamansiklopedisi.org.tr/olum>
- Türköz, G. (2018). Submissive Behavior in Mortality-Salient Organizations. Adana Bilim ve Teknoloji Üniversitesi, Yüksek Lisans Tezi, Adana.
- Uğurlar N. P. (2011). *Tüketici davranışlarının Terrör Yönetimi Teorisi çerçevesinde incelenmesi*. Yüksek Lisans Tezi. Ege Üniversitesi Sosyal Bilimler Enstitüsü. İzmir 2011.
- Vail, K. E., Rothschild, Z. K., Weise, D. R., Solomon, S., Pyszczynski, T., & Grenberg, J. (2010). A terror management analysis of the psychological functions of religion. *Personality and Social Psychology Review*, 14(1), 84-94.
- Van den Bos, K., & Lind, E. A. (2009). The social psychology of fairness and the regulation of personal uncertainty. In R. M. Arkin, K. C. Oleson, ve P. J. Carroll, *Handbook of the uncertain self*. New York: Psychology Press.
- Vess, M., & Arndt, J. (2009). *One with nature: The impact of mortality salience and religious fundamentalism on feeling connected to the natural world*. Unpublished manuscript. University of Missouri-Columbia.

- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58, 425-452.
- Yavuz, H. (2007). Gençlerde ve yaşlılarda, ölümlülüğün ve belirsizliğin dikkat çekici olmasının kültürel dünya görüşünü savunucu tepkiler üzerindeki etkileri. Yüksek Lisans Tezi, Hacettepe Üniversitesi, Ankara.
- Yavuz, H. & Van den Bos, K. (2009). Effects of uncertainty and mortality salience on worldview defense reaction in Turkey. *Social Justice Research*, 22(4), 384-398.
- Yavuz-Güzel, H. (2012). *Psikolojik Dışlanma Kişisel Belirsizlik Hissine Yol Açar mı? Psikolojik Dışlanmanın, Kişisel Belirsizliğin ve Ölümlülüğün Dikkat Çekici Olmasının Etkileri*. Doktora Tezi, Hacettepe Üniversitesi, Ankara.
- Yeniçeri, Z. (2016). Dehşet yönetimi kuramı ve iş yaşamı. *İş ve İnsan Dergisi*, 3(1), 43-52.
- Yücel, E. (2015). *Terror management and pro-social values: Does mortality salience facilitate forgiving only in-group transgressors?* Yüksek Lisans Tezi, Yıldırım Beyazıt Üniversitesi, Ankara.

CHAPTER 9

**THE EFFECT OF DEMOGRAPHIC CHANGE ON SOCIAL
SECURITY SYSTEM MANAGEMENT AND THE COUNTRY
PRACTICES**

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INTRODUCTION

Demographic change is a concept varying from country to country and defined as the transition to a new situation where birth and death rates are decreasing. Demographic change, which has a significant effect on the structure and size of the population for each country, directly affects many areas such as employment, economic growth and social security.

In the first part of the study, demography concept and demographic transition theory were included and the demographic change and aging in the world and in Turkey have been investigated. Under the demographic change, the population structure, population projections, fertility and dependency rates were investigated.

In the second part, the effect of demographic change on social security system in the world and in Turkey was included. In addition, the reforms conducted in some countries and Turkey to eliminate the negative effects created by this change in the social security system were described in this section.

The projection studies conducted by considering that the fertility and death rates are decreasing rapidly especially in Turkey have revealed that the population would increase until 2050 and the population increase would stop after 2050. In addition, it is estimated in the same projection that the population in the working age between 15 and 64 years would decrease after 2038. In this sense, the study has the enriching originality to the literature and the humanity in the name of

examining the risk situation that the whole world and Turkey are facing.

1. THE CONCEPT OF DEMOGRAPHY

According to the United Nations, demography is defined as a discipline examining the human population and investigating the dimensions, structure and various qualities of this population from a numerical perspective.

Demography, which comes from the Greek words demos (people) and graphein (writings), is defined as a discipline investigating the structure, characteristics and changes of the population staying in a geographical area with certain borders (Danış, 2012).

