

# TURKEY

## IN A CHANGING WORLD ORDER

ECONOMICS, POLITICS AND FOREIGN POLICY

---

ÖMER UĞUR  
KADİR CANER DOĞAN



**IJOPEC**  
**PUBLICATION**  
London [ijopec.co.uk](http://ijopec.co.uk) Istanbul

**TURKEY**  
**IN A CHANGING WORLD ORDER**  
**ECONOMICS, POLITICS AND FOREIGN POLICY**

Editors

**Ömer Uğur**

**Kadir Caner Doğan**



*To the academic community...*

**Turkey in a Changing World Order Economics, Politics and Foreign Policy**  
*Ömer Uğur, Kadir Caner Doğan*



IJOPEC Publication Limited  
60 Westmeade Close Cheshunt,  
Waltham Cross Hertfordshire  
EN7 6JR London

www.ijopec.co.uk  
info@ijopoc.co.uk  
(+44) 73 875 2361 (UK)  
(+90) 488 217 4007 (Turkey)

**Turkey in a Changing World Order  
Economics, Politics and Foreign Policy**  
First Edition, January 2022  
IJOPEC Publication No: 2022/05

**ISBN: 978-1-913809-30-0**

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronically without author's permission. No responsibility is accepted for the accuracy of information contained in the text, illustrations or advertisements. The opinions expressed in these chapters are not necessarily those of the editors or publisher.

A catalogue record for this book is available from Nielsen Book Data, British Library and Google Books.

The publishing responsibilities of the chapters in this book belong to the authors.

Printed in London.

Cover Design & Composer:  
*IJOPEC Art Design*

## CONTENTS

Contents .....	5
List of Reviewers .....	7
List of Contributors .....	9
Introduction: Turkey in a Changing World Order Economics, Politics and Foreign Policy.....	15
<i>Ömer Uğur, Kadir Caner Doğan</i>	
1.Da'wah Discourse in Turkish Political Life and Political Socialization Process in the 1960s .....	19
<i>Taylan Can Doğanay</i>	
2. The Rise of the Left Discourse in Turkey and Workers' Party of Turkey (1961-1971) .....	35
<i>Fatma Okur Çakıcı</i>	
3.Evaluation of Women's Representation in Turkey on the Basis of Metropolitan Municipalities .....	49
<i>İsmail Sevinç, Tuğba Salman</i>	
4.Analysis of the Perception Towards Violence to Women in Turkey in the Context of TR90 Region.....	79
<i>Nazlı Özcan Sarıhan, Muhammed Serhat Semercioglu</i>	
5.Personnel Policies in Turkey .....	107
<i>H. Tuğba Eroğlu</i>	
6.The Effect of Applied Public Policies in Struggle with Covid-19 on Air Pollution: An Empirical Analysis for the Marmara Region .....	121
<i>Abdulgazi Yıkıcı, Hüseyin Ünal, Çağrı Çolak</i>	
7.Global Climate Change in the Framework of Modern Disaster Management.....	139
<i>Afşin Ahmet Kaya/Meryem Akbulut</i>	
8.An Overview of the Disaster Response Teams as the Group Neglected During The Covid-19 Pandemic Period .....	177
<i>İbrahim Kıymış, Afşin Ahmet Kaya</i>	

9.Evaluation of Occupational Safety Perceptions of Vocational and Technical Anatolian High School Students .....	187
<i>Elif Çelenk Kaya, İbrahim Irmak</i>	
10.The Importance of Renewable Energy for Sustainable Development: Research on Turkey .....	215
<i>Pınar Koç</i>	
11.Turkish Energy Policy and Energy Security.....	227
<i>Merve Suna Özel Özcan/Cihan Öten</i>	

## LIST OF REVIEWERS

Professor Dr. Nihat Yılmaz  
*Gümüşhane University, Turkey*

Associate Professor Aziz Belli  
*Kahramanmaraş Sütçü İmam University, Turkey*

Associate Professor Erhan Örselli  
*Necmettin Erbakan University, Turkey*

Associate Professor Kadir Caner Doğan  
*Gümüşhane University, Turkey*

Associate Professor Metin Aksoy  
*Gümüşhane University, Turkey*

Associate Professor Ömer Uğur  
*Gümüşhane University, Turkey*

Assistant Professor Aysel Başoğlu  
*Gümüşhane University, Turkey.*

Assistant Professor Eyüp Yıldız  
*Gümüşhane University, Turkey.*

Assistant Professor Hasan Mahmut Kalkışım  
*Gümüşhane University, Turkey*

Assistant Professor Orkun Çelik  
*Gümüşhane University, Turkey.*

Associate Professor Vedat Yılmaz  
*Malatya Turgut Özal University, Turkey*





## LIST OF CONTRIBUTORS

### Editors

**Ömer Uğur.** He was born in 1985, he completed his bachelor's degree in International Relations department at Selcuk University in Turkey. He did his master's degree at Brunel University in England. Fatih University in Turkey PhD in Political Science and Public Administration has taken the majors. He is currently working as an associate professor in the Department of Political Science and Public Administration at Gümüşhane University in Turkey. Among the working areas; environmental law, the European Union and climate change.

**Kadir Caner Doğan.** He was born in 1984 in Tekirdağ/Turkey. He completed bachelor's degree in Econometrics department Bursa Uludag University in Turkey and Anadolu University has received from public administration department. His master's degree in public administration in Turkey Bolu Abant İzzet Baysal University and a PhD from the moment the department Bursa Uludag University in Turkey has received from public administration department. He is still working as an associate professor in the Department of Political Science and Public Administration at Gümüşhane University in Turkey. His fields of study include; governance, ombudsman and ethics.

### Authors

**Abdulgazi Yıkıcı.** He was born in 1995 in Artvin /Turkey. He completed the undergraduate program in 2017 and the master's program in 2020 in the Department of Public Administration at the Karadeniz Technical University. The author is continuing his doctorate studies at Karadeniz Technical University, Social Sciences Institute, Department of Public Administration, and still works as a research assistant in the FEAS, Department of Public Administration at the same University. Yıkıcı has academic studies published in scientific fields on local governments, urban / local politics, and environmental issues.

**Afşin Ahmet Kaya.** The author was born in 1979 in Erzurum. Since 2014, he has been working as a lecturer at Gümüşhane University Faculty of Health Sciences, Department of Emergency Aid and Disaster Management. He is working as an associate professor at the same university. Kaya has studies on Global Climate Change, Waste Management, Migration, Disaster Education, Forest Fires and Risk Planning in Disasters, especially on Disaster Management. Kaya, who has

articles published in many national and international peer-reviewed journals, also has many graduate students who graduated by providing consultancy in these fields.

**Cihan Öten.** Öten graduated from Kırıkkale University, Department of International Relations. He studies on the Balkans policy of the European Union. He maintains his master in international relations in Kırıkkale University. In his various readings, the subject of power in international relations started to interest him. While he was reading about the “power” Notion in IR, he also realized that the energy issue shapes the policies of the states. So, he started reading about energy security and policies. The preparation processes of his academic studies on energy security still continues. His studies areas: Western Balkans, European Union and Energy.

**Çağrı Çolak.** Çağrı Çolak was born in 1990 in Trabzon/Turkey. He completed the undergraduate program in 2012, the master’s program in 2014, and the doctorate program in 2020 in the Department of Public Administration at the Karadeniz Technical University. Between 2015-2020, he worked as a “Research Assistant” at this university. He has been working as an assistant professor at the Trabzon University – the Faculty of Economics, Administrative and Social Sciences–the Department of Political Science and Public Administration since 2021. Çolak has many academic studies published in the scientific fields of the public administration, the participation and governance, the urban / local politics, the constitution and political institutions, the public policy, the administrative history of Turkish, and the political life in Turkey.

**Elif Çelenk Kaya.** The author was born in Safranbolu in 1980. Since 2014, she has been working as an academican in the Department of Occupational Health and Safety at Faculty of Health Sciences in Gumushane University. She is a professor at the same university. Çelenk Kaya has studies on Occupational Health and Safety, Chemical Risk Factors, Personal Protective Equipment, Risk Analysis and Occupational Safety Culture. Çelenk Kaya, who has articles published in many national and international peer-reviewed journals, also has many graduate students who graduated by providing consultancy in these fields.

**Fatma Okur Çakıcı.** Fatma Okur Çakıcı was born in Konya in 1980. She graduate from Selcuk University, Faculty of Economics and Administrative Sciences, Department of Public Administration in 2002. In 2007, she completed her master’s degree in Public Administration from Selcuk University Social Science Institute with her thesis titled “Socio-Cultural Dimensions of Political Participation: Karaman Country Example”. In

2014, She graduated from İnönü University Social Sciences Institute, Department of Political Science and Public Administration with her thesis titled “The Leader Factor of the Manifestation of Voters Prefer: Eastern Black Sea Example” and received Doctorate degree. In 2021, she received the title of Associate Professor in Political Science. She worked at Selçuk University Karaman Faculty of Economics and Administrative Sciences, Gümüşhane University Faculty of Economics and Administrative Sciences and Karamanoğlu Mehmetbey University Faculty of Economics and Administrative Sciences. Her fields of study include “Political Science”, “Turkish Political Life”, “Political Life and Institutions”, “Gender”. She is currently a faculty member at Karamanoğlu Mehmetbey University, Faculty of Economics and Administrative Sciences, Department of Political Science and Public Administration.

**Hüseyin Ünal.** Ünal was born in 1985 in Adıyaman/Turkey. He graduated from Erciyes University, Department of Mathematics. He completed his postgraduate studies in Erciyes University, Department of Mathematics and Çukurova University, Department of Econometrics. The author is continuing his doctorate studies at Karadeniz Technical University, Social Sciences Institute, Department of Econometrics, and still works as a research assistant in the FEAS, Department of Econometrics at the same University. Ünal works in the field of time series, panel data models, mathematical and statistical methods. He also conducts applied studies on economic development, sustainable environment and environmental quality.

**H. Tuğba Eroğlu.** Graduated in 1998 from Selçuk University, Faculty of Economic and Administrative Sciences, Department of Public Administration, Eroğlu completed her postgraduate study in 2000 in the Major of Public Administration and her doctorate study in 2006 in the Major of Business Administration. She has written her doctoral thesis on restructuring in public administration, new administration models and e-state practices. Her interests comprise the topics of restructuring in public administration. Eroğlu is still a professor at Selçuk University, Faculty of Economics and Administrative Sciences, Department of Political Science and Public Administration.

**İbrahim İrmak.** The author was born in 1991 in Ordu. He graduated from Gümüşhane University Health School Occupational Health and Safety Department in 2018. He completed her master's degree from the same university's Institute of Science and Technology, Department of Occupational Health and Safety in 2020. Continuing his doctoral studies at the Eurasia University Graduate Education Institute, the author started to work as a Research Assistant in the Department of Occupational Health

and Safety at Gumushane University, Faculty of Health Sciences, in 2021 and still continues this duty.

**İbrahim Kıymış.** The author, İbrahim Kıymış, was born in 1994 in Adana. Mr. Kıymış graduated from Gümüşhane University Health School Emergency Aid and Disaster Management Department in 2017. He received his master's degree from the Disaster Management Department of the Social Sciences Institute of the same university in 2019. Continuing his doctoral studies at Gümüşhane University Graduate Education Institute, Mr. Kıymış started to work as a lecturer at Gümüşhane University Şiran Mustafa Beyaz Vocational School in 2019, where he still continues to work. Mr. Kıymış has many published national and international studies on health services in disasters, and on disaster management in particular.

**İsmail Sevinç.** He graduated from Selçuk University, Faculty of Economics and Administrative Sciences, Department of Public Administration in 1996, completed his master's and doctorate studies at the Social Sciences Institute of the same university, and started to work as a Research Assistant at the Faculty of Economics and Administrative Sciences of Selçuk University in 1998. He served as Asst. Prof. and Assoc. Prof. at the same university. He started to work at Necmettin Erbakan University in 2017. He is still a professor at the Faculty of Political Sciences, Department of Political Science and Public Administration at the same university.

**Merve Suna Özel Özcan.** She is the Assistant Professor of International Relations in Kırıkkale University. She graduated from Gazi University, Department of International Relations in 2010. In 2011, she graduated from Gazi University, Department of History by completing her double major. In 2013 she became a research assistant at Kırıkkale University Özel Özcan, earned master's degree in international relations from the Gazi University in 2014. After that she started her doctorate in IR, Kırıkkale University. In 2019 she received her PhD in international relations and then in 2020 she became an associate professor in Kırıkkale University. Now she maintains her second PhD in Political and Social Sciences in Gazi University. Her study areas; Russian history, great powers, empire, energy and nationalism.

**Meryem Akbulut.** The author, Meryem Akbulut, was born in 1993 in Sivas. Ms. Akbulut graduated from Gümüşhane University Health School Emergency Aid and Disaster Management Department in 2017. At the same time, she completed a double major program in Gümüşhane University Health School Occupational Health and Safety Department. Subsequently, she received her master's degree from the Disaster

Management Department of the Social Sciences Institute of the same university in 2019. Continuing her doctoral studies at Gümüşhane University Graduate Education Institute, Ms. Akbulut started to work as a lecturer at Yozgat Bozok University Çekerek Fuat Oktay Health Services Vocational School in 2019, where she still continues to work. Ms. Akbulut has many published national and international studies on global climate change, and on disaster management in particular.

**Muhammed Serhat Semercioğlu.** M. Serhat Semercioğlu was born in İzmir/Turkey. In 2007, he graduated from Selçuk University, Faculty of Education, Department of Primary School Teacher. Then, he completed his master's degree in Gazi University- Institute of Social Sciences, Department of Office Management in 2011. He completed his doctorate program, which he started in 2014 at Ondokuz Mayıs University- Institute of Education, Department of Primary Teacher, in 2018. Muhammed Serhat Semercioğlu is a member of Gumushane University. Now he is a PhD lecturer in Department of Social Services. He is currently working at the education and social services. M. Serhat Semercioğlu is married and he have two children.

**Nazlı Özcan Sarıhan.** Nazlı Özcan Sarıhan was born in 1987 in Aydın. Atatürk Primary School in 2001; In 2005, Cumhuriyet High School for Foreign Languages; In 2009, she graduated from Selçuk University- Karaman Faculty of Economics and Administrative Sciences, Department of Public Administration. Then, she completed her master's degree in Karamanoğlu Mehmetbey University- Institute of Social Sciences, Department of Public Administration in 2011. She completed her doctorate program, which she started in 2015 at Karadeniz Technical University- Institute of Social Sciences, Department of Public Administration, in 2020. She started her academic life as a lecturer at Gümüşhane University in 2012 and is still working as a Assistant Professor at the Faculty of Economics and Administrative Sciences, Department of Political Science and Public Administration at the same university. Özcan Sarıhan is married and speaks English.

**Pınar Koç.** Pınar Koç was born in Ankara in 1987. She graduated from primary, secondary and high school in Ankara. She graduated from the Department of Economics, Sivas Cumhuriyet University in 2009. In 2010, She started to work as a research assistant at Gümüşhane University. She received her master's degree in Economics from Sakarya University in 2011. She was appointed at he Sakarya University in 2012. Between 2012-2017 she worked as a reserach assistant at Sakarya University. Since 2018 she has been working as assistant professor in in Department of Economics, Gümüşhane University. Her main research interests are health economics,

employment, econometrics. She has a large number of studies in the fields economic costs of illness, employment and unemployment and development economics.

**Taylan Can Doğanay.** Taylan Can Doğanay was born in 1989 in Samsun. He graduated from Cumhuriyet University, Faculty of Economics and Administrative Sciences, Deferment of Public Administration in 2010 and Niğde University, Institute of Social Science, Department of Public Administration in 2014 with the master degree thesis titled “The Balance of Political Power within Relationship between State and Society: New Center and New Periphery”. In 2015, he started his PhD in Political Science at Hacettepe University Social Sciences Institute and in 2021, graduated from Karamanoğlu Mehmetbey University with the PhD thesis titled “Discourse of el-Da’ve in Turkish Political Life: Qualitative Analysis on the Election Declarations of the Political Parties Belonging to the Milli Görüş Movement”. He works at the Department of Political Science and Public Administration at Karamanoğlu Mehmetbey University; his main fields of study are “Political Sociology”, “Comparative Political Movements” and “Turkish Political Life”.

**Tuğba Salman.** She was born in 1995 in Osmaniye/Turkey. She completed the undergraduate program in 2017 Department of Public Administration at the Selçuk University and the master’s program in 2020 in the Political Science and Public Administration at Necmettin Erbakan University. The author is continuing his doctorate studies at Ataturk University and works as a research assistant in the FEAS, Department of Public Administration at the same University. Salman has academic studies published in the fields of politics, urban/local politics and public policy.

## Introduction

# Turkey in a Changing World Order

## Economics, Politics and Foreign Policy

*Ömer Uğur (Gümüşhane University)*  
ORCID ID: 0000-0002-8463-5403  
omerugur@gumushane.edu.tr

*Kadir Caner Doğan (Gümüşhane University)*  
ORCID ID: 0000-0002-3476-8865  
kadircanerdogan@gumushane.edu.tr

Social sciences, especially after the second half of the 20th century, began to be dealt with interdisciplinary and multidimensional. As a matter of fact, after this period, while methodological discussions on hermeneutics in social sciences increased their popularity, cooperation was observed in the theory, method and practice of social sciences. In addition to these, a different threshold has been entered depending on the cyclical developments in the world. In this study, it is desired to make an analysis on the issues of economy, politics and foreign policy in the changing world order in Turkey. Within the framework of the analysis expressed in this context, an effort was made to prepare a multidisciplinary study with the articles prepared by expert academics and practitioners. Current political, economic and foreign policy issues in Turkey's changing world order constitute the main research object of this study. In the study, it is planned to include articles at the theoretical and empirical level.

In the study, there are articles with different perspectives at various levels, created with the contributions of academics from different universities. In the selection of the study titles, attention was paid to the texts that would provide a holistic and analytical view to the subject. In the study, an interdisciplinary sensitivity was shown and the idea of benefiting from different academic disciplines (economics, international relations, political science, public administration, econometrics, etc.) was adopted.

This study consists of 11 articles on politics, economics and foreign policy, especially on Turkey.

In the first part of the study, the breaks in the historical process of the case discourse in Turkey and its transformation from its Islamic reference to the modernization process were examined by Taylan Can Doğanay. This study is of great importance in terms of understanding the ideological and cultural codes of the ideological and social alliance, which is quite common today. The most fundamental question is how the political and social



effects of the reforms made with the proclamation of the Republic on the Islamic lifestyle caused a reaction in Turkish political life.

In the second part of the study, Fatma Okur Çakıcı sees the entry of the Workers' Party of Turkey (WPT) into the parliament as one of the most important political developments after the 1960 coup. In the 1960s, the party represented the Turkish left, protecting workers' rights in parliament. In this study, the emergence and development of the Workers' Party of Turkey (1960-1970) and its approach to political and social problems in the following periods were evaluated by discussing its importance for the Turkish left.

In the third part of the study, it is stated by İsmail Sevinç and Tuğba Salman that the discussions about the underrepresentation of women in local politics have been going on for years. In this context, it is said that the representation of women in local politics is not sufficient in Turkey. In this context, in this study, the participation and representation rates of women and men within the borders of thirty metropolitan cities were examined by using the results of the 31 March 2019 Local Administration Elections and the statistics in the Supreme Election Board election archive and database.