The concept of demography was first used in 1855 by Achille Guillard in his work published in France in the name of “Elements of Humane Statistics or Comparative Demography” and the first demographic analysis was first used in the book “Natural and Political Observations on the Death Records” by British Economist John Graunt in 1662. In the mentioned work, mortality rate tables were used (Lucas, 2002).

Demography is divided into two as static and dynamic. In the static demography, the characteristics of the people living in a certain region such as the number, gender, age, birth place are examined. In the dynamic demography, the events changing the population number such as birth, death, marriage, divorce and migration are included (Lucas, 2002).

2. TRANSITION THEORY

There are many theories in the mentioned theory. Population theories of Malthus and Optimum are two important ones of them. According to Malthus's theory, the population is doubled every 25 years and in this case the food production remains inadequate in response to the population growth (Yanardağ and Özgen, 2014).

In Optimum's theory, per capita income can be maximized by keeping the population growth under control (Güneş, 2009). In the last century, the death rates as well as the fertility rates decreased and there have been serious changes in socio-economic structures of the societies (Yüceşahin, 2009). The demographers have developed the transition theory model in order to investigate the changes of the nations for the population (Oktay, 2014). The transition theory does not provide information on when the change period will start or how many years it will take but guarantees that each society will experience this process.

The first name who generalized this mentioned subject as demographic transition is Laundry. The author investigated the transition period in 3 stages namely, primitive, middle and contemporary. In recent years, Nostein also described the transition in 3 stages. However, the author defined the stage titles a little differently. According to Notestein, the birth and mortality rates are high in the first stage and the population follows an unchanged course. In the second stage, the mortality rates decrease and the population is increasing accordingly. In the third and last stages, the birth rates also

decrease, which creates a slowly changing population size or shows an unchanging situation (Grant et al., 2004).

Certain two components of the demographic transition process balance the population growth. These are:

- ***Decreased mortality rate;*** the fall in the death rate which was first seen in Europe towards the end of the 19th century accelerated rapidly after World War II. Especially in the middle of the 20th century, the antibiotics started to be used against lethal infections rapidly decreased the number of those diseases and death cases caused by these diseases (Paters and Larkin, 2005; Yüksel, 2007). Concomitant healthy conscious nutrition, vaccination practices, and quality life awareness prolonged the survival period. 20. The crude mortality rate which was almost 35 per thousand in the early 20th century began to fall to 12 per thousand in recent times.
- ***Fertility;*** Introduction to the fertility transition which is also seen in Europe until the early 1930s is in the leading position to the whole world. At the end of 20th century, almost all of the world experienced the fertility transition period (Caldwell, 2001; Yüksel, 2007).
- Demographic transition is the name given transition period from the situation with high fertility and mortality rates to a new situation in which the births are consciously under control and the mortality rates fall (Yüksel, 2007).

There are many factors that influence the demographic transition process. Some of them are that people get conscious with the technological development, families think having maximum two children with the change of the family structure, poverty increases, women are stronger than they used to be and the gender mainstreaming is encouraged in the whole world, the health system has improved day by day, child deaths have decreased and fighting with many diseases such as AIDS is performed so that better results can be obtained (Yüceşahin,2009). The United Nations also point out the effect of the income level and health costs among the effective factors along with these reasons.

3. FACTORS CAUSING DEMOGRAPHIC CHANGE AND AGING IN TURKEY AND THE WORLD

When the demographic transition period in Turkey is examined, it is seen that the rate was below 20 per thousand by the end of 1940s (Ergöçmen, 1995). Doğanay (1997) has associated this result with the increase in crude mortality rates and the decreased birth rate due to the war. This period is described as the first period for Turkey. The mortality rates decreased and the fertility increased in the period after the Second World War, the second period. In this period, the most obvious trigger of the change was the rapid increase of fertility (Yüksel, 2007). By the 1960s, the population growth rate had risen to 28.4 per thousand but after this period, the mortality rates and the birth rates became in balance and the population growth rate could not reach the same level ever again (Yüceşahin, 2009).

When the literature is reviewed, we encounter many factors causing demographic change. However, most of the authors have three common points.

- Fertility Rate
- Life expectancy
- Dependency Rate

3.1. Fertility Rate

Today, the share of young population in total population is decreasing. One of the main reasons is the declining of fertility rate which is valid in all over the world. The fertility rate refers to the parity per each woman whose fertility time has come which is valid for the whole world (DPT, 2007). Today, the rate in the underdeveloped countries is higher than the rate of developed countries, even than the rate for the whole world. It is also estimated that the rate of the underdeveloped countries would be higher than the rate of the entire world in the future. The fertility rate which is effective in aging of the population shows a significant decline by years in Turkey as in the other countries. The projection results for Turkey have shown that the fertility rate which was 2.06 children per woman in 2013 would decrease to 1.98 in 2025 and to 1.77 in 2050.

3.2. Increased Life Expectancy

Life expectancy is defined as the average expected year for a newborn individual to live by being exposed to a mortality rate specific to the age in a certain time during his/her lifetime. The life expectancy

shows very differences between countries and has increased rapidly with the developing world (Yardımcıoğlu, 2012). The life expectancy is used by the United Nations as a development indicator for countries.

Table 1 shows the life expectancy at birth for Turkey. As seen in the table, the life expectancy of a 30 year-old person is 49.6 years in average in Turkey. This time is 47.1 years for men and 52.1 years for women. The expected life expectancy difference between men and women for this age is 5 years.

Table 1. Life Expectancy In terms of Gender and Age

<i>Age</i>	Total	Male	Female
<i>0</i>	78.0	75.3	80.7
<i>15</i>	64.2	61.5	66.8
<i>30</i>	49.6	47.1	52.1
<i>50</i>	30.5	28.2	32.7
<i>65</i>	17.8	16.1	19.3

Source: TSI, <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=24640> Date of access: 03/06/2018).

3.3. Increase in Dependency Rate

Dependency rate is defined as the ratio of economically non-working population to the working population. In addition, it is investigated under three sub-titles in the literature namely, general, young and elderly dependency ratios. In other words, it is the number of people in the age group of 0-14 years and 65 years and over for every 100

persons in the age group of 15-64 years (Turkish Statistical Institute, 2014)

Table 2. Worldwide Dependency Rates

	Year	General	Young	Elder
<i>World</i>	2005	44	54	12
	2010	42	53	13
	2050	34	59	22
<i>Developed</i>	2005	26	49	25
	2010	25	47	25
	2050	29	73	45
<i>Underdeveloped</i>	2005	49	55	8
	2010	45	52	8
	2050	36	56	21

Source: United Nations 2013

The general dependency rate can be defined as the ratio of total of the population aged under 15 years and over 54 years to the population in the age range of 15-64 years which is described as the working age. The elderly dependency ratio is defined as the ratio of the population aged over 64 years to the population aged between 15-64 years (Turkish Statistical Institute, 2014).

As in the world, the elderly dependency ratios in Turkey are increasing. In Table 3 below, the dependency ratios as of the years are shown.

Table 3. Dependency Ratios in Turkey

<i>Year</i>	General	Elderly	Young
<i>1940</i>	84.1	6.5	77.6
<i>1950</i>	71.3	5.7	65.7
<i>1960</i>	81.1	6.4	74.7
<i>1970</i>	85.9	8.2	77.7
<i>1980</i>	78.1	8.5	69.7
<i>1990</i>	64.7	7.1	57.6
<i>2000</i>	55.1	8.8	46.3
<i>2010</i>	48.9	10.8	38.1
<i>2023</i>	45.8	14.9	30.9
<i>2050</i>	57.6	32.9	24.8

Source: TSI, General Population Censuses, 1935-2000; TSI, Address-Based Population Registration System, 2007-2014

The increase in the elderly dependency ratio by years will increase both health costs and retirement expenditures. Therefore, the Turkish social security system will face serious problems in the future years.