In the fourth part of the study, it is stated by Nazlı Özcan Sarıhan and Muhammed Serhat Semercioglu that "violence against women" is a social problem all over the world, but dates back to ancient times. The aim of this study is to determine the perception of violence against women of the participants living in the TR90 Region and to examine this fact with its sub-dimensions. In this context, the sample consisted of 807 people over the age of 18 living in the provinces of the TR90 Region (Artvin, Trabzon, Rize, Gümüşhane, Giresun, Ordu). The data of this study were collected with the "Demographic Information Form" and the "ISKEBE Attitude Scale".

In the fifth part of the study, the most important actor in the provision of public services in public administration is seen by H. Tuğba Eroğlu. Employment, training, employment, promotion, supervision, evaluation of public personnel, social security, retirement or expiration of the term of office of public personnel in other cases are included in the issues of public personnel management. Depending on the developments in the world, there is a change in the Turkish public personnel system. In this study, the problems and solution proposals of the Turkish public personnel system are discussed on the basis of periods, and what needs to be done at this stage is emphasized.

In the sixth part of the study, the issue of whether the public policies implemented in the fight against the Covid-19 virus, which emerged in Wuhan, China, and spread to a significant part of the world in a short time, caused a change in the air pollution level of the Marmara Sea, by Abdulgazi Yıkıcı, Hüseyin Ünal and Çağrı Çolak was examined.

In the seventh part of the study, it is said by Afşin Ahmet Kaya and Meryem Akbulut that the concept of global climate change, which has been mentioned frequently in the international public opinion recently, has become an increasingly important issue in our lives. With the emergence of the first living forms on earth, the phenomenon of climate emerged. Studies argue that it will be very difficult to intervene in the events that will occur due to global climate change in the future, so that it will be impossible to reverse these events.

In the eighth part of the study, it is stated by İbrahim Kıymış and Afşin Ahmet Kaya that the coronavirus 2019 (COVID-19) epidemic as a pandemic has affected the whole world. Although many studies have been conducted in the fields of medicine, health and social sciences on the effects of the COVID-19 pandemic, the literature on its effects on disaster management is insufficient. Accordingly, this study focused on disaster response teams consisting of health professionals (HCPs), firefighters, and members of search and rescue teams.

In the ninth part of the study, Elif Çelenk Kaya and İbrahim Irmak underline that people lose their lives or their mental and physical integrity is impaired due to occupational diseases and work accidents in the world and in Turkey. It is important for young people to receive education in safe schools, to be informed about the risks related to the working environment, to acquire the right behavioral models for occupational safety, to protect themselves, their colleagues and workplace equipment from negative situations, and to work harder.

In the tenth part of the study, the causality relations between carbon emissions and GDP per capita in the 2000-2019 period were investigated by Pınar Koç using the Fourier Toda Yamamoto causality test. The results of the study show that there is a dual causality between renewable energy production and carbon emissions.

In the eleventh chapter of the study, it is said that the issue of energy security first emerged with the establishment of the International Energy Agency by Merve Suna Özel Özcan and Cihan Öten. Although energy security has been a subject of interest since the First World War, its importance in the international arena came to the fore with the outbreak

of the Oil Crisis in 1973. In the study, the importance of energy security for Turkey was discussed and Turkey's energy policy was analyzed.

# 1

## Da'wah Discourse in Turkish Political Life and Political Socialization Process in the 1960s\*

Taylan Can Doğanay (Karamanoğlu Mehmetbey University)

ORCID ID: 0000-0002-9660-1542

taylancandoganay@kmu.edu.tr

### Abstract

*The topic of this study is the breaks in the historical process of da'wah discourse and its transformation from its Islamic reference to the modernization process. To reveal its equivalent in Turkish Political Life was determined as the goal of this study. This study has a significant importance in the scope of understanding the ideological and cultural codes of ideological and social alliance which is very common nowadays. What kind of a reaction the political and social effects of the reforms, made with the declaration of the Republic, on Islamic lifestyle have caused in Turkish Political Life is considered as the most fundamental question. In this sense, it is presented that da'wah discourse has a strong unifying mission. As a historical projection, the political socialization process of Turkish political life, which accelerated in 1960s, is assessed, in this study, with its historical and intellectual roots.*

*Keywords: Discourse of Cause, Islamism, Political Socialization*

### Introduction

In the context of discourse, cause, individual or social, is a traditional image that establishes a Muslim's objective political and/or social relations and determines his behavioral and intellectual actions. In this respect, cause expresses a state of consciousness among Muslims. The 19th and 20th centuries were periods of radical changes in the Islamic geography. Radical changes have been experienced in a wide geography from Central Asia to North Africa, from Anatolia to Europe, from the Arabian Peninsula to the Indian Peninsula, including Iraq and Syria. The spread of the Islamic geography over a wide area that lasted for centuries has included the results within the causes of change and the reasons within the results in the modern political period. Although not simultaneous, the most important of the effects of the political and social changes that took place in various ways among Muslim societies was the drawing of traditional political thought into social memory. However, in the Islamic

\*This study was produced from the doctoral thesis named "Discourse of El-Da've in Turkish Political Life: A Qualitative Analysis on the Election Declarations of the Political Parties Belonging to the Milli Görüş Hareketi"

geography, the political, social, cultural and economic reorganization of Muslim societies, and the ability to protect themselves against the intellectual and historical other, was again realized with the founding, constructive and organizing mission of da'wah discourse. Da'wah discourse, which is based on a universal Islamic order, has been realized with the disintegration of the central authority and the shaking of the traditional legitimacy ground in the historical process of the religious and political ontological field. With the abolition of the caliphate authority embodied in the Ottoman Empire, local-cultural and religious defacto areas became evident in the Islamic geography. This period coincided with the 19th century, when the modernization process had an intense impact on Muslim societies. By the 20th century, the authority of the caliphate, which was traditionally the central authority of the Islamic cause, came to an end. The shaping of da'wah discourse by the subjective experiences of local-cultural, religious defacto fields has engaged Muslim societies to different political identities and cultures, and the organizing mission of da'wah discourse is related to the social situation and identity determination of Islam.

### **Islamism in The 20th Century and The Ideological Function of Da'Wah Discourse in Turkish Political Life**

Islamism was shaped in the far reaches of the Ottoman Empire in 18th and 19th centuries. Especially after 1870s, it became a strong ideology and ideological behavior within the borders of the Empire and its capital (Aktay, 2005: 71; Görgün, 2011: 234). The aspect of Islamism, which has a political orientation related to modernity, refers to ideology. Islamism, as an ideology, expresses a political idea that preaches divine purposes and based on doctrine and practice, whose mission is clear in the historiography. Islamism, with its aspect based on doctrine and practice, reaches back to Ibn Taymiyya in the early period with the aim of reviving world civilization in the presence of Islamic societies (, 2010; Çağlayan, 2011; Peter, 2014a, 2014b). On the other hand, Islamism, as of the nineteenth century, is based on the ideal of uniting the Islamic unity under a single political central authority. In this context, it is based on Cemaleddin Afghani, who thinks that the establishment of Islamic unity in the Islamic world is the only way to oppose the colonialist West (Karpas, 2001; Dökmeciyan, 2003). With the colonial activities of the Western imperial powers against the Muslim communities in the Middle East, the counter-struggle arose in the 1880s and reached its peak in the twentieth century with the Islamic political organizations. In the 1900s, Islamism increased its popularity as an ideology and was not limited to the Islamic geography (Voll, 2014: 45). The Pan-Islamic community was founded in London in 1903 by Abdullah al-Sharif. In addition, Shiites and Sunnis,

who are in constant conflict, came together and united under the umbrella of Islamism against the imperial powers through publications. In the 1920s and 1930s, with the end of the Ottoman Empire and the caliphate, Islamic organizations continued their organizational structures outside of the central authority. In this historical process, Islamism remained on a more local and cultural scale. As a result of this historical fact, in the 1940s, after the Second World War, Islamism, with its translation movements, intellectual and organizational types became the action center domain of Pakistan, India and Egypt (Guidere, 2012:268). "Islamic Order" or "Islamic Liberation", a slogan of the da'wah discourse, has indicated the Islamic lifestyle and demands in public spaces rather than Islamic unity since the second half of the twentieth century. The articulation of Islamism to the reaction-based masses, without distinguishing a widespread and a certain class stratum also coincided with this recent history (Black: 2010: 387).

The roots of Islamism as an ideology, as a political thought are usually traced back to the thirteenth-century Islamic thinker, Ahmad Ibn Taymiyya (1263-1328), from the Hanbali School. (Çağlayan, 2011: 67). According to Fazlur Rahman, although Ibn Taymiyya started as a revival/resurrection movement, he carried out a reform movement against the organizations that degenerated and turned into interest groups in cooperation with the government (Çağlayan, 2011: 73). In most of the teachings of Ibn Taymiyyah, it is stated that the struggle to which his followers are devoted is to establish a more positive attitude towards the worldly and to develop a more lively religious life in Sunni societies. Although it is stated that Ibn Taymiyya's thoughts are close to mainstream Islam, he tried to reconcile two irreconcilable principles of religious beliefs such as destiny and will in his thoughts. He used analogy and syllogism to establish a rational relationship between special situations of daily life and religious provisions. He supported the mujtahid's individual reasoning, i.e. ijtihad, in order to help believers to understand ijma. According to his approach, what is meant by the development of a positive attitude towards the worldly is expressed as the difference of people's will in the preferences between the moral and the everyday (Black, 2010: 227). According to Peter (2014a: 87; 2014b: 191) Ibn Taymiyya nurtured modern Islamist thoughts and movements with his stated approach, which is particularly suited to activist qualities. As of the nineteenth century, when the Islamic revival was on the rise, Ibn Taymiyya was shown as the main reference source of Islamism as an ideology, as movements organized with ideology based on Islamic ideas criticized the common beliefs, ideas and institutions and demanded change.

As a result of the disintegration of the Ottoman Empire's administration in the last period and its collapse against the Western imperial powers, many reformist Islamist reactions emerged in the late nineteenth and early twentieth century. According to Dökmeciyan (2003: 36) the leading of these movements were seen under the leadership of Jamaledin Afghani (1838-1897) and Reşid Rıza, who preached Pan-Islamic solidarity and local-regional resistance thanks to the conversion to Islam in an environment that showed scientific progress against the West (Yüce, 1988: 465). Concerns about establishing Islamic unity began during the reign of Abdulhamid II, before the end of the caliphate. Concerns about establishing Islamic unity began during the reign of Abdulhamid II, before the end of the caliphate. In the regions far from the administrative center of the Ottoman Empire, which weakened against the West, it was seen that the autonomous mechanisms gained strength and the Islamic unity weakened from within (Karatepe, 2001: 53). Based on this situation, Cemaletdin Afgani was invited to Istanbul by Abdülhamid in 1892, upon his call for unity against internal divisions. It has been said that Afghani, who came to support the call of the Sultan caliph and the pan-Islamic policies, was an anti-monarchist and even in search of an Arab caliphate (Karpaz, 2001: 367-371).

In the 20th century, the regulatory and adaptive positive normative and institutional structure of the nation-state ideology dominated Islamism, and the ideal of the Islamic state was replaced by the political power that would rule with Islamic references. As Merad stated (1993: 63-65) for centuries, Ottoman Sultans introduced themselves as caliphs. While the sultan caliphs carried out the political affairs of the empire, they also undertook religious affairs such as the defender of Islam and the Islamic cause. Due to these qualities, the Sultan caliphs received wide attention as a unique leader within the Islamic Community. So that; In the nineteenth century, after Sultan Caliph Abdulhamid Han the second, the representation of the Pan-Islamic ideal could not be represented centrally in any organization.

As a result of the deterioration of the historical moral foundations of the Ottoman Empire, the Grand National Assembly decided to abolish the Caliphate on 3 March 1924, after the Sultanate on 2 November 1922, in order to remove the traces of defeat from the newly established Turkish Republic. This decision, which is the most revolutionary-radical recorded in the political history of the Islamic world, took place within the logic of the nation-state ideology (Merad, 1993: 66). As stated by Dökmeciyan (1980: 2) the nation-state's construct of citizen-oriented sovereignty under secular and constitutional guarantees has put Islamism as an ideology into crisis; accordingly, reaching a level of representation that exceeds the

physical existence of sovereignty and reaching an inclusive intangible existence has caused the erosion effect of Islamism on the world of meaning. The idea of a transnational ummah was out of the question. Thus, the end of the Ottoman caliphate and the abolition of the office of the caliphate caused the Islamic organization to leave the axis of a central authority and to embrace ethnic and local socio-cultural elements. For this reason, the nation-state ideology has caused a crisis for Islamism in the context of the ummah, which is an important texture of it, and has squeezed it into decentralized organizations of a "nativist" localist nature. In the 20th century, the phase of Islamism related to the modernization process and political orientation removed the da'wah discourse from the ideal of a universal Islamic order and engaged it in local-cultural, religious defacto political life.

Of this historical break, the da'wah discourse has created three ideological functions among Muslim societies:

- Instilling a sense of national unity, independence and patriotism in the historical period covering the 1st and 2nd World Wars
- As a result of the rising independence movements since 1945, the validation of the Islamic lifestyle and rights claims in public spaces, which were excluded with the emergence of newly established secular political systems
- With the spread of multi-party political life after the World War II, the establishment of power by organizing from the grassroots

### **The Tanzimat Period and the Articulation of Islamism to the Nation-State Ideology**

The Ottoman Empire became evident in the sixteenth century with all its political and social institutions. It included various differences in many ways and was called the Islamic state in a wide area consisting of various religious beliefs, religious communities, ethnic groups and cultural codes (Ülken, 1992: 35-36). It stemmed from the fact that in the lands ruled by the empire, it united societies with a state founded on justice. Going beyond a sultanate state, on the other hand, was associated with the institutionalization of Islamic unity, which is the strong representation of the da'wah discourse, as the founding and protective authority of the Islamic order. In the sixteenth century, the Ottoman sultanate and the caliphate were intertwined when Mecca and Medina became part of the Ottoman lands (Sümer, 1992: 676). In this respect, the Ottoman Empire was seen as an Islamic and bureaucratic state (Mardin, 1991: 45).



At the end of the eighteenth century, the political and social crises experienced in Western Europe caused the disintegration of the central structures, as in the Western empires, and the dissolution of the Ottoman Empire, which was re-centered with the nation-state ideology over the new sovereignty construct. The process of radical change began with the Tanzimat period. Reforms have been institutionally built in education, in the military, in public spaces with legal regulations, and in active political platforms with press and broadcasting opportunities. It focused on the problem of the survival of the state and the last classical period representation of the da'wah discourse, the Islamic unity, gave its place to a new representation in the context of national unity and order.

Gülhane Hatt-ı Hümayun has a very important place in this context. The existing distance between the Nizami law and religious provisions turned into a clear difference in the Tanzimat period. It was stated that the Tanzimat was secular in terms of its laws, regulations, statutes and practices, and it shaped the direction of all reform initiatives even in the Republican era (Mardin, 1991: 45). In this context, it was considered very important that the imperial bureaucracy of the Tanzimat period created a common secular and secular style. While the ulema were trained to reveal information about the regulation of social life by going through religious education, they internalized the feeling that the orders of religion came first and that human concerns should comply with these provisions. However, the bureaucracy and the military executive wing, which had undergone modern education, were trained with a secular and idealistic reference. Moreover, the education reforms of the Tanzimat period prepared a generation of bureaucratic staff that would institutionalize religious education and people from religious education (Mardin, 1991: 43).

With the establishment of the Mülkiye Mektebi in 1859, religious provisions were compiled and tried to be systematized. However, the fact that it remained open to new needs in the face of the problems that Islamic provisions could not solve gave birth to Mecelle, which is the Western European style of presentation of Islamic law. In 1846, local education institutions were expanded under the umbrella of the Ministry of Public Education and secular education was institutionalized. The secular institutions that followed the establishment of the Rüşdiye, the Tıbbiye and the Harbiye in the later periods were founded on this basis (Mardin, 1991: 46-47).

The codes of classical Islamic and Ottoman thought were decoded during the Tanzimat period, when secular institutional and secular social change was observed on the cultural codes between religion and politics. Thus, the dominant forms of national narcissism, which is known as the "national

da'wah" expression, has been rearranged within the elements belonging to Anatolia, including the Islamist versions (Kafadar, 2005: 23). Although Islamism was accepted as the official ideology in the 1870s as the İttihad-ı İslam, national narcissism, which was indicated by the publication of the press elements after the Second Constitutional Monarchy, was effective in the establishment of the ideas of unity, independence and patriotism, and became widespread in the social and political sphere. Abdulhamid period Islamism based the Ottoman caliphate on Muslim societies and the cause of Islamic Union. However, it has been seen that the main institutional modernization process such as education, army, treasury, foundations, central administration, aside from the İttihad-ı İslam and Islamism, was established and carried out especially during the reign of Abdülhamid. It is also known today that, despite the thought of Islamism in the period of Abdulhamid, as the distinction between religion and politics settled in the institutional and legal field, the politics and ideas of Islamism became politicized after the reign of Abdulhamid. As a matter of fact, in the publications published by the Islamists after the Second Constitutional Monarchy, there were opinions against Abdulhamid and Istibdad and in favor of the army and the Committee of Union and Progress (Kara, 2011: 29). As Mardin stated (2005) While politics, as a supra-social institution, formed the decisive center with the Tanzimat, religion formed the center of the unity of beliefs and values regarding the society (Kahraman, 2010).

### **Socio-Political Critique of Da'wah Discourse in Multi-Party Political Life from the Early Republican Era**

"National Da'wah", which was the equivalent of national domination in the Republican era, became an expression of the da'wah discourse in Turkish political life with the announcement of the new regime in Turkish political life. With the "National Da'wah", the da'wah discourse was differentiated from the Islamic da'wah representation and rhetoric, as in other Muslim societies, with the aim of dominating the universal Islamic order. The da'wah discourse in Turkish political life was now ready to produce situational and multi-domain representations with its own specific values. In this context, "National Da'wah" provided a unity of discourse. In Turkish political life, national narcissism has been very important in terms of democratic socio-political opposition and obtaining power. On the other hand, the articulation of Islamism with the nation-state ideology and its analysis as the dominant ideology of the socio-political opposition were explained. The national da'wah emerged in Turkish political life as a result of the division of the da'wah discourse into local-cultural and religious defacto fields in the twentieth century. In Turkish political life, the articulation between Islamism and nation-state ideology, as a projection of the struggle against anti-imperialism in the context of the

motives of the da'wah discourse, made it necessary to draw the new spatial plane of the discourse to certain limits. For the transition to the republican period, the caliphate was also thought to be deeply connected with the past and Islamism. With the victory of the national struggle, the proclamation of the Republic and the new Turkey's nation-state ideology, which was built on nationalism, made it necessary to abolish the caliphate. Contrary to the ideology of the nation state and the construction of sovereignty, Islamism and Ummahism have always turned into "another" for the new ideology. On November 1, 1922, the National Assembly decided to abolish the sultanate. For the caliphate, the decisions were left to time as the importance of Islamism in the national struggle was known (Lewis, 1988: 258-260). It was thought that the conscientiousness and the loyalty of the sultanate and caliphate authorities were felt socially and politically and even within the parliament. In addition, since it is accepted that only a reputable authority can exercise the administration in its political culture, there was no hurry regarding the authority of the caliphate. However, despite the presence of opposition politics in the parliament, Islamism, the caliphate and the sultanate continued to throw the national state into political crises outside its borders. Although the institutional ties of the caliphate have weakened considerably, it has always been understood that its ideological presence continues throughout the Islamic geography (Ahmad, 1995: 76). For this reason, taking a dominant decision in the parliament was deemed necessary for Mustafa Kemal and the government staff. The abolition of the sultanate was consistent with national sovereignty and also led to the abolition of the caliphate. As Tunaya stated (2007: 140) For the Islamists, the rising social and political power with the Islamist movement and the Constitutional Era disappeared, and the representation of the opposition was embraced by the Islamists after the proclamation of the Republic. Islamist reactions spread over a wide area in the context of religion, politics and society in the Turkish political life of the republican period.