4. DEMOGRAPHIC AGING IN TURKEY AND THE WORLD

In the world which is in the middle of the demographic change process, the mentioned change started with the decreased death rates in Europe in the 1800s and transformed into a global demographic change process by spreading rapidly (Lee, 2003).

Demographic change has profound effects on the size and structure of the population and the most important effect of the mentioned demographic change appears as the increase of the rate of the

population aged 65 years and over in the total population. The mentioned increase means the aging of the population and affects many parameters in economic and social areas such as the economic growth, social security, employment, and living standard (Yüceşahin 2008).

The society is divided into three main groups in terms of age in demographic studies. The mentioned groups are formed as in the age range of 0-14 years, 15-64 years, and 65 years and over. Here, the age group of 0-14 years constitutes the childhood period, the age group of 15-64 years constitutes the population in the working age and the age group of 65 years and over constitutes the elderly population. Although the age group of 65 years and over is generally accepted as the elderly population, the age group of 60 years and over is defined as the elderly population according to the United Nations. However, the age 65 is considered as the reference for aging in many countries.

Although there is no definite indication when the demographic change started due to the lack of sufficient data for the period before the Republic in Turkey, according to the study conducted by the State Institute of Statistics (SIS), Turkey experienced the first stage between 1923 and 1955 (bu sarı kısım la aşağıdaki sarı kısım aynı, cümle tekrarı var). The second stage of the demographic transition occurred between 1955 and 1985 in Turkey. Both mortality rate and fertility rate tended to decrease during this period. However, as the mortality rate decreased further, the population continued to increase and the population during this period reached from 24 million to 51 million

(Yüksel, 2007). (bu yeşil kısım ile aşağıdaki yeşil kısım aynı, cümle tekrarı var).

The second stage of the demographic transition occurred between 1955 and 1985 in Turkey. Both mortality rate and fertility rate tended to decrease during this period. However, as the mortality rate decreased further, the population continued to increase and the population during this period reached from 24 million to 51 million (Yüksel, 2007).

It was also shown in the study by SIS that Turkey started to the third stage of the demographic transition phases in 1985 (SIS, 1995). In this period, the fertility and mortality rates continued to decrease. In addition, a significant decrease started to be seen in the population growth rate (Ergöçmen, 1995). Turkey still experiences the third stage today.

Demographers stated in their studies that as a result of two events the third stage will close and the fourth stage will start in Turkey. The first one is that the net regeneration rate is 1, that is, the fertility rate falls to the level of taking only parental replacement. The second one is that there is almost none or no population growth rate (Tansel and Hoşgör, 2010). In the population projection conducted by the Turkish Statistical Institute (TSI), it has been predicted that the population will increase until 2050 but there will be no population increase after 2050. By considering the mentioned projection, it can be asserted that the third stage in the demographic transition in Turkey would be

completed by 2050 and the fourth stage would start after that year (TSI, 2014).

5. THE EFFECT OF DEMOGRAPHIC CHANGE ON SOCIAL SECURITY SYSTEMS IN TURKEY AND THE WORLD

The decrease in active population reduces the premium incomes in the social security system and therefore the total incomes. In parallel, the increase of the passive population along with the demographic change also increases the expenses of the social security system. The aging of the population jeopardizes the sustainability of the system as it increases both the retirement and health expenditures.

Besides, the effect of demographic change on social security systems is not the same for every social security system and it changes depending on the scope of the system, institutional structuring, funding sources, financing methods, and reimbursement methods (Alper et al., 2012).

Since each person provides his/her own social security in the social security systems having funding method that operates with the logic of individual accounts and the defined contribution model, length of the people's working and retirement periods affects the system at certain extents.

However, the social security systems adopting the defined benefit model and the distribution method predicting to make payment to those receiving retirement salary for the current period with the premium incomes collected from those who are working at that period

are considerably affected by demographic change. The increase in the average life expectations especially with the technological developments and the new discoveries in the health field leads the retirement period to last longer. This means that active population decreasing with the demographic change will again fund the increasing passive population for many years with the mentioned change (Acar and Kitapçı, 2008).

Nowadays, many countries, especially the countries of the European Union are struggling with the problems that arise in social security systems. The main reason for these problems is shown as the aging of the population depending on the demographic change (European Actuarial Consultative, 2012). The fact that the aging phenomenon increases the retirement expenditures and health costs necessitates countries to reform their own systems in order to establish a sustainable social security system in the long term.

The reforms conducted in the social security systems are divided into two as parametric reform and structural reform. Within the scope of parametric reform, changes are made on the parameters such as retirement age, allowance rate, at which order the salaries will be increased without changing the main structure of the social security system. In the mentioned reform method, distribution method and defined benefit model, no changes are included.

In the scope of the structural reform, the main structure of the social security system is changed and either it is transformed into multi-column structure or it is transformed from the distribution method and

defined benefit model to funding method and defined benefit model or virtual accounts system.

Turkey which has a young population structure compared to many countries cannot transfer could not transfer this demographic advantage to the social security system and has also faced with a serious financial crisis starting from 1990s. Early retirement practices, low active and passive rate, high levels of informal employment, premium remission, and service loans are among the reasons of the mentioned crisis (Acar and Kitapçı, 2008). Table 5 summarizes some of the reasons of the financial crisis living in social security system.

Table 4. Reasons for the financial crisis in the social security system

Early retirement	Age which is one of the conditions for the insurer to earn the right for the retirement salary such as insurance duration and the number of days of premium payment varies from country to country. Due to political concerns and many reasons, the age requirement among entitlement conditions for retirement pension was removed three times as 1969, 1976, and 1992 in Turkey and people allowed to retire earlier.
Informal Employment	Informal employment developing due to the reasons such as population growth, unemployment, urbanization and migration gives significant damages to the social security system as well as the national economy. Informal employment which began in the 1980s when the share of the private sector in the economy increased along with the rapid urbanization is still remarkable as one of today's most important problems (Mutlu, 2012: 7).
Active / Passive Ratio	In the international literature, it is stated that the active/passive ratio should be 4 in order to continue the sustainability of the social security systems adopting the distribution method. Rapid aging of the population would not only increase the social security expenditures depending on the life expectancy but also decrease the number of active workers financing the system, which would cause the deepening of the financing crisis.

Source: Kitapçı, 2007

6. MEASURES TAKEN BY THE WORLD COUNTRIES AGAINST DEMOGRAPHIC CHANGE IN SOCIAL SECURITY SYSTEMS

In the period named as the welfare period that continued until 1975 after the World War II, there was no problem in social security systems in parallel with the increase in young population. However, financial difficulties have emerged in the social security systems of many developed European countries after that period. In this context, the mentioned countries started to make parametric or structural reforms in their systems in order to solve the financial difficulties emerging depending on the demographic change.

Sweden, Chile, and Kyrgyzstan are the only countries that have made the structural reform among world countries. The countries that have made only the parametric reform are Austria, Belgium, Czech Republic, Southern Cyprus, Germany, Denmark, Ireland, Spain, Luxembourg, Slovenia, and United Kingdom. The countries that made both reforms are Italy, Hungary, Estonia, Finland, France, Latvia, Poland, and Slovakia (European Commission OECD). The countries making the reform and their applications are as in Table 5:

Table 5. Countries Making Reform And Their Applications

Spain (Parametric) (European Commission, 2014)	<ul style="list-style-type: none"> • Increasing the retirement salaries by 2% per each year (2002) • With the condition of paying at least 30-year premium to the system, early retirement opportunity. • Retirement salaries are adapted with part-time works. In order to entitle the retirement salary, the number of days for required premium payment are increased (2002) • The partial retirement age for the insured people who entered into the system after 1967 was increased from 60 to 61 (2002). • Early retirement age increased from 61 to 63. • The rates in the bonus system in the delayed retirements were increased depending on the length of the premium payment days. • The normal retirement age were increased gradually from 65 to 67 years in order to complete in 2027 starting from 2013 (2013). • The early retirement age was increased from 61 to 63 and the number of days for the premium payment for early retirement was increased from 30 to 33 years.
Germany (Structural) (European Commission, 2014)	<ul style="list-style-type: none"> • The retirement age of women and unemployed ones was gradually increased from 60 to 65 (1999). • Private retirement systems were added into the retirement system in the public administration (2001). • A certain portion of the social security system that operates with the distribution method was transformed into the funding method (2001). • By adding the 0th column into the system, a basic income level was provided within the scope of minimum social security for the elderly people with low income. • Score system application was introduced by making changes in the social security system operating with the distribution method and sustainability factor was added to the monthly account (2007). • The normal retirement age was increased from 65 to 67 gradually so that it can be completed by 2035 starting from 2011.
Sweden (Structural) (Chlon-Dominczak et al., 2012).	<ul style="list-style-type: none"> • The retirement age of the people working part-time was raised from 60 to 61. • The monthly salary rate used in the calculation of retirement salary was decreased from 65% to 55% (1994). • The basic salaries of the married retired people were decreased from 96% to 78.5% (1997). • In the system in which people can find the opportunity to retire after 61 years of age, the opportunity to increase the retirement salary by 60% was brought in case of retiring at the age of 67 instead of 61 (1999). • Virtual retirement systems were started by changing the structure of social security system in which the defined benefit model was used.

Italy (Structural) (Chlon-Dominczak et al., 2012).	<ul style="list-style-type: none"> • The retirement system with virtual accounts was started by changing the structure of the social security system operating with the defined benefit (1995). • The age requirement for early retirement was raised from 58 to 60 for workers and from 59 to 61 for self-employed ones (2007). • Effective from 2010, the premium rates paid by the atypical workers was increased by 3% and increased to 26% (2010). • The retirement age of women working in private sector was increased from 60 to 65 so that it can increase gradually between 2014 and 2026 (2011). • The minimum number of 35-year premium days required for early retirement was increased to 40 years.
Norway (Structural) (Christensen et al., 2012)	<ul style="list-style-type: none"> • The compulsory retirement age was determined as 67. In addition, the mentioned age was increased to 70 years with the delayed retirement (2010) • The virtual accounts system was started by changing the structure of the social security system. • The compulsory retirement age which was 67 years was transformed into a flexible retirement age between the ages of 62 to 75 (2011). • By establishing the correlation between the retirement salaries and life expectancy, actuarial justice was tried to be established.

7. REFORMS MADE IN THE TURKISH SOCIAL SECURITY SYSTEM

Turkish social security system in which the financial problems have emerged as a result of the fact that the incomes do not meet the expenses after the 1990s could not provide adequate protection against poverty and it could not also include the whole country population. Providing the service by different and disorganized social security institutions has caused not to provide unity among employees. Besides, some changes made are below by years:

1999

Normal retirement age was changed to 58 years for women and 60 years for men and the early retirement practice was terminated. In

order to prevent the unregistered employment, the obligation of declaring insured and workplace declarations to social security institutions before starting to employ the insured one was brought.

The salary system for the insured workers under SSK (social insurance institution) and BAG-KUR (pension fund for the self-employed) coverage was changed and the salary rate was reduced accordingly.

2001

Individual retirement system was started.

2006

SSK, BAG-KUR and ES social security institutions were gathered under a single roof and the Social Security Agency Presidency was established (2006).

2008

The normal retirement age was determined as 65 years so that it can be completed in 2048 by increasing gradually starting from 2036.

The number of days of premium payment was increased from 7000 days to 7200 days in terms of those working with contract of service.

The allowance rate was reduced and determined as 2% for each passing year in the system.

The update coefficient, which is one of the factors affecting the retirement salary, was changed and its effect on the retirement salary was reduced.

2014

After the beginning of October 2008, the age requirement predicted for allowance to the people working permanently or alternately in underground works of mining businesses for the first time was decreased from 55 to 50 and the mentioned people allowed them to retire earlier.