Major reforms, chronologically, such as The Law on Channelization of Hats (1925), the Law on the Prevention and Abolition of Shrines, Lodges and Zawiyas, and the Ban and Abolition of Shrine Offices and Certain Titles (1925), determination of Sunday as a week holiday instead of Friday, acceptance of the clock in the new order (1925), Adoption of a Calendar Change (1926), Adoption of the Turkish Civil Code (1926), Acceptance of International Numbers (1926), Adoption of Latin Letters (1926), removal of Arabic and Persian languages from education programs (1929) as Kara suggested (2009: 32) has targeted the Islamic lifestyle and decisiveness of religion on public area. The most important among these reforms was the institutionalization of matters related to creed and worship with the Presidency of Religious Affairs under the Prime Ministry as the

official decision maker in 1924. In the following process, in 1928, the phrase "Islam is the religion of the state" was removed from the constitution, and in 1937, the principle of "secularism" was included among the unalterable articles of the constitution (Tunçay, 2009: 92). On January 30, 1932, the adhan was heard for the first time in a language other than Arabic, in Turkish, in Istanbul Fatih Mosque. For the first time, Muslims went to mosques to witness such a situation, and through the press of the period, headlines were given to the public about the Turkish adhan in which mosque by which hafizes. In 1941, as per the Turkish Penal Code, the adhan in Arabic was prohibited. It was stated that until the Democratic Party period, there was a serious control of Islamic life in the public sphere as required by this law. In the transition to multi-party political life, the promises in the party statutes and declarations of many political parties about making the Islamic life livable in the public sphere, especially the adhan to be called out in Arabic, were based on this Turkish adhan issue during the Single Party period (Ayhan ve Uzun, 1995: 40).

In this context, positivism and secularism emerged as the axis of the tension of Turkish politics between Islamism and Kemalism in the modernization process. The general framework of the representations of the da'wah discourse in the context of religion, politics and society, and its definition in the collective memory as "non-religious, anti-religious or anti-Islamic" stemmed from this. Especially one of these two main concepts, which express epistemological and ontological break, has been interpreted as secularization, elimination of the religious sensitivity of the society and the subordination of religion to the state, with the renewal of secularism and social norms. Here, the founding cadres' definition of modernization in the universal category, not from a Western historical perspective, but from a historicist positivist perspective, has been influential in the design of a non-religious Turkey (Kurtoğlu, 2005: 205-206). In this context, Kemalism has taken the discourse on the creation of a new secular, modern and Western Turkish identity and the undivided, homogeneous and harmonious unity of the Turkish nation. Therefore, the place of religion in the nation-state ideology for Kemalism was left as an unstable and ambiguous place. Institutional structures, in which the nation-state ideology was new, had to gain its legitimacy through being able to dominate traditional institutions in tension with Islam. It is thought that ambiguous and uncertain borders can be drawn by keeping the Islamic life in the private sphere (Çelik, 2009: 87). Kemalism is positioned against religion in terms of the social situation. It was desired to engage in hostility to religion, and the approach to Kemalism, which also expresses republican reforms by Islamists, was seen to be highly related to anti-religion. The reason for this approach was seen as the realization of reforms in situations that could be considered radical as of the Single Party period.

## **Political Socialization of Da'wah Discourse**

The emerging process of the da'wah discourse helped the Turkish right wing, who was caught in the middle of these dualities since the declaration of Republic, to rise on the political platform. Since the Single Party period, the accumulation of social opposition has sought a political opposition with the articulation of ideology and discourse. The transformation of Islamic life into a struggle for rights in the public sphere paved the way for political movements to be organized according to their own specific values. Considering the establishment of the Democratic Party and its coming to power with the transition to a multi-party political life, it is not possible to qualify it as an Islamist party. However, the importance of the Democrat Party for the Turkish right is that the Islamist movement was able to organize from the grassroots together with the Democrat Party, and that it had the opportunity to live in the public sphere and gained rights. According to Mardin (1991: 31) With the spread of social opposition in the 1940s, Islamist groups took a place both in power and in opposition parties in 1948. Although the Democrat Party came to the forefront due to the historical link established between its coming to power and the transition to a multi-party political life, many political parties were established during the period, highlighting traditionalism and with intense sympathy from the Islamists. In this context, the Nation Party is a political party that has become the focus of attention of Islamists. The teaching of religion classes in schools and the opening of theology schools are clearly stated in the program of the Nation Party (Edip, 1950: 7). However, although it did not turn into a strong political opposition against the republican reforms, Islamists showed a moderate output within the consolidated political party, the Democrat Party. Concessions from the secular policies of the One-Party period between 1945 and 1950 were achieved in this way.

The first issue addressed in the Democratic Party's power was to change the arrangement for adhan to be called out in Arabic. After 18 years passed since the adhan was called out in Turkish in the month of Ramadan in 1932, the adhan was called out in Arabic again in the month of Ramadan in 1950. According to the Democrat Party circle, adhan to be called out in Turkish has definitely not been in the conscience of the society. Some of the republican reforms could not hold for Adnan Menderes, the leader of the Democratic Party, who is known as the "savior of Islam". For the issue, which is also included in the Islamist literature, May 14 was referred to as "a great test day where the believer and the unbeliever will be separated" (Edip, 1950: 3). On June 16, 1950, with the enactment of the adhan to be called out in Arabic by the Menderes government, the Democrat Party was highly exalted for Islamist publications and circles. After this event, which is known as "the Turkish nation's faithfulness to its faith" and "the victory

of the Ummah", the bans on the radio were lifted on July 5, 1950 and the Koran broadcasts were broadcast on the radios.

The new religious education approach, idealized on the rejection of tradition, includes the issues of Imam Hatip schools as a "public sphere" as an official educational institution, apart from the mosques and "turban", rather than a single dimension. Considering this situation, with its political and social contradictions, it has continued as a strong representation of political parties in the Turkish right within the da'wah discourse in every period.

In the 1930s, twenty-nine Imam Hatip schools were opened in Turkey. However, this number decreased over time as there were not enough people and some of them were closed (Eski, 1991: 14). After the unity of education and training, religion lessons were included in the curriculum. In 1932, religion classes were abolished at the secondary school level, and in 1935, religion classes were abolished in all schools (Turan, 1999: 101).

Until 1948, there was no official religious education in Imam Hatip schools and other schools. After the rise of Islamism with the transition to multi-party political life from the 1950s, the increase in Imam Hatip schools has been observed to a remarkable extent. Previously, 8-10 months of religious education and Imam Hatip courses were opened by the deputies of the Republican People's Party. In 1951, with the efforts of Celalettin Ökten, the Democratic Party government accepted the opening of Imam Hatip schools, and religious education became institutionalized and widespread (Akşit ve Coşkun, 2005: 398-400).

Imam Hatip schools as religious education and educational institutions have been seen by Islamists as the real framework of Islamic re-awakening in Turkish political life. Imam Hatip schools, with the existence of organizations such as associations for building Imam Hatip schools and the determination of families to send their children to Imam Hatip schools, especially in the context of Anti-Communism, has been the most important agenda of political parties on the Turkish right since the 1960s and in the 1970s. While they are defined by the official ideology and strict secular political parties as institutions that train "militant, mujahedeen, individuals dedicated to da'wah" for the establishment of a theocratic state, they are defined as institutions that train intellectual clergy within the Kemalist system for some Islamist masses and sects with sharp rules. In fact, according to the acceptance among the members of these sects, it has been claimed that the prayers performed behind the "imams trained by the state" are not valid (Akşit ve Coşkun, 2005: 394). In the origins of this approach, it was aimed, as stated in the Law of Tevhid-i Tedrisat, where Islamist

reactions emerged “to establish a theology in Dar'ül-Fünun to train high religious specialists and establishing separate schools for the training of officials responsible for the performance of religious observances such as Imamate and Oratory” (Çakır, Bozan ve Talu, 2004: 57). It has been the attitude of the da'wah discourse that has determined the political reaction and organizational movements of the Islamists since the 1960s (Taşkın, 2008: 618). As the representation of the Democrat Party and the Justice Party on the Turkish right began to be discussed by the nationalist and Islamist side, new political movements emerged with statist, developmentalist and with an attitude to vindicate local-cultural and national values (Akın ve Coşkun, 2017: 9).

## **Conclusion**

The historical break of the da'wah discourse as of the 20th century is seen as the fact that da'wah is free from traditional images rather than being a universal call of Islam. This historical process, which enables Muslim societies to reorganize politically, socially, culturally and economically, to protect themselves against the intellectual and historical other, and to produce the discourse, has included some facts. With the abolition of the caliphate, the religious and political ontological field center was separated from the existence of authority. With the abolition of the caliphate, which was embodied in the Ottoman Empire in the last period, local-cultural and religious defacto areas became evident in the Islamic geography. Towards the end of the 1950s, Islamist intellectual and political leaders and activists brought Islam to the masses with popular elements such as media tools and seminars, and eliminated the need for the traditional organizational style that did not allow organization in public spaces through *ijtihad*, which symbolizes the renewable nature of Islam. Organizations with local characteristics and sensitivities such as associations and foundations, political and social action plans, issues such as management, civil society, economic and legal structuring, and education level were the subjects of the populist slogans of the social agenda. However, according to Edwards, the central connection of all this with Islamism was reinforced by binding slogans such as "Islam is the solution". However, although it differs in daily life with the resurrection phenomenon of intellectual and political leaders who have undergone secular education, the issue that embodies the intellectual connection is seen as "secularism". Secularism has been described as a curse on Muslims, especially after the 1960s. Because the source of obstacles and problems in front of the welfare of Muslim societies is based on the acceptance that alternative political ideologies such as nationalism or socialism, which contain modern codes of secular life, have failed. According to Islamist thinkers and leaders, these ideologies could not make meaningful contributions to freedoms such as association and

expression, justice in income distribution, and equality between social classes in the Islamic geography. Therefore, it has been adhered to the idea that the only source of solution is in "Islam". From the late 1960s onwards, Islamic revival and da'wah activities were thought to have reached an almost worldwide dimension. As a leading example of Islamic organization, many tools produced and supported by the Muslim Brotherhood movement have been used. Since the 1960s, associations, cultural centers, religious preaching chairs have become widespread for Da'wah members to carry out seminar activities, especially for the staffing of youth and young members. Weekly magazines and newspapers, leaflets to broaden the ideology at the base have been identified as elements of these tools. In the organization of the Islamist ideology, the sociological base of the youth consisted mostly of students and university graduates, who were involved in urban life from rural areas in some way, as a result of which they were in conflict with the ruptures in the integrity of values and beliefs. It is possible to define them as young people who "turn towards Islam". It is also seen that their socioeconomic status is almost similar. However, the main common denominator is the fact that the masses, mostly young people, are in a spiritual search. The most important emotional and intellectual foundations for their struggle in the Islamic medium are the social changes that took place in the middle of the twentieth century. These historical processes show that the acquisition of Islamic identity is based on a willing motivation. Although the education obtained from the family is effective, Islamic identity is acquired effectively and quickly within the group, within the community of which one is a member of the community. Considering that it was not very easy to reach Islamic publications, especially as of the period, this identity mindset spread through the "hand to hand" method, and the formation of awareness shows the importance of the Islamist organization as mentioned. The populist tendency of the Islamic organization, which expanded from the bottom up, along with the awakening phenomenon, did not reduce its theological connections; on the contrary, it fed their discursive practices. The intellectual form of the communiqué or "da'wah" (call) activities have been adapted to modern responses, and the call of Islam has strengthened the political identities of Muslims on various platforms. Especially in the 1960s, Muslims saw themselves as tasked with "bringing back to the straight path", which was the slogan of that period, in opposition to communism. Da'wah members participated in prominent social work in slums, in poor and refugee camps. In this way, the relations strengthened by Islamic ties, together with the unity of social and political subjects, created a strong mass that is ready to organize and has the awareness of awakening. Considering all these processes, it is possible to say that the Islamic organization and the discourse of the cause are articulated to the nation state ideology; da'wah discourse, through the management of the nation-state with Islamic



references, has become the target of government power by organizing from below.

## References

- Akın, M. H. and Coşkun, B. (2017). Türkiye Siyasi Kültüründe Sağ-Sol Ayrımı ve Millî Görüş Hareketi. *ESAM-Turkish Studies Milli Görüş Özel Sayısı*, Cilt 12, ss.1-10.
- Akşit, B. and Coşkun, M. K. (2005). Türkiye'nin Modernleşmesi Bağlamında İmam-Hatip Okulları. Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye'de Siyasi Düşünce İslamcılık* içinde (ss.394-410), İstanbul: İletişim Yayınları.
- Aktay, Y. (2005). Halife Sonrası Şartlarda İslamcılığın Öz-Diyar Algısı. Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye'de Siyasi Düşünce İslamcılık* içinde (ss. 68-128), İstanbul: İletişim Yayınları.
- Ahmad, F. (1995). *Modern Türkiye'nin Oluşumu*. (Çev. Yavuz Aloga), İstanbul: Sarmal Yayınevi.
- Ayhan, H. and Uzun, M. İ. (1995). Ezanın Türkçeleştirilmesi. *TDV İslam Ansiklopedisi* içinde (Cilt 12, ss. 38-42). İstanbul: TDV İslam Araştırmaları Merkezi.
- Black, A. (2010). *Siyasal İslam Düşüncesi Tarihi Peygamberden Bugüne*. (Çev. Sevdâ Çalışkan ve Hamit Çalışkan), Ankara: Dost Kitabevi.
- Çağlayan, S. (2011). *Müslüman Kardeşler'den Yeni Osmanlılar'a İslamcılık*. İstanbul: İmge Kitabevi.
- Çakır, R., Bozan, İ. and Talu, B. (2004). *İmam Hatip Liseleri: Efsaneler ve Gerçekler*. İstanbul: TESEV Yayınları.
- Çelik, N. B. (2009). Kemalizm: Hegemonik Bir Söylem. Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye'de Siyasi Düşünce Kemalizm* içinde (ss. 75-91), İstanbul: İletişim Yayınları.
- Dökmeciyan, R. H. (2003). *Arap Dünyasında Köktencilik (Devrimci İslam)*. İstanbul: İlke Yayıncılık.
- Edip, E. (1950). Partilerin Din Siyaseti. *Sebilürreşad Dergisi*, Cilt 4, Sayı 76, ss.3-8.
- Eski, M. (1991). *Cumhuriyet Döneminde Bir Devlet Adamı: Mustafa Necati*. Ankara: ATAM Yayınları.

- Görgün, T. (2011). Tecdid. *TDV İslam Ansiklopedisi* içinde (Cilt 40, ss.234-239), İstanbul: TDV İslam Araştırmaları Merkezi.
- Guidere, M. (2012). *Historical Dictionary of Islamic Fundamentalism*. Lanham: The Scarecrow Press.
- Yüce, N. (1988). Ağaoglu Ahmet. *TDV İslam Ansiklopedisi* içinde (Cilt 1, ss.464-466), İstanbul: TDV İslam Araştırmaları Merkezi.
- Kahraman, H. B. (2010). *Türk Siyasetinin Yapısal Analizi 1.*, İstanbul: Agora Kitaplığı.
- Kafadar, O. (2007). Cumhuriyet Dönemi Eğitim Tartışmaları. Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye’de Siyasi Düşünce Modernleşme ve Batıcılık* içinde (ss.351-358). İstanbul: İletişim Yayınları.
- Kara, İ. (2009). *Cumhuriyet Türkiye’si’nde Bir Mesele Olarak İslam*. İstanbul: Dergâh Yayınları.
- Karpat, K. H. (2001). *İslam’ın Siyasallaşması Osmanlı Devleti’nin Son Döneminde Kimlik, Devlet, İnanç ve Cemaatin Yeniden Yapılandırılması*. İstanbul: İstanbul Bilgi Üniversitesi Yayınları.
- Karatepe, T. Ç. (2001). İslam Mecmuası. *TDV İslam Ansiklopedisi* içinde (Cilt 23, ss.53-54), İstanbul: TDV İslam Araştırmaları Merkezi.
- Kurtoğlu, Z. (2005). Türkiye’de İslamcılık Düşüncesi ve Siyaset. Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye’de Siyasi Düşünce İslamcılık* içinde (ss.201-216), İstanbul: İletişim Yayınları.
- Lewis, B. (1988). *Modern Türkiye’nin Doğuşu*. (Çev. Metin Kırıtlı), Ankara: Türk Tarih Kurumu.
- Mardin, Ş. (1991). *Türkiye’de Din ve Siyaset*. (Der. Mümtaz’er Türköne, Tuncay Önder). İstanbul: İletişim Yayınları.
- Merad, A. (1993). *Çağdaş İslam*. (Çev. Cüneyt Akalın), İstanbul: İletişim Yayınları.
- Peters, R. (2014a). 18. ve 19. Yüzyıllarda İçtihad ve Taklid. N. Okuyucu (Ed.), *Batı Gözüyle Tecdit İslam Dünyasında Tecdit Hareketleri 1700-1850* içinde (ss.75-88), İstanbul: Klasik Yayınları.
- Peters, R. (2014b). 18. ve 19. Yüzyıl İslami Fundamentalizm ve Protestan Kalvenizmde Seçilmişlik Öğretisi. N. Okuyucu (Ed.), *Batı Gözüyle*

*Tecdit İslam Dünyasında Tecdit Hareketleri 1700-1850* içinde (ss.183-194), İstanbul: Klasik Yayınları.

Sümer, F. (1992). Yavuz Selim Halifeliği Devrıldı mı?. *Belleten*, Aralık Cilt 6, Sayı 217, ss.675-701.

Taşkın, Y. (2008). Anti-Komünizm ve Türk Milliyetçiliği: Endişe ve Pragmatizm. Tanıl Bora ve Murat Gültekin (Eds.) *Modern Türkiye’de Siyasi Düşünce Milliyetçilik* içinde (ss.618-634), İstanbul: İletişim Yayınları.

Turan, Ş. (1999). *Türk Devrim Tarihi 4*. İstanbul: Bilgi Yayınevi.

Tunçay, M. (2009). İkna (İnandırma) Yerine Tecebbür (Zorlama). Tanıl Bora ve Murat Gültekin (Eds.), *Modern Türkiye’de Siyasi Düşünce Kemalizm* içinde (ss.92-96). İstanbul: İletişim Yayınları.

Tunaya, T. Z. (2007). *İslamcılık Akımı*. İstanbul: İstanbul Bilgi Üniversitesi Yayınları.