CONCLUSION

Although various parametric reforms have been made since 1999, the retirement age conditions, which is one of the conditions of entitlement for retirement salary with a law enacted in 1992 in social security system, are still seen to affect the system negatively. Currently, it is possible to retire at the age of 52 (SGK, 2015) as of 2015 May in the system. Retirement salary is paid to the people in this scope for many years depending on the increase in the life expectancy and this situation causes the active/passive ratio to be affected negatively.

REFERENCES

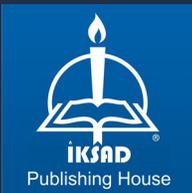
- Acar, İ. A., ve Kitapçı, İ. (2008). Sosyal Güvenliğin Demografik Boyutu: Türkiye'deki Emeklilik Sistemindeki Değişim. *Maliye Dergisi*, 154, 77-98.
- Chłoń-Domińczak, A., Franco, D., & Palmer, E. (2012). The first wave of NDC reforms: The experiences of Italy, Latvia, Poland, and Sweden. *Progress, Lessons, and Implementation*, 1, 31-84.
- Christensen, A. M., Fredriksen, D., Lien, O. C., & Stølen, N. M. (2012). Pension reform in Norway: combining an NDC approach and distributional goals. *Nonfinancial defined contribution pension schemes in a changing pension world*, 1, 129-55.
- Danış, D. (2014). DEMOGRAFİ: Nüfus meselelerine sosyolojik bir bakış. *Galatasaray Üniversitesi Sosyoloji Bölümü, Ders*, 13, 3.
- Doğanay, H. (1997). Türkiye Beşeri Coğrafyası, Milli Eğitim Bakanlığı Yayınları: 2982. *Bilim ve Kültür Eserleri Dizisi*, 877, 260.
- DPT, D. P. T. (2007). *Türkiye'de Yaşlıların Durumu ve Yaşlanma Ulusal Eylem Planı*. Devlet Planlama Teşkilatı Sosyal Sektörler ve Koordinasyon Genel Müdürlüğü, Yayın, (2741).
- Ergöçmen, B.; Hancıoğlu, A.; Ünalın, T. (1995) *Türkiye'de Doğurganlık, Aile Plânlaması ve Çocuk Ölümlülüğündeki Değişmeler: Ulusal Demografi Araştırmaları ve Nüfus Sayımları Bulguları*, HÜNEE, Ankara. <http://www.hips.>

hacettepe.edu.tr/pdf/TNSA1998-AnaRapor.pdf (Erişim tarihi: 03/06/2018).

- Funda, K. U. L., ve Meral, S. U. C. U. (2014) Türkiye Nüfusu İçin Stokastik Ölümlülük Modelleri. *Nüfusbilim*, 34(1), 31-50.
- Grant, J., Hoorens, S., Sivadasan, S., van het Loo, M., ve DaVanzo, J. (2004). Low fertility and population ageing: causes consequences and policy options.
- Gümüş, E. (2010). Türkiye’de Sosyal Güvenlik Sistemi: Mevcut Durum, Sorunlar ve Öneriler, *Seta Analiz*.
- Güneş, H. H. (2009). İktisat Tarihi Açısından Nüfus Teorileri ve Politikaları. *Elektronik Sosyal Bilimler Dergisi*, 28(28).
- Hoşgör, Ş., ve Tansel, A. (2010). 2050’ye Doğru Nüfusbilim ve Yönetim: Eğitim. İşgücü, Sağlık ve Sosyal Güvenlik Sistemlerine Yansımalar, TUSİAD Yayınları, İstanbul.
- Lee, R. (2003). The demographic transition: three centuries of fundamental change. *Journal of economic perspectives*, 17(4), 167-190.
- Lucas, D. (2002). The scope of demography. *Asia-Pacific Population Journal*, 5(3).
- Oktay, E. Y. (2014). Türkiye’de Cumhuriyet’in İlanından Günümüze Uygulanan Nüfus Politikaları. *Yalova Üniversitesi Sosyal Bilimler Dergisi*, 4(7).
- Tezcan, S., ve Seçkiner, P. (2012). Türkiye’de Demografik Değişim; Yaşlılık Perspektifi. *Yaşlı Sağlığı*, 1.