Voll, J. O. (2014). Tecdid ve İslahın Temelleri: 18. Ve 19. Yüzyıllarda İslami Hareketler. N. Okuyucu (Ed.), *Batı Gözüyle Tecdit İslam Dünyasında Tecdit Hareketleri 1700-1850* içinde (ss.39-50), İstanbul: Klasik Yayınları.

Ülken, H. Z. (1992). *Türkiye’de Çağdaş Düşünce Tarihi*. İstanbul: Ülken Yayınları.

## 2

### The Rise of the Left Discourse in Turkey and Workers' Party of Turkey (1961- 1971)

*Fatma Okur Çakıcı (Karamanoğlu Mehmetbey University)*  
ORCID ID: 0000-0003-3708-399X  
*fatmaokurcakici@kmu.edu.tr*

#### **Abstract**

*Workers' Party of Turkey (WPT)'s getting into the parliament is one of the most important political developments after the coup of 1960. In 1960s the party was protecting labor rights in the parliament by representing the Turkish left wing. To bring a new understanding to the parliament, by defining itself as the representative of the workers and other proletarian, it aimed to solve the political and economical problems of this class and to protect their interest. WPT was suggesting radical solutions to the economical and social problems of the country by displaying a strong opposition. In this study, the emerge, development of Workers' Party of Turkey (1960-1970) and its approach to the political and social problems in the continuing periods is assessed by arguing its importance for Turkish Left, as well as, its effect on the rise of the Left discourse in Turkey.*

*Keywords: Workers' Party of Turkey, Left in Turkey, Direction Movement*

#### **Introduction**

After the coup of 27 May, social state concept, collective agreement and right to strike brought out a pluralist understanding and the entities on the left of RPP (Republican People's Party) found the chance to move. In 1961, 12 trade unionists founded Workers' Party of Turkey and Mehmet Ali Aybar became its first chairman in 1962 (Akşin, 1996: 234).

Workers' Party of Turkey (WPT) has become the most important legal representative of the socialist movement in Turkey since 1960s-1970s. In its active period, it had major effects on introduction to the masses, impression on and legitimization of socialism in the country. One of the most important political developments of 1960s was the founding of WPT and the effect it has created on the country in general.

The strategy WPT has developed in political process can be qualified as "new". Because, instead of inheriting a legacy from Communist Party of Turkey (CPT), which was the only socialist tradition in Turkey, WPT's socialist revolution strategy was tried to be emerged against the National Democratic Revolution (NDR) movement, which was the continuator of this tradition in 1961-1971, and in conflict with it (Şener, 2008: 356).

Even though it was seen more modest to the public opinion, this socialist struggle, which is idiocratic and free from the other leftist movements, WPT carried on had difficulties to find enough support. The biggest achievement of the party in means of elections was achieved in 1965 elections. Especially, after the chairmanship of Aybar the party started to be more active in public opinion and on the political stage.

The party, which made quite a name for itself, was shut down after the memorandum of 1971. Although it was opened again after the administration became civil again after the memorandum, it couldn't reach to its old success. However, the marks the party left in the name of Turkish left are still among the matters that are debated today.

## **WPT Political Life**

In order for the left movement, which aimed to establish a new social and political system in Turkey, to emerge, first of all, traditional concepts related to authority and social organization had to be destroyed and for the left understanding of power to emerge, the traditionalist thought, which dealt with the administration and power from a spiritual point of view, had to disappear. This process started slowly in the Ottoman Empire and accelerated in the Republic of Turkey. The reforms implemented in the administration prepared a suitable environment not only for modernization, but also for the development of the left movement (Karpas, 2015: 72).

As a result of the relatively liberal environment provided by the 1961 Constitution, the working class and university youth came to the fore in the context of the social movements of the 1960s (B, 2019: 100). The 1960s were the years when a new wave emerged not only in Turkey but also in Western Europe (Kahraman, 2010: 212).

Although many left intellectuals thought that a new, progressive Turkey would emerge after May 27, the elections broke their hopes and the left intellectuals began to despair of the parliamentary process. Parliamentaryism was being ridiculed as "the pretty democracy", "Philippine Democracy" (A, 1996: 235). Socialism in Turkey has become

both an ideology and a technique of action after the 1960 coup. The technique it contained aimed at the rapid modernization of economic life by rationally organizing it. The aim was to increase production, expand the participation of the people in economic and political life, and ensure respect for labor and social justice (Karpas, 2015: 216).

Although the WPT was founded in 1961 by 12 union leaders belonging to Türk-İş, who had a moderate left appearance, left-wing intellectuals later joined the party (H, 2006: 467). The party's real activities in political life began with the election of M. Ali Aybar, a former faculty member of the Istanbul University Faculty of Law, as the chairman (Özdemir, 2005: 255). Aybar and his friends interpreted the 1961 Constitution and realized their political actions in line with this goal, considering that the society intended in the constitution could be realized in a socialist order (Özdemir, 2005: 256).

Founded on the day the Ministry of Interior lifted the ban on political activities, the original intention of the WPT was to introduce workers' representatives to parliament (K, 2015: 219-220). WPT entered Turkish Political Life while the "nationalist" and "pro-Soviet" socialist intellectuals were searching for a new party. Seizing this opportunity, political intellectuals organized and the synthesis of the specific and pragmatic initiatives of the progressive trade union movement emerged with a socialist party identity (Ünsal, 2019: 19).

Kemal Türkler, one of the active names among the trade unionists, did not want to be the party chairman due to the fact that he was the head of the Maden-İş Union and his workload. For this reason, Avni Erakalın, President of the Istanbul Trade Unions Union, was appointed as the chairman of the WPT in 1961. After Erakalın's resignation from the party chairmanship and membership before the 61 elections, Mehmet Ali Aybar was elected instead (Ünsal, 2019: 114-121). WPT's transformation from a union appearance to a political party and the progress of its activities in this direction began to take shape with the participation of Aybar and other socialist intellectuals.

After Aybar became the chairman, the reputation of WPT started to increase even more. In addition to Aybar, names such as Behice Boran, Sadun Aren, Yaşar Kemal, Nihat Sargın took part in the party, and together with these names, the party began to have a more concrete and clear program in the political and ideological context (Börklüoğlu, 2019: 101). Together with Aybar, the party started to open branches in the provinces and tried to spread its views, but at first it was not successful. Having campaigned for the repeal of articles 141 and 142 of the Penal Code in

1962, the party hoped to freely hear and defend the idea of "class struggle", which was prohibited by these articles. The campaign was also supported by all left-wing publications, and the party did not cease to make a positive public impression, tacitly denying any affiliation with communism in order to attract workers and intellectuals (Karpaz, 2015: 221-222).

Aybar argued that "the real democratic revolution is possible only if the masses of working people come to power under the democratic leadership of the Turkish working class, with the educational and stimulating effects of the WPT, within the framework of the constitution, and thus realize progressive economic and social conditions" (Saribay, 2001: 58) . Therefore, in Aybar's view, for socialism to exist, it was necessary not to deviate from democracy and constitutional principles.

With the left intellectuals joining the party, a revival started in the WPT, and the necessity of re-evaluation of the statute and program emerged. WPT, which entered the "process of becoming a socialist" since February 1962, accepted the new program and kept the program with minor changes until the party was dissolved (Ünsal, 2019: 217).

If the social and political conditions of the period in which WPT was born and the situation of WPT in these conditions is evaluated (Varel, 2021: 397-433):

- During the DP (Democratic Party) era, it was a question of the masses leaving their villages and moving to the cities. This situation caused the proletarianized masses to be more inclined to current political issues,
- The economic policies of the DP government were effective in the massification of the leftist structure in the country. Because DP tried to crush the left every time it raised its head,
- International conjuncture was also influential in the left's gaining power in Turkey in the 1960s. Parallel to the increasing leftist tendency in the world, a similar situation has been observed in Turkey,
- The Cyprus problem has emerged, the Johnson Letter has caused a serious reaction against the USA in the Turkish public opinion, the WPT has gained prestige in the society against the US-dependent policy of the government,
- The US attitude in the Israeli-Palestinian tension and the Vietnam War strengthened the anti-imperialist campaign of the WPT in the following years,

- Publishing activities in the country also contributed greatly to the development of left/socialist thought in Turkey in the 1960s.

Throughout the period, WPT tried to bring the concept of “class” to the fore in its strategies. The majority of the party leaders acted with the belief that, within the possibilities given by the relatively democratic Constitution, it would be enough to bring the party to power by raising Turkey's problems in terms of class (Belge, 1983: 2123).

WPT's program revealed its determinations on Turkey's socioeconomic and political structure, emphasizing that the way to get rid of the country's backwardness was to change the structure of society with "necessary fundamental transformations" (Ünsal, 2019: 21).

The concepts that the WPT used to describe its main aims such as social justice, social security, human rights, economic and social rights were reformist concepts inherited entirely from the bourgeois legal system. The concepts of justice and rights have been used since the beginning of the 19th century to correspond to bourgeois reformist practices aimed at regulating relations between the bourgeois state and citizens in general, and between the working class and the bourgeoisie in particular. In Turkey, in order to be able to talk about all these, one had to be a "socialist" and be in the conditions after 1960, when there was a relative political expansion. While this showed the level of understanding of socialism, it also pointed to a content that narrowed the scope of the people and the workers' movement and did not meet the ideological and political needs of this movement (Akdere, Karadeniz, 1994: 263).

WPT has become a coalition that brings together various left circles and left intellectuals in Turkey. Three main factions, trade unionists, intellectuals, and "easterners", constituted the WPT's administration (Ünsal, 2019: 22).

The WPT participated in the October 1965 and October 1969 general elections. Previously, it participated in the 1963 local elections, but did not have the opportunity to show itself. In the mid-1960s, the words "democracy, independence, socialism" were bringing hope to the intellectuals, youth, workers and parts of the countryfolks. However, attacks with stones and sticks against the WPT were never lacking until they entered the parliament in the 1965 elections (Ünsal, 2019: 24). Almost every WPT meeting was attacked by reactionary-fascist groups, their buildings stoned and their members beaten. The use of violence against the WPT was effective in initiating a debate on radical methods of struggle among the WPT member youth and in the emergence of a tendency towards violence in later developments (Akdere, Karadeniz,



1994: 265). Attacks on the WPT decreased somewhat with the party's entry into parliament.

According to the amendment made in the election law before the 1965 elections, the system of distributing the remaining seats among the parties (national balance) was applied by combining, at the country level, the discarded (excess) votes that could not be evaluated in an electoral district (Özdemir, 2005: 250). The weakness of the coalitions established between 1961 and 1965 facilitated the rise of the WPT, allowing the party to directly 2 deputies to be elected and 13 according to the National Balance system in the 1965 Elections (Karpas, 2015: 236). Thus, for the first time in Turkish Political History, a socialist party formed a group in the parliament. With the participation of the WPT's Socialist deputies in the parliament, a platform was formed in the parliament where internal and external problems could be discussed despite obstacles (Özdemir, 2005: 251).

The WPT's success in the 1965 elections had placed the party in an "exclusive" position. In addition, the party's prestige, effectiveness and legitimacy had expanded with its active opposition in the parliament. Party head workers and manual workers, that is, intellectuals and workers of origin, who were in ideological conflict among themselves, were in disagreement over the equal representation. In the 2nd Congress held in Malatya in 1966, the debates on the "national democratic revolution" and "socialist revolution" brought the schism within the party to the surface (Ünsal, 2019: 25). The distinction between "head workers and manual workers", which is related to populism and constitutes a class debate in the party leadership, constituted the biggest point of separation within the WPT (Bora, 2017: 617-619).

The second major split in the WPT emerged in 1968 with the military intervention of the Warsaw Pact states in Czechoslovakia. While Behice Boran and her friends condemned the intervention, Aybar's exaggeration of the condemnation drew much attention and this attitude of Aybar was described as "Aybarism", not Socialism (Bora, 2017: 620-621).

Although it increased its votes in the 1968 local elections compared to the 1963 local elections, the party's vote rate decreased when compared to the 1965 general elections. In the 1969 elections, the WPT was able to win only 2 parliamentary seats, as the national balance system was abolished (Özdemir, 2005: 251). The abolition of the National Balance system led to the closure of the parliamentary path to WPT and similar parties and the strengthening of the extra-parliamentary left opposition. This understanding of opposition especially affected the student body, and they

adopted the way of armed struggle by 1970, with the understanding that the idea of revolution could not be possible with democratic politics (Börklüoğlu, 2019: 106).

Left-wing thought, which had the opportunity to develop partially with the 1961 Constitution prepared after the 1960 military coup, was able to take its place in the parliament through the WPT with the 1965 elections. As a result of the decisions taken in the 12 March Memorandum, the party was closed in 1971 and its leaders were arrested and sentenced to various punishments. Although it was reorganized in 1975 under the leadership of Behice Boran, it could not achieve its success in the 60s. Like other political parties, WPT was closed down with the September 12 Coup. It merged with the CPT in 1987 and became the United Communist Party of Turkey (UCPT), but this party was dissolved.

### **Direction Movement and National Democratic Revolution**

The developments in the country created an important opportunity to convey the ideas of left-wing intellectuals to wider masses. In these years, one of the most effective ways of disseminating their ideas to large masses was to use the written and visual media, and left thinkers and young people also used this method effectively. This situation contributed to the development of printed publications and many left-wing magazines and newspapers were published. Direction Magazine, which is one of these publications, was the spokesperson of intellectuals such as teachers, various professionals and left-wing members of the RPP. The aim of this group was to establish a socialism dominated by intellectuals. Shaped by organizations such as Direction and similar publications, the Socialist Cultural Association founded in 1963, socialism aimed to develop, strengthen and protect the social system rather than radically changing it, while opposing free enterprise, parliamentary democracy and the West (Karpaz, 2015: 217-218).

Operating between 1961 and 1967, Direction started its activities by backing a well-attended intellectual statement and reached 30 thousand sales. The magazine, which has a great impact on the spread of leftist ideology, is also an important factor in the hegemonic effect of the ideology (Bora, 2017: 609).

Doğan Avcıoğlu, Mümtaz Soysal, İlhan Selçuk and İlhami Soysal are the first names that come to mind when the Direction Magazine is mentioned. The rise of the authoritarian rule of the DP towards the end of the 1950s and the opposition developed against it were effective in the birth of this movement (Şener, 2021: 362).

Direction magazine opened its columns to everyone from Left Kemalists to social democrats and former TKP members, touched upon many issues from Turkey's dependence on the USA to unequal income distribution, distorted capitalization, domestic and foreign exploitation, economic and social backwardness, the Eastern problem, and women's rights (Ünsal, 2019: 20). In addition, they believed that socialism could be established with a struggle led by the working class in Turkey and in underdeveloped countries in general, but they did not deny the class struggle (Şener, 2021: 367).

The aim of Direction Magazine was the creation of a statist model of development and a developed working class that did not exclude the private sector, apart from Capitalism and Socialism. Thus, the necessary conditions for socialism would be prepared. Because, according to them, Turkey had not yet gained its independence due to its dependence on imperialism and could not complete the bourgeois revolution (Varel, 2021: 415).

Some of the founders of the Direction Movement aimed to establish their own socialist parties, but Behice Boran, a former sociology professor and WPT leader, described these efforts as "capitalist conspiracies" trying to defeat workers (Karpas, 2015: 220) because the divisions that would arise, in this period when the socialist movement began to develop, would carry the movement to different extremes and prevent meeting under one roof.

It is thought that there are two reasons behind the fact that the direction movement did not fully oppose the parliamentary method until the 1965 elections. First of all, they did not want to face the RPP directly because of its policy of bringing together all the progressive forces in the country. Although they were critical of the RPP, there was a belief in the Directioners that the RPP still contained a progressive group. Secondly, they were of the opinion that before the 1965 elections, İsmet İnönü's "left of center" approach brought the RPP a little closer to the people (Altay, 2019: 252). Later this would be embodied as "social democracy" or "democratic left" (Akşin, 1996: 234).

The magazine was a common thought platform of the left. However, it could not find the opportunity to influence the WPT, which was the socialist focus of the period, and turned away from the party after the 1965 elections. After its closure in 1967, discussions of socialism were concentrated in the magazines "Oath" and "Turkish Left" (Bora, 2017: 609-610).

Since the mid-1960s, the historical stage of Turkey has been discussed in Marxist circles. While Aybar and the WPT main group argued that Turkey was ready for a Socialist Revolution to be realized through democratic means, a group led by Mihri Belli argued that Turkey had feudal characteristics, was Asian, the proletariat was weak, and revolutionary change could only be achieved through a coalition of intellectual officers and officers. This movement, called the National Democratic Revolution, was transformed into the "Revolutionary Youth" organization, known as Dev-Genç, in 1968, by dominating the administration of the Federation of Intellectual Clubs (Zurcher, 1995: 372).

The defenders of the theory of National Democratic Revolution claimed that the National Liberation War was an unfinished bourgeois-democratic revolution, but based on two determinations: that the relations of dependency on imperialism continued and that an anti-feudal struggle to ensure the realization of "fundamental rights and freedoms" was not carried out. WPT, on the other hand, claimed that the "bourgeois democratic revolution has essentially been completed", while repeating the basic determinations of the theory of the National Democratic Revolution, it came up with the opposite result (Akdere, Karadeniz, 1994: 280).

In a way, the NDR was a continuation of the communal CPT. The feature that distinguishes the NDR from the others was that it had "a gradual, front-based revolutionary strategy and tactic, even if it was based on the leadership of the military-civilian-intellectual group" (Yurtsever, 2008: 79-83).

The understanding of the National Democratic Revolution, led by Mihri Belli, had an impact especially on the youth. The NDR, which gave priority to the bourgeois revolution in parallel with the Direction Movement, similarly gave priority to the national bourgeoisie and brought civil military intellectuals to the fore (Altay, 2019: 239).

## **WPT and its Reflections on the Turkish Left**

Leftist thinking in Turkey was generally used as a response to the needs arising from modernization. In order for a new system to be introduced, the political ideals of the intellectuals had to be unhindered. While social ideas began to spread with the Revolution Hearths, where students were predominant, from the 1950s, the discussions were taking place over the defense of Kemalism. These discussions turned into discussions of contemporary social and economic problems after 1954 (Karpat, 2015: 77-85).

The WPT emerged in the political struggle between the "statist" RPP who was behind the May 27 Movement, the "Kemalist" military and civilian bureaucrats behind the May 27 Movement, and the private entrepreneur conservative and liberal circles trying to fill the vacuum of the closed DP (Ünsal, 2019: 20). Alongside the JP (Justice Party) and the RPP, it was the only political organization of the left. Socialism, which has been described as a terror regime and system-destroying system for years until that day, was not intended to be a revolution, but a political transition through democratic means by organizing and raising awareness of the workers and large masses of the people.

WPT aimed to resolve issues such as union organization, labor legislation, strikes and collective agreements, which were formed outside the initiative and line of the TKP and were neglected at that time (Ünsal, 2019: 20). Believing that top-downism perverted socialism, the party accepted centralism within the mandatory limits of the Political Parties Law, but balanced it by including manual workers in its organs (Aybar, 2020: 75).

WPT prevented Hikmet Kıvılcımlı from being a member of the party and removed Mihri Belli from the party in order to avoid the influence of the so-called "old rifle" CPT members and to reduce the influence of the old cadres in the party. The aim was not only to prevent leadership competition, but also not to be exposed to "external" (Soviet) influences and to prevent police prosecution (Bora, 2017: 618). The biggest difference between it and the CPT is that it was able to get rid of its identity as a minority elite group, connect with the masses, find a place in politics in a legal sense and bring the left to the masses (Firat, 2019: 17).