- Yardımcıoğlu, F. (2012). OECD Ülkelerinde Sağlık ve Ekonomik Büyüme İlişkisinin Ekonometrik Bir İncelemesi. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 13(2).
- Yüceşahin, M. M., & Özgür, E. M. (2008). Regional fertility differences in Turkey: persistent high fertility in the southeast. *Population, Space and Place*, 14(2), 135-158.
- Yüceşahin, M. M. (2009). Türkiye'nin demografik geçiş sürecine coğrafi bir yaklaşım. *Coğrafi Bilimler Dergisi*, 7(1), 1-25.
- Yüksel, Y. (2007). *Türkiye'de demografik geçiş süreci ve sosyal politikalar*. DPT Sosyal Sektörler ve Koordinasyon Genel Müdürlüğü, (DPT Uzmanlık Tezleri), Yayın, (2732).
- Actuarial Consultative Group, Sustainability of Pension Systems in Europe-The Demographic Challenge, Brussels, Groupe Consultatif Actuarial European Position Paper, 2012. https://www.iabe.be/sites/default/files/bijlagen/020712_pr_sustainability_final.pdf (Erişim tarihi: 01/06/2018)
- Alper, Yusuf, Değer, Çağaçan, Sayan, Serdar, 2050' ye Doğru Nüfusbilim ve Yönetim: Sosyal Güvenlik Sistemine Bakış, TÜSİAD, 2012. https://tusiad.org/tr/yayinlar/raporlar/.../5450_4c5b6854aa8dbb21eff8b79c418a0a9 (Erişim Tarihi: 02/03/2018).
- DİE, Türkiye Nüfusu, 1923-1994 Demografi Yapısı ve Gelişimi: 21. Yüzyıl Ortasına Kadar Projeksiyonlar, Ankara, 1995. http://saltresearch.org/primo_library/libweb/action/dlDisplay.do?vid=salt&docId=aleph_salt000009594 (Erişim tarihi: 13/04/2018).

- Peters, G. L., ve Larkin, R. P. (1979). *Population Geography: Problems, Concepts, and Prospects*. <https://eric.ed.gov/?id=ED180874>(Eriřim Tarihi: 09/12/2017).
- Sosyal Gvenlik Kurumu Bařkanlıęı, Hizmet Sunumu Genel Mdrlę Veri Tabanı, Ankara, 2015. http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/merkez-teskilati/ana_hizmet_birimleri/hizmet_sunumu_genel_mudurlugu (Eriřim tarihi: 02/05/2018).
- Tansel, A. ve Hořgr, ř., (2010). 2050'ye Doęru Nfus Bilim ve Ynetim: Eęitim, İřgc, Saęlık ve Sosyal Gvenlik Sistemlerine Yansımalar, İstanbul, TSİAD. <https://tusiad.org/tr/yayinlar/raporlar/item/5187-2050ye-dogru-nufusbilim-ve-yonetim--egitim--isgucu--saglik-ve-sosyal-guvenlik-sistemlerine-yansimalar>(Eriřim Tarihi: 01/06/2018).
- TİK, <http://www.tuik.gov.tr/Start.do;jsessionid=Lrntb7KhZR4px2zThTmJqPdQQD41hWN0gFv5PH1tkWLRZ8RZhd16!1766561876>, (Eriřim tarihi: 13/12/2017).
- TİK, Trkiye İstatistik Kurumu İstatistiklerle Yařlılar Elderly Statistics 2014 www.tuik.gov.tr/IcerikGetir.do?istab_id=265 (Eriřim Tarihi: 05/05/2018).
- Yanardaę, M. . Ve zgen, . (2014). Nfus Kavramı Ve Trkiye'de Nfusun Geliřim Srecininin Deęerlendirilmesi, *Mevzuat Dergisi*, 6(66), <https://www.mevzuatdergisi.com/2003/06a/02.htm> (Eriřim Tarihi: 02/03/2018).



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