Left parties established in Turkey until 1960 could not be active in social and political life, but the Turkish labor movement gradually became stronger and increased its effectiveness (Ünsal, 2019: 127). The structural differentiation that emerged after the 1960 Coup, the change in roles and statuses among social groups, and the increase in political activities were the origins of the social awakening in Turkey (K, 2015: 216). In 1965, university youth started the process of politicization with the entry of WPT into the parliament on the left, and the "Federation of Idea Clubs" (FIC) founded by students who were sympathizers of this party continued its activities by organizing in universities. Founded in 1969, DEV-GENÇ (Turkish Revolutionary Youth Federation) played a role in the Turkish leg of the worldwide student movement of 1968 (Özdemir, 2005: 260).

The events of 1968 in the West began to resonate in Turkey as well. Student occupations began to take place, first in Istanbul University and then in many other higher education institutions. These actions put WPT

in a difficult position. Party leaders were aware of the difficulties of keeping a socialist party alive in the country and from the beginning they preferred to take action without going beyond the constitution. WPT's discomfort was evident in the negotiations initiated in the Assembly on the occupation of the university. Right-wing parliamentarians condemned the occupation in the strongest terms. Speaking on behalf of the WPT, Behice Boran defended the event by likening it to a "sitting protest", but it was clear that the occupation was not at this level (Belge, 1983: 2123). In 1968, university occupations, bloody Sunday, factory protests were taking place, and WPT opposed the protests on the grounds that "there will be a provocation, fascism will come" in order not to be included in this (Yurtsever, 2008: 72).

This attitude of the WPT administrators, who were against the independent student youth actions that started with the university occupation and boycotts in 1968, caused most of the militant youth who were pro-action to move away from the WPT and approach the MDD movement.

The 1970s witnessed the struggle of WPT and MDD. In this period, besides the ideological struggle, actual fights arose with the MDD members. MDD members tried to seize the provincial and district administrations of the party. The WPT began to see MDD as a "party destroyer" and as a result of some measures taken by the party leadership, the hopes of MDD supporters to take over the party ended (Şener, 2008: 365).

## Conclusion

WPT (1961-1971) was one of the most important parties in the defense of Socialism in Turkey and had a great influence on the formation, dissemination and organization of Socialist ideas in the country. After the 1960s, the party has become the most important element of the socialist left, a source where those who defend socialism come together.

The entry of the WPT into parliament was one of the most important and interesting developments in the period following the 1960 military intervention. In the 1960s, the party, the constitutional organization of the Turkish left, tried to bring a new political understanding and vision to the Parliament. Defining itself openly as the political organization of the proletariat, it sought to defend the political and economic interests of this class and to spread, promote and organize socialism in the country using constitutional and parliamentary means. WPT was formed on the basis of class representation in Turkish political life and brought the problems of

the working class it represented to the parliament. The leading figures of the party believed that the WPT would turn into a mass party and would come to power through parliamentary elections. As a method, they believed that socialism could be formed by constitutional methods, not by coups or revolution.

WPT, Direction and MDD emerged in a relatively democratic environment provided by the 1961 Constitution, which was the product of May 27, in an environment where the ideological struggle between the Capitalist USA and the Communist USSR was intensely observed. These movements have adopted different strategies under the conditions specific to Turkey (Bank, 2018: 32).

During Aybar's presidency, WPT was in a discourse and attitude that was not based on communist ideology and defended socialism with a smiling face. Although it included the leftist discourse of the period, he was trying not to be on an extreme side. Being the years when socialism rose in the world and in Turkey, it had the support expected from the society behind it, and as a result of this support, it was able to find the opportunity to be represented in the parliament in the 1965 elections with the effect of the election system. Thus, WPT became the first socialist party to enter parliament in Turkish political life. However, due to the escalation of leftist movements in the world and in Turkey, the increase in student incidents and the invasion of Czechoslovakia by the Soviet Union, the left circle in Turkey began to change its face and differences of opinion began to emerge within the party. With the decline of the party in the 1969 elections and then the resignation of Aybar, the Behice Boran period began, but the desired success could not be achieved.

The reasons for the party's inability to last can be listed as the inability to fully understand what socialism is and what it should be, the association of this ideology with terrorism, the stance of the socio-political structure in the country against leftist thought, the inexperience of the party staff, and the intensity of disagreements within the party. Also, WPT could not be democratic and the criticism mechanism could not be operated within the party. Former communists were excluded, and liquidationism was used to solve internal party problems (Yurtsever, 2008: 73).

Although the fact that all the founders of the WPT were unionists indicates that this new political structure came from the grassroots for the first time, the emergence of the WPT should not be interpreted as "workers have become class conscious". This situation shows the preference of trade unionists to establish their own political organizations directly, instead of

removing workers' parliamentary quota from some parties (Ünsal, 2019: 131).

WPT is largely identified with Aybar and his "Turkish socialism, friendly socialism" approach. With this approach, Aybar tried to interpret and reveal Turkey's unique features, its perception of democracy and the state, and how socialism could find a place in the country. However, depending on the conditions of the period, the idea of socialism did not receive enough support in the country and WPT moved further away from the desired success after Aybar.

## References

- Akdere, İ. and Karadeniz, Z. (1994). *Türkiye Solu'nun Eleştirel Tarihi I*. İstanbul: Evrensel Basım Yayın.
- Akşin, S. (1996). *Ana Çizgileriyle Türkiye'nin Yakın Tarihi 1789-1980*. 2. Baskı, Ankara: İmaj Yayıncılık.
- Altay, A. A. (2019). 1960'lar Türkiye Sosyalist Basınında Çok Partili Yaşam ve Parlamenterizm Tartışmaları. *Alternatif Politika*, Cilt 11, Sayı 1, ss.234-262.
- Aybar, M. A. (2020). *Neden Sosyalizm?*. İstanbul: İletişim Yayınları.
- Bank, B. (2018). 60'lı Yılların Hegemonya Mücadelesinde Türkiye Solu'nun İktidar Arayışı. *YDÜ Sosyal Bilimler Dergisi*, Cilt XI, Sayı 1, ss.31-54.
- Belge, M. (1983). Türkiye İşçi Partisi. *Cumhuriyet Dönemi Türkiye Ansiklopedisi* içinde (ss.2120-2132.), İstanbul: İletişim Yayınları.
- Bora, T. (2017). *Cereyanlar Türkiye'de Siyasi İdeolojiler*. İstanbul: İletişim Yayınları.
- Börklüoğlu, L. (2019). *Tanzimattan Günümüze Türk Siyasal Hayatı*. Bursa: Dora Yayınevi.
- Fırat, E. (2019). Türkiye Solu: Dünü, Bugünü ve Yarını. *Akademik Sosyal Araştırmalar Dergisi*, Sayı 40, ss.16-33.
- Heper, M. (2006). *Türkiye Sözlüğü*. İstanbul: Doğu Batı Yayınları.
- Kahraman, H. B. (2010). *Türk Siyasetinin Yapısal Analizi I, Kavramlar Kuramlar, Kurumlar*. 2. Basım, İstanbul: Agora Kitaplığı.
- Karpat, K. (2015). *Türk Siyasi Tarihi*. 6. Baskı, İstanbul: Timaş Yayınları.



- Özdemir, H. (2005). Siyasi Tarih (1960-1980). Sina Akşin (Ed.), *Türkiye Tarihi, Çağdaş Türkiye Tarihi (1908-1980)*, 4. Cilt, 8. Baskı, İstanbul: Cem Yayınevi.
- Sarıbay, A. Y. (2001). *Türkiye'de Demokrasi ve Politik Partiler*. İstanbul: Alfa Basım Yayın.
- Şener, M. (2008). Türkiye İşçi Partisi. Murat Gültekinil (Ed.), *Modern Türkiye'de Siyasi Düşünce Sol* içinde (ss.356-432), Cilt 8, İstanbul: İletişim Yayınları.
- Şener, M. (2021). Yön ve Milli Demokratik Devrim Hareketi. Mete Kaan Kaynar (Haz.), *Türkiye'nin 1960'lı Yılları*, 2. Baskı, İstanbul: İletişim Yayınları.
- Ünsal, A. (2019). *Umuttan Yalnızlığa Türkiye İşçi Partisi 1961-1971*. İstanbul: Kırmızı Kedi Yayınları.
- Varel, A. (2021). Altmışlı Yıllar Türkiye'sinde Sınıf ve Siyaset: Meşruiyet Savaşımı, Siyasal Yükselişi ve İç Bölünmeleriyle TİP. Mete Kaan Kaynar, (Haz.), *Türkiye'nin 1960'lı Yılları*, 2. Baskı, İstanbul: İletişim Yayınları.
- Yurtsever, H. (2008). *Yükseliş ve Düşüş Türkiye Solu 1960-1980*. İstanbul: Yordam Kitap.
- Zurcher, E. J. (1995). *Modernleşen Türkiye'nin Tarihi*. İstanbul: İletişim Yayınları.

# 3

## Evaluation of Women's Representation in Turkey on the Basis of Metropolitan Municipalities

*İsmail Sevinç (Necmettin Erbakan University)*  
ORCID ID: 0000-0002-4229-8760  
isevinc@erbakan.edu.tr

*Tuğba Salman (Atatürk University)*  
ORCID ID: 0000-0002-8254-1876  
tugba.salman@atauni.edu.tr

### **Abstract**

*Discussions about the underrepresentation of women in local politics have been going on for many years. Therefore, the functioning of democracy is associated with equal representation of the male and female population in society at the local level. In this context, it can be said that the representation of women in local politics is not sufficient in Turkey. The representation of women in the administration of metropolitan cities, which contain a large part of the country's population, is important in terms of observing the current situation and women's presence in the political arena. From this point of view, the aim of the study is to determine the level of participation and representation of women in local politics in Turkey by examining the male-female ratio at the level of candidates and the elected within the scope of thirty metropolitan cities in Turkey. In this context, in this study, the participation and representation rates of men and women within the borders of thirty metropolitan cities were examined by using the 31 March 2019 Local Administration Elections results and statistics in the election archive of the Supreme Election Council and the database of the Turkish Statistical Institute. As a result of the evaluation, it was determined that women's candidacy for metropolitan and county municipality and for the membership of county municipality council, and their election rates are at a very low level compared to men.*

*Keywords: Local Politics, Women, Representation*

### **Introduction**

Democracy refers to a structure where people have the right to participate in the decisions and to express their opinions on these decisions concerning the settlement area. In this context, the participation of citizens in decision-making processes on matters that concern them is one of the important elements of democracy and this

participation is important both at the national and local levels. Local governments are institutions that undertake the task of providing public services to people in accordance with the principle of decentralization and also allow members of local communities to take a role in decision processes. These qualities have made local governments indispensable institutions of democracy (Keleş, 2020: 45).

Most democracies today experience a crisis of representation, participation, and legitimacy. It is stated that one of the reasons for this crisis is gender-based, and it is also seen that democracy is dominated by men (Waylen, 2017: 495). The full establishment of democracy is possible with the equal representation of women and men in all decision-making mechanisms. It is stated that women's participation and representation in politics are necessary for the solution of women's problems (Çağlar, 2011: 72).

It is known that women perform the act of voting, which is one of the passive forms of political participation, at least as much as men. In addition to their passive participation, women can also be involved in political participation activities with arguments compatible with or against the political system in line with their political interests and knowledge levels. Women who take part in this kind of political participation can also resort to methods such as having responsibilities in political parties, being a candidate in elections and participating in campaigns, and taking part in demonstrations and rallies (Baykal, 1970: 33). This participation can be in the form of voting, taking on duties, participating in decisions. So, is it possible to talk about gender equality in this process? Do the women take an active part in the decision and implementation stages of the local government units as an actor who experiences the local area fully (Çağlar, 2011: 67).

The population in Turkey is 83,614,362 people according to 2020 data. The total population of thirty provinces that have been transformed into metropolitan cities among 81 provinces in the country is 65,156,232 people and 32,525,964 of this population is women (data.tuik.gov.tr). Therefore, the participation and representation of women in management activities is of great importance in the metropolitan cities where the majority of the population, which is seen as urban, live and half of the population is women. Which gender comes to the fore in metropolitan municipality, county municipality, municipal council membership and metropolitan municipal councils in local governments? Can we talk about gender equality at this point?

In this study, to answer these questions, the representation of women was statistically analyzed with the information obtained from the election

archive of the Supreme Election Council and the data portal of the Turkish Statistical Institute on the basis of the metropolitan municipalities. The study, it is aimed to confirm the argument that the participation and representation of women in local politics are still not sufficient in Turkey by examining the female-male ratio at the level of candidates and elected.

## Local Democracy

Democracy is one of the most-talked about popular concepts today and has many definitions. Democracy means that fundamental and political rights are protected and respected, that the power to govern changes hands through regular (periodic) elections and popular votes. The fact that the elections are held at regular intervals is not enough, it is also necessary to protect human rights and minorities and, above all, to limit the state power (political-economic) (Sisk, 2001: 12; Marrison, 2007: 135). Like the concept of democracy, it is very difficult to make a universal and single definition of the concept of local democracy. In fact, for the concept of local democracy, there are more discussions and attempts to define it differently than the concept of democracy. In addition to these different definition efforts, there are also debates about the inaccuracy or even incompleteness of the concept of local democracy today. Instead of this concept, the concept of democratic local government is also used. There are also discussions in the literature that the concept of local democracy is wrong and that the concept of democratic local government should be mentioned instead (Görmez, 1997: 67- 68).

Despite these discussions, what should be understood from local democracy today is the democracy of the local government system. Local democracy is the validation of democratic values for local governments and the participation of the people in the decision processes directly or through their representatives (Yaylı and Pustu, 2008: 137). There can be no talk of democracy at the national level without local democracy. The healthy functioning of democracy at the national level depends on the existence of many “small democracies” based on neighborhood relations and personal relations where individuals can directly participate in decision-making and have control over daily life. Considering national democracy and local democracy as separate structures is contrary to the understanding of the unity of society. It is not possible to talk about a local democracy separate from national democracy (Yaylı and Pustu, 2008: 137). The cultural structure of the country is a distinctive element in framing local democracy. The fact that citizen participation has become an established tradition in some cultures increases the level of local democracy and thus the democracy of the country as a whole (Sisk, 2001: 12; Marrison, 2007: 135).

The concept of local democracy, which comes to the forefront in countries where civil society and organizations rising on the basis of this society take an active role in the management processes as an actor and where the culture of democracy has spread to the whole society, is used to describe the local government systems of the states with a strong local government tradition such as the United States, Switzerland, Germany, England, and the Netherlands. The function of local government units at the point of democratization of society is effective on this situation (Görmez and Altınışık, 2011: 32). Establishing the connection between decentralization and democracy requires the explanation of the concept of local democracy. In this context, local democracy can be expressed as planning the best possible future for the whole society, providing consensus on a common ground, identifying on common needs and carrying out activities to meet them (Sivrekli, 2001:131).

Local democracy, which existed before the emergence of the state as a sovereign structure, is a form of self-government shaped by the increasing expectations and contributions of developing societies. While the concept of local democracy does not mean local power, the expression of democratic local government emphasizes the democracy of the existing local government system. In other words, the concept of local democracy refers to local democratic values such as culture, and the concept of democratic local government refers to the administrative processes and the democratic values that dominate the operation of these processes (Pustu, 2005: 127-128). Local democracy, which is directly related to the provision of services aimed at protecting local diversity and meeting local common needs in a timely, effective and efficient manner (Burns, 2000: 968), is also the participation of the society in local decision-making processes directly or through representatives.

Local governments, which play an important role in participating in local policy making/implementation processes, prioritizing efficiency in service delivery, making mechanisms developed for the continuation of democratic life operative and creating a free/autonomous environment, are called "local democracy institutions" due to these characteristics. At this point, the influence of the people of the settlement in the decision-making processes is a distinctive and decisive factor in determining and developing the level of local democracy. In this context, the election of decision making bodies of local government units, loss of the title of bodies through democratic elections or the judiciary, the independent decision-making and implementation of the bodies, the active participation of the people in these processes and increasing the ways of participation, the need for local government units to have sufficient own income can be listed as the basic principles of local democracy (Önder, 2013: 314).

The fact that citizens prefer local institutions that offer a high level of local participation rather than national institutions in terms of democracy is an element that reveals the importance of local democracy. From this point of view, it can be said that in order for democracy to be dominant, more than one mechanism for participation should be active and sufficient opportunities should be provided for participation (Pratchett, 2004: 361). At this point, it is of great importance to carefully and effectively integrate the deeply rooted practices of the culture of democracy, which is at the level of social and individual consciousness, into democratic governance processes. Local community participation, which is the basic building block of modern citizenship concepts and enables the development of direct local democracy, becomes functional with the reflection rate of the diversity of local stakeholders on local institutions and decision-making processes (Sisk, 2001: 12). It is thought that strengthening and increasing local community participation will provide the public with the opportunity to control and manage the public services provided by the local governments (Çelik et al., 2008: 88; Erençin, 2018: 349).

The way local governments use their powers and fulfill their duties gives important clues about whether these units act on the axis of local democracy. In determining the situation, in other words, in determining whether local government units comply with local democracy, the presence/absence of some principles emerges as a distinguishing factor. These principles are listed as the principle of democratic behavior, the principle of efficiency and productivity, the principle of social justice and the principle of impartiality (Tortop, 1992: 3). The principle of openness is also included in the listed principles from time to time (Çelik et al., 2008: 90). According to Kemp and Jiminez (2013: 22), the existence of local democracy depends on ensuring equal rights, the supremacy of law and justice, holding elections, increasing the accountability and transparency of institutions (local executive/legislative bodies, political parties), active participation of citizens and presence of the media.

Local government units, which contain the mentioned features, are described as the cradle of democracy. For example, French political thinker and historian Alexis Tocqueville regarded local government as a "school of democracy". According to him, "Municipal organizations constitute the real power of free nations. Town meetings are to liberty what primary schools are to science. A society can establish a free government, but it cannot have the spirit of freedom without municipal institutions" (Mazlum, 2008: 45). Similarly, J. S. Mill, a British liberal theorist and philosopher who focused on the concepts of local autonomy and democracy, described local government units as the basic institution where political education is given. Emphasizing the importance of local

governments in democratization, Mill tried to express the importance of public participation in making the administration effective by saying "if the people pay taxes, they should have a voice at the local level as well as at the national level". In addition, Mill argued that participation at the local level will help people understand the working logic of the democratic system and act in accordance with these values. Today, processes are emerging that support these views. The fact that people who have achieved a certain level of success and thus experience at the local level are more likely to operate at the national level can be given as an example for this situation (Akdemir and Ulusoy, 2019: 35-36).

The internalization of a local democracy culture in the modern sense and the functioning of the mechanisms for this largely depend on the proper establishment of democracy and the institutions required by democracy in the country because trying to establish local democracy in an anti-democratic environment will not go beyond a futile effort (Keleş, 2020: 54). In addition, ensuring local democracy directly affects the basic dynamics of the current democratic life. This situation manifests itself in the fact that local democracy makes it permanent and effective by adding depth to democracy rather than making it functional (Görmez, 1997: 69). Therefore, local democracy lays the foundation of a broader democratic administration with its structure that encourages/emphasizes both representation and participation. Local democracy comes into being through real representation of the people in local government bodies and taking into account local common needs/demands in policy-making processes (Kılınç 2017: 106). Elected representatives of local governments develop and implement democratic skills and they are supervised by the people who elect them.

The sensitivity level of these people is determined by the wide participation opportunities offered to citizens by institutions created in the context of local democracy (Pratchett, 2004: 361). In line with the evaluations, participation and representation on the basis of gender equality come to the fore as the basic dynamics of the concept of local democracy. It is obvious that if equality in participation and representation cannot be achieved, local democracy will not be able to fulfill its expected functions and this will have some negative reflections on national democracy (Belli, 2015: 72- 73; Jaben and Jadoon, 2009: 264).

For the implementation of local democracy or democratization of local governments, the principles such as establishing local government bodies in accordance with democratic practices, the authority/competence of these bodies to make decisions independently and to implement these decisions within the limits drawn by the laws, participation of the public

in these decision-making processes and influencing the decisions, ensuring the transparency of local governments in the financial and administrative field, regulating the relations between the administrations and ensuring financial independence should be included in the local government understanding of that country (Yaylı and Pustu, 2008: 138).

## Local Participation

Regardless of whether the level of participation is national or local, participation, which is accepted as an important indicator of the democracy of the administration, is defined as "taking part in the determination, implementation and supervision of public policies" or as "all actions aimed at influencing the decisions taken by the institutions and persons using power" (Çitci, 1996: 10). Participation includes a wide area, from a simple interest to serious and intense action. It would be a reductionist approach to identify the concept of political participation, which determines the position, attitudes and behaviors of the members of the community in the political structure, with voting in general/local elections (Kapani, 2015: 144). To talk about participation, citizens should have the opportunity to participate in decision-making processes that affect the country in general and the local in particular, and citizens should use these opportunities effectively and participation should have an impact on public policies (Çitci, 1996: 10).

There are two dimensions of participation as political and administrative. With its political dimension, participation refers to the activities undertaken by individuals or units/institutions to determine the cadres that will govern them and to influence the decisions these cadres will take. The said dimension differs according to the political system, legal framework, institutions, political and administrative culture and socio-economic structure of the country. With the administrative dimension of participation, it is emphasized that the public and non-governmental organizations are involved in the decisions they take and the transactions they take, rather than the determination of the political and administrative staff (Görün, 2006: 164; Buran, 1995: 210).

Local governments, which are defined as the most convenient units for the implementation of participation, also emphasize the importance of participation in solving problems that cause injustice in representation (Çitci, 1996: 10). Local participation, which is one of the most important elements in democratization of local governments and ensuring the continuity of these units, offers a wide participation opportunity to the public in the stage of decision making and implementation. It is envisaged to reach a democratic system in which the people themselves are involved



in the decision-making and implementation processes through the use of these opportunities (Karabulut and Bayrakçı, 2019: 83-84).

Local participation, which has important functions in transforming a required local service into a social demand and ensuring the legitimacy of the political system, has a decisive effect on local democracy in terms of ends and means. The means dimension, which expresses the transfer of requests to management mechanisms and affecting them, includes legal, political and administrative processes. With this dimension, the fact that participation has the potential to determine the direction and content of local decisions shows the power of local politics and therefore local democracy. The ends dimension of local participation, on the other hand, does not have concrete indicators as much as the means dimension, but has an abstract connotation at the point of strengthening and sustainability of local democracy. Democracy, which includes participation as well as representation at the local level, contributes to political legitimacy and thus to peace and stability in society (Önder, 2013: 322).

Participation takes place in two different ways as active and passive at the national and local levels. With active participation, which expresses more intense involvement in politics compared to others, representation and candidacy are emphasized in parliament, political parties and local governments. Passive participation, which symbolizes the opposite and manifests itself in audience activities and voting in general, can be explained as the state of not actively participating in political life (Çağlar, 2011: 62). Therefore, the fact that local governments make the mechanisms that will strengthen local participation operative and makes the necessary arrangements will contribute to the strengthening of both national and local democracy. Accordingly, they will support the expansion of the scope of equality and freedom, and the development of individuals beliefs, attitudes, behavior and knowledge levels (Görün, 2006: 165). Based on the evaluations, the normative framework of participation can be determined as the approach of the government to the people in a way that makes it possible to represent all kinds of segments and electoral regions such as minorities, the youth, disadvantaged groups (women, the elderly) elected to the bodies of local government units through decentralization (Kakumba, 2010: 173).

## **Local Representation**

Representation generally refers to the relationship between two people or two groups whose parties consist of the representative and the represented by empowering the representative to perform various tasks in accordance with the agreement. There are two different types of representation as legal

and sociological. The fact that people act within the framework of a contract or task is expressed as legal representation. Sociological representation, on the other hand, is the state of considering that group as representative due to the religion, language, race, social ties and social status characteristics of the person (Rao, 1998: 20). There are some differences of opinion as to which of these types of representation is more effective. While some claim that the only true meaning and best form of representation is carried out through delegates instructed by the constituency, others find it acceptable to be a representative of the group because it has the characteristics of the group (Rao, 1998: 20). Representation, which corresponds to “to replace or be in the place of ...” in the broadest sense, can be defined as the function of reflecting and fulfilling interests and demands in the political arena on behalf of a community (Braud, 2017: 550).

Political representation is a relationship that allows an individual or group to symbolize or act on behalf of a larger mass of people (Heywood, 2019: 301). Determining a representative through elections corresponds to determining the appropriate candidate. Therefore, the representation of the people is identified with the representation of the groups and the public has a say in the administrative units through non-governmental organizations such as associations and foundations (Bulut and Taniyıcı, 2008: 172). There has been no consensus on the concept of representation in the course of history, and philosophers and writers such as John Locke, John Adams, Edmund Burke, Thomas Hobbes, Mill, Jean-Jacques Rousseau have pioneered different approaches to the function and scope of the aforementioned concept. However, the fact that a group of people can make and implement decisions on their behalf constitutes the basis of these approaches (Oruç and Bayrakçı, 2018: 468).

Democracy, which is a political regime that emphasizes the participation of the people in the administration, should also include the competence to represent the people in the name of democratic administration. Representation corresponds to the proportional equivalence between the people and the representatives in democratic governments (Çelik and Uluç, 2009: 216). Direct representation refers to the participation of the members of the society, who lived in ancient times when the population was very low compared to today and who had various biological and social characteristics, to every decision to be taken on issues that concern them by voting. This situation made it necessary for the representation function to undergo a change and to continue under the name of indirect representation. In the new method, representation emerges as giving the right to represent people to some of the candidates through elections. With this method, the election and party system, the position and distribution

of power, nomination procedures, identity, conformity, responsibilities and abilities of the representatives and the political knowledge level of the electorate have become important issues in terms of representation. In a democracy, the equality of the votes of every citizen is accepted as an important determinant, but for justice in representation, the number of voters per representative for each political unit should be as equal as possible. In addition, various factors such as the electoral system, party base, election campaigns and the identity and competence of the representatives are of great importance in terms of democracy (Norman et al, 2007: 57- 58).

It is thought that the concept of representation provides the opportunity to look at local politics from a wider perspective, since it enables the transformation of citizens' interests and demands into concrete outputs because democracy requires executive action. At this point, local democracy, which is sustained through leaders elected by the local population and involved in meeting needs, formulating answers, and negotiating bureaucratic procedures, is of great importance. The importance of the participation of the local people, who will be affected by the decision to be taken, in these processes through elections and representation regarding the local makes the definition of local democracy incomplete in which the concept of representation is ignored (Fischer, 2016: 112).

Since they are the closest administration and service units to the public, local governments have been described by many thinkers as the most appropriate structures in which representation can be carried out easily, in other words, the individual can participate in the administration. Therefore, local structures have a significant advantage over other levels of government in their democratic potential (Akdemir and Ulusoy, 2010: 30). Local government units perform important functions such as the management of local resources, the provision of services and their supervision. Local government councils, consisting of members elected by the people and representing the community that elected them, are the bodies that rule the use of power on behalf of the local people. From this point of view, ensuring a balanced representation of the areas consuming the said resources and of the local government units that have the authority over them in decision-making bodies, is accepted as one of the prerequisites for a system to be democratic and effective (Yıldırım et al., 2015: 282).

Various arrangements must be made to increase the power of democracy at the local level and to ensure effective representation. In this context, some of these regulations are to make arrangements in the electoral system and to establish control mechanisms that are needed to determine whether

the elected representatives use their powers appropriately and on time. It is accepted that the active participation of the people in political life is possible by establishing a bottom-up organizational structure. Therefore, non-governmental organizations established by the people should be supported and these organizations should be encouraged to take a more active role in representation (Poyraz, 2017: 145).

The legitimacy of a democratic system depends on the degree of its adoption by the different classes and strata of the people. In this context, representation comes to the fore as the main mechanism that gives legitimacy to the democratic system (Çelik and Uluç, 2009: 216). In the determination of representatives, attention should be paid to the participation of various professional chambers and non-governmental organizations in the representation mechanism as well as disadvantaged groups (women, children, elderly, disabled). In a system that includes representatives of different interest groups, each interest group will have the right to speak on behalf of the segment it represents and the potential to influence the decisions to be taken (Sezgin, 2019: 24).

### **Local Representation of Women**

There is a male-dominated structure in politics at the national and local levels in Turkey. However, to talk about a fully established democratic environment, both parts of the society must be represented equally in the political field and equally participate in the management processes (Yaylı and Eroğlu, 2015: 520). Participation and representation are of great importance for women to use their political rights at the local level. Because local services have the potential to directly affect women's daily lives. The implementation of women-oriented solutions in policies at the local level requires women to take an active role in local politics in terms of both quantity and quality. Women's participation in local politics occurs in two different dimensions. The first dimension is the participation of women in local politics as a mass of citizens who are affected by the decisions of local governments and have different urban service needs and urban uses. The second dimension is their involvement in local politics as elected political actors (Mazlum, 2008: 79; Gökulu, 2013: 355).

A democratic participation model cannot be developed for women. It is known that women vote at the same rate as men, which is one of the passive forms of political participation in terms of local participation. But it is difficult for them to exist as representatives in local politics (Baykal, 1970: 33; Pınarcıoğlu, 2013: 69). It becomes a necessity to reduce this difficulty and increase the number and visibility of women in the political and public sphere and change the conditions of women. To do this, various solutions

are used in the world. These solutions include establishing an egalitarian structure in political parties, democratizing candidate elections and establishing gender quotas (Çağlar, 2011: 72-73).

The quota method is applied in many countries such as France, Argentina, Brazil, Austria, Norway, Sweden and England to increase the participation and representation level of women at the local level. In the local government elections in France, a "6 slice quota" (three men and three women in the candidate lists) is applied. Similarly, it is a legal requirement that 30% of candidates running for election in Argentina and 20% in Brazil should be women. In India, there is a 33% quota for women in local councils. In addition to these, it is known that in countries such as Austria, Norway, Sweden and England, political parties have implemented the quota application with their internal regulations (Oktaç, 2013: 969).

In European Union member countries where these practices are implemented, the average participation rate of women in local and municipal councils is 32.1%. While this rate is over 40% in Sweden and Finland ([www.europarl.europa.eu](http://www.europarl.europa.eu)), the "absence" of women in participation and representation processes in Turkey at the local level is clearly seen in terms of gender. Gender distribution in municipalities and metropolitan municipalities and the number of female members in municipal councils and provincial councils clearly reveal gender inequality in local political participation and representation (Mazlum, 2008: 79; Alici and Kandeğer, 2017: 400). From this point of view, the following results can be reached if we look at the female representation rates in the 31 March 2019 local elections.

*Table 1: Representation of Women in Local Governments in Turkey*

Local Level	Women's Representation in the 31 March 2019 Local Elections				
	Woman	Rate	Man	Rate	Total Number
Mayor	41	%3,2	1348	%96,8	1389
Metropolitan Mayor	3	%10	27	%90	30
Provincial Mayor	1	%2	50	%98	51
Metropolitan County Mayor	25	%4,8	494	%95,2	519
County-town Mayor	12	%1,5	777	%98,5	789
City Council Member	2.284	%11	18.464	%89	20.745

Source: <https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Kadin-2020-37221>

It becomes even more evident that the level of local participation and representation in Turkey is gender-based inequality when compared to other countries. According to the report of the Council of European Municipalities and Regions, which was prepared in 2019 and deals with the development of women's participation and representation in politics in the last ten years, while the Scandinavian countries lead the way, Turkey is in the last place. At the local government level, the rate of women among all elected representatives is 10.7%. In the report, it is stated that while the rate of female mayors is 15% compared to the European average, Turkey is the country with the lowest rate with 3.2%. According to the report prepared ten years ago, the rate of female mayors which was 0.9% increased to 3.2%, making an improvement of 256% ([www.ccre.org](http://www.ccre.org)).

### **Representation of Female Actors on The Basis of Metropolitan Municipality**

In Turkey, since March 1984, a two-stage metropolitan municipality system has been introduced in large settlements with more than one municipality in addition to the classical municipal administration. This system basically consists of a metropolitan municipality in the center and its subordinate district municipalities. Metropolitan municipalities have been the subject of an important structuring process in the last thirty years. Amending and Adopting the Decree-Law on the Administration of Metropolitan Municipalities with the Law No. 3030, which was enacted in 1984 and has been in force for twenty years, was replaced with the New Law No. 5216 on Metropolitan Municipality which was prepared within the scope of local government reform and adopted by the Turkish Grand National Assembly on 10 July 2004. With the “Law on Establishing Districts and Making Some Changes within the Boundaries of Metropolitan Municipality” dated 6 March 2008 and numbered 5747, town municipalities were abolished in places where metropolitan municipality administration was established, and only district municipality status was included as lower-tier municipalities by creating some new districts (Eryılmaz, 2016: 203).

With the law NO. 6360 on ‘The Establishment of Fourteen Metropolitan Municipalities and Twenty-Seven Districts And Amendments At Certain Law And Decree Laws’ adopted on 12.11.2012, many important changes were made in metropolitan cities that could be described as reforms. With the aforementioned law, metropolitan municipalities were established in 13 provinces, and with the addition of Ordu City, the number of newly established metropolitan municipalities increased to 14 and the total number of metropolitan municipalities in our country increased to 30 (Eryılmaz, 2016: 204).

*Table 2: Number of Metropolitan Mayor Candidates in March 31, 2019 Local Elections: Distribution of Female and Male Candidates*

Metropolitan Municipality	Metropolitan Mayor Candidates 31March 2019					Number of Winning Female Candidates
	Woman	Percent (%)	Man	Percent (%)	Total	
Adana	1	12,5	7	87,5	8	0
Ankara	2	16,6	10	83,4	12	0
Antalya	2	22,2	7	77,8	9	0
Aydın	1	14,2	6	85,8	7	1
Balıkesir	1	10	9	90	10	0
Bursa	1	11,1	8	88,9	9	0
Denizli	1	9	10	91	11	0
Diyarbakır	0	0	13	100	13	0
Erzurum	1	11,1	8	88,9	9	0
Eskişehir	1	11,1	8	88,9	9	0
Gaziantep	2	20	8	80	10	1
Hatay	0	0	8	100	8	0
İstanbul	5	15,6	27	84,4	32	0
İzmir	1	9	10	91	11	0
Kahramanmaraş	1	11,1	8	88,9	9	0
Kayseri	2	20	8	80	10	0
Kocaeli	2	18,1	9	81,9	11	0
Konya	1	8,3	11	91,7	12	0
Malatya	0	0	10	100	10	0
Manisa	1	10	9	90	10	0
Mardin	1	8,3	11	91,7	12	0
Mersin	2	25	6	75	8	0
Muğla	1	10	9	90	10	0
Ordu	0	0	9	100	9	0
Sakarya	0	0	12	100	12	0
Samsun	1	11,1	8	88,9	9	0
Şanlıurfa	0	0	8	100	8	0
Tekirdağ	0	0	10	100	10	0
Trabzon	2	22,2	7	77,8	9	0
Van	1	11,1	8	88,9	9	1

Source: <https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul>;  
<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i%CC%87dareler-secimi/77916>

A total of 316 candidates were nominated in the 2019 local elections for 30 Metropolitan Municipalities. 34 of these candidates were women and 282 of them were men. Female candidates correspond to 10.7% of the total candidates. To talk about the distribution of these candidates according to the parties, we see that there are six candidates for the

Communist Party of Turkey (CPT), five candidates for the Democratic Left Party (DLP), five candidates for the Patriotic Party (PP), four for the Democrat Party (DP), three for the Peoples' Democratic Party (PDP), two for the Independent Turkey Party (ITP), one for the Republican People's Party (RPP), one for the Justice and Development Party (JDP), one for the Good Party, and there are six women as Independent Candidates. Felicity Party and the Nationalist Movement Party (MHP) have not nominated women. The provinces with the lowest number of female metropolitan municipality candidates are Diyarbakır, Hatay, Malatya, Tekirdağ, Ordu, Sakarya and Şanlıurfa. In these provinces, no woman was a candidate for the metropolitan mayor or was nominated by political parties. The provinces with the highest number of female candidates are Mersin (25.5%), Antalya (22.2%) and Trabzon (22.2%). This rate corresponds to a rate above the 20% women's quota in Brazil. However, none of the candidates in these provinces were successful in the elections. Considering the number of winning candidates, only 3 of the 30 metropolitan municipalities have a female mayor (Aydın: Özlem Çerçioğlu (RPP), Gaziantep: Fatma Şahin (JDP), Van: Bedia Özgökçe Ertan (PDP)).

A total of 3,523 people were nominated in the 2019 local elections for the county municipalities of the 30 Metropolitan Municipalities. 337 of these candidates were women and 3,186 of them were men. Female candidates correspond to 9.5% of the total candidates. The provinces with the lowest number of female candidates are Trabzon (1%), Malatya (2.8%), Tekirdağ (5%) and Kahramanmaraş (5%). The provinces with the highest number of female candidates are Diyarbakır (19.6%), İzmir (16.1%) and Manisa (15.7%). If we look at the distribution of 21 female mayors in Diyarbakır according to the parties, the Independent Turkey Party has fourteen candidates, the Republican People's Party has one, the Democratic Left Party has one and the Peoples' Democratic Party has five candidates. The distribution of 38 female mayoral candidates in İzmir is as follows: Felicity Party has four candidates, Independent Turkey Party has four candidates, Turkish Communist Party has four candidates, Patriotic Party has three candidates, Great Unity Party has one, Republican People's Party has three, Justice and Development Party has five, Democrat Party has six, The Nationalist Movement Party has one, the Democratic Left Party has four, and there are three women as independent candidates. There is no female candidate of the Good Party. The distribution of the 17 female mayoral candidates in Manisa was recorded as five candidates for Independent Turkey Party, one for the Turkish Communist Party, ten for Patriotic Party and one female candidate for the Democratic Left Party.



*Table 3: Number of County Mayor Candidates within the Scope of Metropolitan Municipalities in Local Elections on March 31, 2019: Distribution of Female and Male Candidates*

Metropolitan County Municipalities	Mayoral Candidates 31March 2019				
	Woman	Percent	Man	Percent	Total
Adana	12	9,9	109	91,1	121
Ankara	21	10,9	171	89,1	192
Antalya	19	13,6	120	86,4	139
Aydın	6	5,7	99	94,3	105
Balıkesir	9	7,6	108	92,4	117
Bursa	8	6	124	94	132
Denizli	13	9,9	118	101,1	131
Diyarbakır	21	19,6	86	80,4	107
Erzurum	10	8,1	113	91,9	123
Eskişehir	14	14,2	84	85,7	98
Gaziantep	4	6,8	54	93,2	58
Hatay	5	5,8	81	94,2	86
İstanbul	34	9,5	324	80,5	358
İzmir	38	16,1	197	83,9	235
Kahramanmaraş	3	5	57	95	60
Kayseri	5	5,5	85	94,5	90
Kocaeli	10	11,3	78	88,7	88
Konya	16	9	161	91	177
Malatya	2	2,8	67	97,2	69
Manisa	17	15,7	91	84,3	108
Mardin	5	7,2	64	92,8	69
Mersin	10	9,8	92	91,2	102
Muğla	11	11,7	83	88,3	94
Ordu	2	1,9	101	99,1	103
Sakarya	9	8,3	99	91,7	108
Samsun	9	8	103	92	112
Şanlıurfa	9	10,3	78	89,7	87
Tekirdağ	4	5	75	95	79
Trabzon	1	1	97	99	98
Van	10	12,9	67	87,1	77

Source: <https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul;>  
<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i-CC%87dareler-secimi/77916>

When we look at the table in general, it is seen that the number of female candidates is considerably less than that of men. In this context, Türeli and Çağlar (2010: 27-28) listed the reasons why women could not be candidates for mayorship or could not be elected even if they were candidates as follows;

- Seeing and adopting politics as "men's work" in Turkish society,

- Women's feeling of political inadequacy and their lack of self-confidence,
- Social and familial attitudes, pressures, prejudices (prevalence of discourses such as women's place is at home, do not meddle in the affairs of men with the dough of your hands, a woman should take care of her home, spouse and children),
- A male-dominated structure at the headquarters of the parties,
- Insufficient place of women in party senior management and decision-making bodies,
- Limiting women's duties within the party to more social/cultural activities,
- Women's refraining from mafia and gang events that may occur in tenders and buying-selling activities within the municipality,
- Desire to enter the elections with the person that the parties predict can get the most votes in the district

The mayors of 25 of 519 county municipalities within the borders of thirty metropolitan municipalities are women. The provinces with a high rate of female mayors are Mardin (50%), Diyarbakır (29.4%), Van (15.3%). All of the mayors elected in these three provinces are the people nominated by the Peoples' Democratic Party. Although this rate is above the European average (15%), no female mayor was elected in eighteen provinces within the borders of thirty metropolitan cities.

*Table 4: Number of County Mayors within the Scope of Metropolitan Municipalities  
in Local Elections on March 31, 2019: Rate of Women and Men*

Metropolitan County Municipalities	March 31, 2019 Winner Mayor				
	Woman	Percent	Man	Percent	Total
Adana	0	0	15	100	15
Ankara	1	4	24	96	25
Antalya	0	0	19	100	19
Aydın	0	0	17	100	17
Balıkesir	0	0	20	100	20
Bursa	0	0	17	100	17
Denizli	2	10,5	17	89,5	19
Diyarbakır	5	29,4	12	70,6	17
Erzurum	1	5	19	95	20
Eskişehir	1	7,1	13	92,9	14
Gaziantep	0	0	9	100	9
Hatay	0	0	15	100	15
İstanbul	1	2,5	38	97,5	39
İzmir	4	13,3	26	86,7	30
Kahramanmaraş	0	0	11	100	11
Kayseri	0	0	16	100	16
Kocaeli	1	8,3	11	91,7	12
Konya	0	0	31	100	31
Malatya	0	0	13	100	13
Manisa	0	0	17	100	17
Mardin	5	50	5	50	10
Mersin	0	0	13	100	13
Muğla	0	0	13	100	13
Ordu	0	0	19	100	19
Sakarya	0	0	16	100	16
Samsun	1	5,8	16	94,2	17
Şanlıurfa	1	7,6	12	92,4	13
Tekirdağ	0	0	11	100	11
Trabzon	0	0	18	100	18
Van	2	15,3	11	84,7	13

Source: <https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul;>  
<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i-CC%87dareler-secimi/77916>

In this regard, in the study in the context of previous local elections "Unelected Women in Local Politics: An Analytical Analysis on the Level of 2004-2009 March Elections" by Negiz and Üçer, an evaluation of the women mayors elected in these elections was made and it was revealed that women were underrepresented. The reasons put forward by the women mayors who took office in both terms are summarized as follows (2012: 18).

- Due to the patriarchal structure of Turkish society, women are placed in the background in the political arena,

- Due to the roles attributed to women by society, women tend to focus more on the private sphere (home),
- Inadequate implementation of positive discrimination policies such as equality and quota in laws for women,
- The absence of articles that protect and encourage women until equal conditions for women are created such as the gender quota, which provides positive support to women while preparing the bylaws and programs of political parties,
- Women's adoption of the understanding that "politics is a man's job, we cannot do it",
- Inability to overcome the self-confidence problem of women in politics,
- Insufficient community leader role models to mobilize women,
- The dominance of politics by men, much rent and pollution in the foreground.

*Table 5: Number of County Municipal Council Candidates within the Scope of Metropolitan Municipalities in the 31 March 2019 Local Elections: Distribution of Female and Male Candidates*

Metropolitan County Municipalities	County Municipal Council Candidates 31 March 2019				
	Woman	Percent	Man	Percent	Total
Adana	252	14,6	1471	85,4	1723
Ankara	645	19,1	2722	91,9	3367
Antalya	398	17,9	1825	82,1	2223
Aydın	283	20,1	1122	79,9	1405
Balıkesir	327	18,7	1418	91,3	1745
Bursa	413	16	2154	84	2567
Denizli	193	14,6	1128	85,4	1321
Diyarbakır	264	19,5	1083	80,5	1347
Erzurum	91	7,4	1130	92,6	1221
Eskişehir	179	20,4	874	79,6	1053
Gaziantep	105	10	943	90	1048
Hatay	275	16,9	1347	83,1	1622
İstanbul	1894	20,7	7253	79,3	9147
İzmir	1006	25,2	2984	74,8	3990
Kahramanmaraş	104	9	1046	91	1150
Kayseri	152	10,7	1259	89,3	1411
Kocaeli	363	19,3	1514	80,7	1877
Konya	248	9	2491	91	2739
Malatya	83	9,6	778	80,4	861
Manisa	236	14,8	1353	85,2	1589
Mardin	125	12,9	839	87,1	964
Mersin	362	21,1	1346	78,9	1708
Muğla	357	24,6	1093	75,4	1450
Ordu	150	12,8	1019	87,6	1169
Sakarya	205	11,8	1518	88,2	1723
Samsun	201	12,8	1361	87,2	1562
Şanlıurfa	121	8,1	1370	91,9	1491
Tekirdağ	232	18,2	1037	81,8	1269
Trabzon	173	12,2	1239	87,8	1412
Van	194	17,5	913	82,5	1107

Source: <https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul>;  
<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i-%CC%87dareler-secimi/77916>

A total of 57,261 people were nominated in the 2019 local elections for the council member of the county municipalities within the Thirty Metropolitan Municipality. 9,631 of these candidates are women and 47,630 of them are men. Female candidates correspond to 16.8% of the total candidates. The provinces with the highest number of female municipal council member candidates are İzmir (25.2%), Muğla (24.6%) and Mersin (21.1%). This rate is within the 20-30% band stipulated for the women's quota in local councils. In addition, Aydın, Eskişehir and İstanbul have nominated women for municipal council membership, with

a rate of over 20%. If we look at the distribution of the 1006 female candidates for municipal council membership in İzmir according to the parties, the Felicity Party has forty-eight candidates, the Independent Turkey Party has sixteen candidates, the Communist Party of Turkey has fifty-three candidates, the Patriotic Party has ninety-nine, the Great Unity Party has two, the Republican People's Party has two hundred ninety-five, the Justice and Development Party has two hundred and fifty-three, the Democratic Party has thirty-four, the Nationalist Movement Party has thirty-six, the Good Party has forty-one, the Peoples' Democratic Party has seventy-seven, the Democratic Left Party has fifty, and there are two independent candidates. Distribution of 357 candidates in Muğla by parties: Felicity Party has eleven candidates, Independent Turkey Party have one candidate, Communist Party of Turkey has two candidates, Patriotic Party has sixteen candidates, Great Unity Party has two, Republican People's Party has ninety-seven, Justice and Development Party has one hundred and forty-one, Democratic Party has seventeen, the Nationalist Movement Party has ten, the Good Party has thirty-five, the Peoples' Democratic Party has eleven, the Democratic Left Party has thirteen candidates and there is one independent candidate. The distribution of 362 female candidates in Mersin by parties can be listed as follows: Felicity Party has twenty-seven candidates, Independent Turkey Party has five candidates, Turkish Communist Party has eight candidates, Patriotic Party has thirteen, Great Unity Party has four, Republican People's Party has seventy-eight, Justice and Development Party has sixty-three, Democrat Party has eight, the Nationalist Movement Party has eighty-four, the Good Party has fifty-two, the Peoples' Democratic Party has twelve candidates, and the Democratic Left Party has eight candidates. The places with the least number of female candidates are Erzurum (7.4%), Şanlıurfa (8.1%), Kahramanmaraş (9%) and Konya (9%). When we look at the scope of metropolitan borders, the inadequacy of parties in nominating women is clearly evident. In this context, for the development of local democracy in local governments, first of all, the rules that directly or indirectly determine the qualifications, rights and authorities of the members of the municipal council should be arranged in line with the objectives. In this context, the need arises to reorganize the legal status, duties and authorities in the formation of municipal councils in a way that gives importance to the representation of both sexes (Özbey, 2004: 300).

*Table 6: Number of County Municipal Council Members within the Scope of Metropolitan Municipalities in the 31 March 2019 Local Elections: Ratio of Women and Men*

Metropolitan County Municipalities	31 March 2019 Municipal Council Membership				
	Woman	Percent	Man	Percent	Total
Adana	42	12,8	285	87,2	327
Ankara	84	13,4	539	86,6	623
Antalya	60	13,3	391	86,7	451
Aydın	42	12,7	287	87,3	329
Balıkesir	60	16,1	312	83,9	372
Bursa	64	14,7	369	85,3	433
Denizli	34	11,4	263	88,6	297
Diyarbakır	108	28,3	273	71,7	381
Erzurum	23	7,6	277	92,4	300
Eskişehir	27	13,9	167	86,1	194
Gaziantep	13	5,9	204	94,1	217
Hatay	26	7,1	337	92,9	363
İstanbul	257	18,2	1154	81,8	1411
İzmir	141	18,9	605	81,1	746
Kahramanmaraş	27	10,7	224	89,3	251
Kayseri	22	7,7	262	92,3	284
Kocaeli	49	14	301	86	350
Konya	34	6,2	511	93,8	545
Malatya	6	2,9	197	97,1	203
Manisa	37	10,1	328	89,9	365
Mardin	35	15,7	187	84,3	222
Mersin	37	10,8	304	89,2	341
Muğla	42	15,2	233	84,3	275
Ordu	22	7,4	275	92,6	297
Sakarya	26	8,5	278	91,5	304
Samsun	35	9,9	316	90,1	351
Şanlıurfa	25	6,8	340	93,2	365
Tekirdağ	32	12,5	223	87,5	255
Trabzon	21	7,7	251	92,5	272
Van	77	26,4	214	73,6	291

Source: <https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul;>  
<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i-CC%87dareler-secimi/77916>

While analyzing the distribution rates of the municipal council members by gender, it was taken into account whether the candidates were principal or quota, and substitute members were not included in the analysis. Within the scope of the metropolitan municipality, the average of women's representation in the county municipal councils is 12.2%. Considering the number of candidates who won the municipal council membership, it is seen that the lowest rate was recorded in Malatya (2.9%), Gaziantep (5.9%) and Konya (6.2%). Only 6 out of 83 candidates were elected in

Malatya, 13 out of 105 candidates in Gaziantep and 34 out of 248 candidates in Konya.

This situation can be characterized as an attempt by the parties, which could not have a presence in that region, to increase the number of women candidates by nominating them. It can also be considered that political parties nominate women in positions they cannot be elected to fill women's quotas. The provinces with the highest number of female candidates winning the elections are Diyarbakır (28.3%), Van (26.4%) and İzmir (18.9%). 108 out of 264 candidates were elected in Diyarbakır, 77 out of 194 candidates were elected in Van, and 141 out of 1006 candidates in İzmir.

*Table 7: Number of Metropolitan Municipalities Council Members in March 31, 2019 Local Elections: Rates of Women and Men*

Metropolitan Municipalities	Metropolitan Municipalities Council Members				
	Woman	Percent	Man	Percent	Total
Adana	7	8,8	72	91,2	79
Ankara	13	8,9	133	91,1	146
Antalya	5	4,6	102	95,4	107
Aydın	9	10,9	73	89,1	82
Balıkesir	8	8,6	85	91,4	93
Bursa	10	9,8	92	90,2	102
Denizli	8	10,9	65	89,1	73
Diyarbakır	-	-	-	-	-
Erzurum	3	3,9	73	96,1	76
Eskişehir	4	8,6	42	91,4	46
Gaziantep	6	11,3	47	88,7	53
Hatay	3	3,5	84	96,5	87
İstanbul	52	14,8	259	85,2	351
İzmir	30	17,1	145	82,9	175
Kahramanmaraş	7	9,8	54	91,2	71
Kayseri	3	9,8	67	90,2	70
Kocaeli	14	17,2	67	82,8	81
Konya	5	3,8	126	96,2	131
Malatya	2	4	47	96	49
Manisa	2	2,2	87	97,8	89
Mardin	-	-	-	-	-
Mersin	6	7,5	73	92,5	79
Muğla	10	14,2	60	85,8	70
Ordu	3	3,9	73	96,1	76
Sakarya	2	3	63	97	65
Samsun	6	6,9	80	93,1	86
Şanlıurfa	7	8,2	78	91,8	85
Tekirdağ	1	1,6	61	98,4	62
Trabzon	3	4,3	66	95,7	69
Van	-	-	-	-	-



The metropolitan municipality council is formed by taking one-fifth of the number of members of each county municipality council within the boundaries of the metropolitan municipality. After this one-fifth ratio is determined, the members who will participate in the metropolitan municipality council are determined, starting from the first row according to the order of election of the original members elected for each district municipality (24. Art. of the Law No. 2972 on the Election of Local Administrations and Neighborhood Headmen and Board of Alderman). If we look at these data within the scope of thirty metropolitan cities, it is seen that the representation rate of women in the metropolitan municipality council is quite low. The representation rate of women in all metropolitan municipalities is below 20%. The metropolitan municipalities closest to this rate are Kocaeli (17.2%) and İzmir (17.1%). The representation rate of women in the remaining metropolitan municipal councils is quite low. The reason for this situation is that the political parties that won the election in that region are hesitant to nominate women in the first place.

## **Conclusion**

The woman, who exists in economic and social life in Turkey, is pushed into the background in the political field. Women who play an active role in voting activities and in the women's branches of parties are in a passive position in the process of being a candidate or being nominated and in representation issues. This passive appearance increases the male representation and reveals a male-dominated management approach. Although women constitute almost half of the population living in metropolitan cities, cities are governed by a male-dominated representation system. This causes cities to be designed from the perspective of men and to put women in a passive and disadvantaged position.

When an evaluation is made on the results obtained from the tables, it is seen that in the last March 31, 2019 Local Administrations Elections held within the boundaries of metropolitan municipalities, women's candidacy and election levels as metropolitan and county mayors, county municipal council members are quite low compared to men. When the rates are taken into consideration, the current situation seems quite far from the women's quota rates applied in the countries given examples. The reason why women are not elected within the metropolitan area where the percentage of female candidates is high or they are elected at low rates is either because they are at the bottom of the electoral lists or because women are nominated by political parties that are unlikely to be elected in that region.

In the examination, it is seen that the candidacy and election rates of female candidates for municipal council membership in the metropolitan example are higher than the metropolitan municipality and municipality. The fact that the parties attach importance to the candidate with the highest probability of being elected in competition in the metropolitan municipality and county municipality and that men want to be the only man in the administration puts women in the background. Considering the way in which the metropolitan municipal councils are formed, the fact that women elected as the county council members are not at the top of the list leads to a low female representation rate in the metropolitan municipal councils. To increase this rate, when determining candidates, steps can be taken such as developing gender-focused approaches, raising women's awareness on political issues, carrying out activities that will increase women's self-confidence and encouraging them to enter politics, increasing educational opportunities, implementing women's quota practices, changing male-dominated party structures, and making a more equal distribution. In this way, it is thought that local democracy can be strengthened by increasing the participation and representation of women in decision-making processes at the local level.

## References

- Akdemir, T. and Ulusoy, A. (2005). *Mahalli İdareler Teori-Uygulama-Maliye*. Ankara: Seçkin Yayıncılık.
- Alıcı, O. V. and Kandeğer, B. (2017). Belediyelerin Yönetiminde Kadın Yöneticiler. *Akademik Sosyal Araştırmalar Dergisi*, Sayı 56, ss.397-410.
- Baykal, D. (1970). *Siyasal Katılma: Bir Davranış İncelemesi*. Ankara: Ankara Üniversitesi Siyasal Bilgiler Fakültesi Yayınları.
- Belli, A. (2015). Yerel Yönetimlerde Kadın Temsili ve Yerel Demokrasi. *Yasama Dergisi*. Sayı 31, ss.65- 88.
- Braud, P. (2017). *Siyaset Sosyolojisi*. Ankara: İmaj Yayınevi.
- Bulut, Y. and Tanıyıcı, Ş. (2007). Türkiye’de Belediye Meclis Üyelerinin Temsil Ediciliği: Erzincan Örneği. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, Sayı 21, ss.171-194.
- Buran, H. (1995). Yönetim Yurttaş İlişkileri ve Katılmalı Yönetim. *Kamu Yönetimi Sempozyumu Bildirileri*, Ankara: TODAİE Yayınları.
- Burns, D. (2000). Can Local Democracy Survive Governance?. *Urban Studies*, Vol 37, Iss. 5, pp.963-973.

- Çağlar, N. (2011). Kadının Siyasal Yaşama Katılımı ve Kota Uygulamaları. *SDÜ Vizyoner Dergisi*, Sayı 4, ss.56-79.
- Çelik, V., Çelik, F. and Usta, S. (2008). Yerel Demokrasi ve Yerel Özerklik İlişkisi. *Niğde Üniversitesi, İİBF Dergisi*, Cilt 1, Iss. 2, ss.87-104.
- Çelik, A. and Uluç, A. V. (2009). Yerel Siyasette Temsil Üzerine Bir Çalışma: Şanlıurfa Örneği. *İ.Ü. Siyasal Bilgiler Fakültesi Dergisi*, Sayı 41, ss.215-231.
- Çitci, O. (1996). Temsil, Katılım ve Yerel Demokrasi. *Çağdaş Yerel Yönetimler*, Cilt 5, Sayı 6, ss.5-14.
- Erdoğan, E. (2016). Büyükşehir Belediye Meclisi Üyelerinin Profilleri Üzerine Bir Çalışma. P. Uyan Semerci (Ed.), *Yerel Demokrasi Sorunsalı Büyükşehir Belediye Meclisleri Yapısı ve İşleyişi* içinde (ss.73-97), İstanbul: İstanbul Bilgi Üniversitesi Yayınları.
- Erençin, A. (2018). Yerel Demokrasi: Bir Güncelleme Önerisi. *Ekonomik ve Sosyal Araştırmalar Dergisi*, Cilt 14, No. 2, ss.343-356.
- Eryılmaz, B. (2016). *Kamu Yönetimi*. Kocaeli: Umuttepe Yayınları.
- Fischer, H. W. (2016). Beyond Participation and Accountability: Theorizing Representation in Local Democracy. *World Development*, No. 86, pp.111-122.
- Gökulu, G. (2013) Türkiye’de Kadınların Siyasal Temsili ve Kota Tartışmaları. *The Journal of Academic Social Science Studies*, Iss. 5, ss.347-370.
- Görmez, K. (1997). *Yerel Demokrasi ve Türkiye*. Konya: Vadi Yayınları.
- Görmez, K. and Altınışık, H.U. (2011), Yerel Demokrasi ve Kent Konseyleri. *Kent Konseyleri Sempozyumu Bildiri Kitabı* içinde (ss.31-51), Bursa: Bursa Kent Konseyi.
- Görün, M. (2006). Yerel Demokrasi ve Katılım. *Yönetim Bilimleri Dergisi*, Cilt 4, Sayı 2, ss.159-183.
- Heywood, A. (2019). *Siyaset*, Ankara: Adres Yayınları.
- Jaben, N. and Jadoon, M. (2009). Gender and Local Governance in Pakistan: Representation vs. Participation. *International NGO Journal*, Vol. 4, Iss. 5, pp.264-276,

- Kakumba, U. (2010). Local Government Citizen Participation and Rural Development: Reflections on Uganda's Decentralization System. *International Review of Administrative Sciences*, No 76, pp.171-186.
- Kapani, M. (2015). *Politika Bilimine Giriş*. Ankara: Bilgi Yayınevi.
- Karabulut, N. and Bayrakçı, E. (2019). Yerelde Demokrasi ve Yerel E- Katılım. *Turkish Studies, Economics, Finance, Politics*, Vol 14, No 1, pp.71-94.
- Keleş, R. (2020). Yerel Demokrasiyi Merkezîyetçilik Virüsünden Arındırmak. *Kent ve Çevre Araştırmaları Dergisi*, Cilt 2, Sayı 1, ss.45-57.
- Kemp, B. and Jimenez, M. (2017). *State of Local Democracy Assessment Framework*. Stockholm: International IDEA.
- Marrison, J. (2007). *Models Of Democracy: From Representation To Participation?*. England: Oxford University Press
- Mazlum, S. M. (2008). Kadınlarla ve Kadınlar İçin Yerel Yönetimler. <http://kader.org.tr/wp-content/uploads/2021/05/KADINLARLA-VE-KADINLAR-ICIN-YEREL-YONETIM.pdf>.
- Negiz, N. and ÜÇER, N. (2012). Yerel Siyasette Seçil(e)meyen Kadın: 2004-2009 Mart Seçimleri Düzleminde Analitik Bir İnceleme. *Çağdaş Yerel Yönetimler*, Cilt 21, Sayı 2, ss.1-24.
- Norman, P., Purdam, K., Tajar A. and Simpson, L. (2007). Representation and Local Democracy: Geographical Variations in Elector to Councillor Ratios. *Political Geography*, Vol. 26, Iss. 3, pp.57-77.
- Oktay, T. (2013). Yerel Siyaset Bağlamında Belediye Meclis Komisyonları: Marmara Bölgesi Örneği. İstanbul: *Marmara Belediyeler Birliği Yayını*.
- Oruç, T. and Bayrakçı, E. (2018). Yerel Siyasette Temsil ve Katılım: Kadın Aktörler. *MANAS Sosyal Araştırmalar Dergisi*, Cilt 7, Sayı 2, ss.463-480.
- Önder, Ö. (2013). Yerelleşme ve Yerel Demokrasinin Güçlendirilmesi Bağlamında Yerel Katılım. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, Cilt 9, Sayı 18, ss.311- 326.
- Örs, B. (2006). Siyasal Temsil. *İstanbul Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, Sayı 35, ss.1-17.
- Özbey, B. (2004). Yerel Yönetimlerin Yeniden Yapılandırılması Açısından Belediye Meclislerinin Konumu. *Yerel Yönetimler Kongresi Düünden*

*Bugüne Yerel Yönetimlerde Yeniden Yapılanma, Bildiriler Kitabı, Biga-Çanakkale, 3-4 Aralık 2004.*

- Pınarcıoğlu, N. Ş. (2013). Yerel Siyaset ve Yerel Yönetimlerde Cinsiyetçi Örüntüler: İstanbul Örneği. *MSGSÜ Sosyal Bilimler*, Sayı 8, ss.64-80.
- Poyraz, E. (2017). Yerel Yönetimlerde Siyasal Katılım ve Temsiliyet Sorunsalı Üzerine Bir Değerlendirme: Belediye Meclislerinin Etkinliği. *Al-Farabi Uluslararası Sosyal Bilimler Dergisi*, Sayı: 1, ss.136-146.
- Pratchett, L. (2004). Local Autonomy, Local Democracy and New Localism. *Political Studies*, No. 52, pp.358-373.
- Pustu, Y. (2005). Yerel Yönetimler ve Demokrasi. *Sayıştay Dergisi*, Sayı 57, ss.121-134.
- Rao, N. (1998). Representation in Local Politics: A Reconsideration and some New Evidence, *Political Studies*, Iss. 46, pp.19- 35.
- Sezgin, S. (2019). Yerel Siyasette Kadın Temsili: 31 Mart 2019 Yerel Seçimleri: Kırklareli İli Örneğinde Bir Değerlendirme. *Trakya Üniversitesi İktisadi ve İdari Bilimler Fakültesi E-Dergi*, Sayı 2, ss.21-47.
- Sisk, T. (2001). *Democracy at Local Level: The International IDEA Handbook on Participation, Representation, Conflict Management and Governance*. Stockholm: International IDEA.
- Siverekli, E. (2001). Yerelleşme ve Yerel Demokrasi. *Belediye Dünyası*, Cilt 2, Sayı 2, ss.121-133.
- Tortop, N. (1992). *Mahalli İdareler*. Ankara: Nobel Yayınları.
- Türel, N. and Çağlar, N. (2010). Yerel Yönetimde Kadın Temsili-Isparta İli Örneği. *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, Sayı 2, ss.16-40.
- Waylen, G. (2017). Engendering the 'Crisis of Democracy': Institutions, Representation and Participation. *Pre-publication version for Government and Opposition*, Vol 50, No 3, pp.495-520
- Yaylı, H. and Pustu, Y. (2008). Yerel Demokrasinin İlkeleri. *Karadeniz Araştırmaları*, Sayı 16, ss.133-153.
- Yaylı, H. and Eroğlu, G. (2015). Yerel Katılım Bağlamında Türkiye'de Kadın Temsili. *International Journal of Science Culture and Sport*, No 3, pp.504-524.

Yıldırım, U., Gül, Z. Akın, S., Kılaç, S. and Kırac, Y. (2015). Türkiye'de Belediye Meclislerin Temsil Ediciliği: Siirt Örneği. *Elektronik Sosyal Bilimler Dergisi*, Vol 14, Iss. 54, pp.278-306.

<https://biruni.tuik.gov.tr/secimdagitimap/yerel.zul> Date of Access (01.07.2021).

<https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Kadin-2020-37221> Date of Access (4.08.2021).

<https://data.tuik.gov.tr/Kategori/GetKategori?p=Nufus-ve-Demografi-109> Date of Access (01.08.2021).

<https://www.ccre.org/> Date of Access (01.08.2021).

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/635548/EPRS\\_BRI\(2019\)635548\\_](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/635548/EPRS_BRI(2019)635548_) Date of Access (03.08.2021).

<https://www.ysk.gov.tr/tr/31-mart-2019-mahalli-i-CC%87dareler-secimi/77916> Date of Access (11.07.2021).



## 4

### Analysis of the Perception towards Violence to Women in Turkey in the Context of TR90 Region

Nazlı Özcan Sarıhan (Gümüşhane University)  
ORCID ID: 0000-0003-3418-5026  
nazliozezan@gumushane.edu.tr

Muhammed Serhat Semercioğlu (Gümüşhane University)  
ORCID ID: 0000-0001-9689-0850  
s.semecioglu@gumushane.edu.tr

#### **Abstract**

*Phenomenon of “violence to women” extends back along time as well as it is a social problem all over the world. It is also known that the level of this type of violence, which emerges only based on gender inequality and is encountered at every stage of social life, changes based on the culture and characteristics of the society at the same time. In this regard, the increase of this issue, which is a fundamental violation of human rights, is also related to how it is perceived by society. The purpose of this study was to determine the perception of violence against women by participants living in the TR90 Region and also scrutinize this fact by its sub-dimensions. Within this framework, the sample consisted of 807 people over the age of 18 living in the provinces included in the TR90 Region (Artvin, Trabzon, Rize, Gümüşhane, Giresun, Ordu). Data of this study was collected by “Demographic Information Form” and “İSKEBE Attitude Scale”; various analyses were applied to expressions in this scale via the SPSS program. According to the results, there is a significant difference between the variables of gender, marital status, age, educational background, settlement, and violent attitudes toward body and identity.*

**Keywords:** Violence, TR90 Region, Violence perception towards women

#### **Introduction**

**V**iolence concept, considering its seriousness, rate of increase, and complexity, is one of the issues that has been worked on for a long while. Much as the date of occurrence of violence cannot be known, it is predicted that it is parallel to the history of humanity. This prediction is based on archaeologists' finds such as fractures in mummy bones, articles on punishment and killing in Roman inscriptions (Dişsiz



and Şahin, 2008). Moreover, the importance of the concept of violence and also its visibility in the media are increasing day by day. Violence, today, is endeavored to be analyzed in different disciplines such as psychology, biology, sociology, and social service multidimensionally. At this point, the World Health Organization (WHO) defines violence as “to cause or possibility to cause injury, death or psychological harm in the exposed as a result of the deliberate application of physical force or potency in the form of a threat or reality”. On the other hand, violent behavior means not only physical violence but also verbal and psychological harassment, and consciously causing discomfort and harm to the individual. Violence directly threatens the health of individuals and societies; it is accepted as a human rights abuse at the same time. Violence displays itself in different styles as well as it usually confronts us as “violence to women”.

## **Violence Phenomenon Towards Women**

United Nations General Assembly (1993) defines “violence to women” as all kinds of physical, sexual, psychological pressure, coercion, threat or prevention of freedom in private or public life directed against women based on gender. (United Nations Declaration, 2019). For another definition, violence against women is accepted as a form of gender-based discrimination and also a tool to humiliate women and exclude women from society (Çakmut, 2018:50). The World Health Organization (WHO) defines violence to women as any behavior that hurts women and is likely to harm them physically, mentally, or sexually with a sexist approach and restricts women's freedom (Güleç et al., 2012). Moreover, the following types of violence for partners are specified by WHO (WHO, 2013):

- Intimate partner violence: Behaviors including physical aggression, psychological abuse, and controlling behaviors of an ex or intimate partner or a family member.
- Sexual violence: It includes any violent sexual act or attempted sexual act by any person, regardless of their relationship to the victim in any setting Forcing the victim physically by using sexual violence reveals the concept of “rape”.

It is possible to say that violence to women is a global problem (Kabasakal and Girli, 2012:107). For example, according to findings of research made in Canada where is a developed country for OECD, the rate of being exposed to violence on campus among women studying at university is about 25%. Another finding of the same research revealed that violence to women goes beyond physical and mental health and has effects on women's

education and career decisions (Senn et al., 2014). The World Health Organization surveyed on behalf of the United Nations Interagency Working Community and found that an average of one-third (about 30%) of women worldwide have experienced violence at least once in their lifetime (WHO, 2021). Regarding undeveloped countries, nearly 90% of women are exposed to violence (Yount et al., 2011). In addition, for authorities, women are more exposed to violence in societies where men are seen as superior to women and gender roles are clearly defined (Page and İnce, 2008).

According to the results of Turkey Domestic Violence Research (2015), 36% of participating women have been subjected to violence at least once in their life. Again, for the same research results, 44% of women were subjected to emotional violence at least once (Turkey Domestic Violence Research, 2015). WHO (2011) published a report and highlighted that the rate of women experiencing violence during pregnancy ranges from 2% to 32% (Garcia-Moreno et al., 2002). Genç et al., conducted a survey (2019) and revealed that the biggest reason for the husband's violence against women is economic reasons (30.5%) and problems in bilateral relations (30.5%).

According to the data of the Turkish Statistical Institute (TSI), divorce rates, too, increased by 8% compared to the previous year. Moreover, it was concluded that the men who resort to violence also have mothers who were subjected to violence (Avcı, 2020). Turkish Criminal Law includes deterrent penalties toward violence regardless of gender. In the relevant law, the penalties to be given to the person who resorted to violence are of a general nature and these provisions are binding for everyone if the specified norms are violated (Çakmut, 2018). The Law on the Protection of the Family (1998) was abolished by the 6284 numbered Law on the Protection of the Family and the Prevention of Violence Against Women (2012). The perspective to the concept of “Woman”, which is tried to be protected with Law No. 6284, has been changed. Following text is quoted from 1st Article of 6284 numbered Law:

*“The purpose of this Law is to regulate the procedures and principles regarding the measures to be taken in order to protect women, children, family members and victims of stalking and to prevent violence against them.”*

Violence against women is generally resorted by men (Steward and Robinson, 1998). Besides, there can be talked about an imbalance of power in favor of men in violence. Especially in patriarchal societies, men in a physically strong position resort to violence to prove their power over women (Akkaş and Uyanık, 2016). We can collect the issue of violence to

women under four titles (Uluocak et al., 2014): verbal or psychological violence, sexual violence, physical violence, and economic violence.

Invective towards women, derogatory nicknames, using sarcastic words, and sudden increases in the tone of voice can be given as examples for verbal or psychological violence. Non-consensual sexual intercourse, using sexuality as a punitive element, forced abortion or demasculinization and sexual diseases acquired from a man as a result of sexual intercourse can be aligned as examples for sexual violence (Akyüz et al., 2012). Physical violence is the most common type of violence used by men (Yanık et al., 2014); for example, to smack, bite, throw objects, unhouse, push, torture (Yetim and Şahin, 2008). Finally, making wife financially dependent and using money as a threat or a means of control are examples of economic violence (Gürkan and Coşar, 2009).

According to the report “COVID-19 and Violence against Women” published by the World Health Organization on April 7, 2020, violence against women continues to be a major threat with the virus epidemic that has turned into a global pandemic in the last few years. For the relevant report results, there has been an increase in domestic violence cases worldwide since the COVID-19 epidemic began. It is seen in the same report that the number of domestic violence cases reported to the police in China's Hubei province has increased three times compared to the previous year (WHO, 2020). It was revealed in another report by the UK Women's Aid Agency that unplanned pregnancies, sexually transmitted infections, and serious reproductive problems have gradually increased as a result of violence to women, especially by intimate partners during the pandemic process (Women's Aid UK, 2020). The following items may be the reasons for the increase in different types of violence to women during the pandemic period (Gupta, 2020):

- Spending more time with family members, potential economic difficulties or job losses,
- Having less contact with family and friends from whom they can get support or provide protection against violence,
- Inability to complete the increased work in the family and home environment during the epidemic,
- Disruption of women's (most of them are informal wage workers) livelihoods and ability to earn a livelihood,
- Additional stress situations of partners arising from "fear of catching the virus".

There are studies that determine the situation of violence to women during the pandemic process in Turkey. Federation of Women's Associations of Turkey published a report and expressed that psychological violence increased by 93% and physical violence increased by 80% during the pandemic. Moreover, the same report emphasized that the rate of women who applied to women's shelters increased by 78 (Socio-Political Research Center, 2020). Ünal and Gülseren (2020) surveyed some articles and found that violence against women increased at different rates in our country during the pandemic (Ünal and Gülseren, 2020).

## Methodology of the Research

This chapter submits detailed information on hypotheses, population, sample size determination method, data collection method, analysis of the obtained data, and analysis methods.

## Hypotheses of the Research

Tested hypotheses are aligned below.

H<sub>1a</sub>: The attitudes of the participants towards violence against the body vary by gender.

H<sub>1b</sub>: The violent attitudes of the participants toward identity vary by gender.

H<sub>2a</sub>: The violent attitudes of the participants toward the body vary by marital status.

H<sub>2b</sub>: The violent attitudes of the participants toward identity vary by marital status.

H<sub>3a</sub>: The violent attitudes of the participants toward the body vary by age.

H<sub>3b</sub>: The violent attitudes of the participants toward identity vary by age.

H<sub>4a</sub>: The violent attitudes of the participants toward body vary by educational background.

H<sub>4b</sub>: The violent attitudes of the participants toward identity vary by educational background.

H<sub>5a</sub>: The violent attitudes of the participants toward the body vary by settlement.

H<sub>5b</sub>: The violent attitudes of the participants toward identity vary by settlement.

## **Population and Sample Selection**

The population consisted of participants aged 18 and over living in the TR90 Region. According to the population data for 2020, the total population aged 18 and over were in Artvin (135.986), Giresun (359.477), Gümüşhane (110,911), Ordu (589.401), Rize (268.906) and Trabzon (621.825) (tüik.gov.tr). With reference to this population, the number of samples was determined benefiting from the table that was developed by Cohen et al., (2007) to obtain a certain and reliable result. The lower limit of the number of surveys to be applied with a 99% confidence level and a 5% error margin was specified as 663 in case the population is 1,000,000 and above (Cohen et al., 2007: 104) as well as 807 people aged 18 and over living in the TR90 Region were reached within this study. The survey study was applied to the participants selected based on the random sampling method from the population and started in January 2021 and was completed in March 2021.

## **Data Collection Tool and Analysis Method of Data**

The data collection method of this study was the survey as well as attitude scale that was developed in “Development Study for Scale of İSKEBE Violent Attitude to Women (İSKEBE Attitude Scale)” belong to Kanbay et al. Necessary permissions for using the relevant scale were received from the scale developers. The survey form has two parts; questions regarding demographic attributes are in the first part while the expressions based on the 5 point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=agree strongly) to determine the attitudes of participants toward violence to women are in the second chapter.

Data of the research were analyzed by SPSS 25 statistic program. Compliance tests were used for expressions in surveys and also the frequency and percentage values of demographic attributes of participants were determined. There also was applied exploratory factor analysis, reliability tests for relevant expressions. One-Way variance analysis (One Way Anova) was utilized to determine the relationships between variables.

## **Findings of Research**

This chapter submits findings obtained from descriptive statistical analyses, factor analysis, and One-Way ANOVA analysis.

## Descriptive Statistical Findings Regarding Demographic Variables

Information on demographic variables of participants is as follows:

*Table 1: Demographic Attributes of Participants*

	Variable	Frequency	Percentage (%)
<b>Gender</b>	Female	456	56,5
	Male	351	43,5
<b>Marital Status</b>	Single	537	66,5
	Married	240	29,7
	Widowed	5	0,6
	Divorced	25	3,1
<b>Age</b>	18- 24	452	56,0
	25- 30	95	11,8
	31- 40	147	18,2
	41- 55	90	11,2
	55+	23	2,9
<b>Educational Background</b>	Literate	18	2,2
	Primary education	37	4,6
	High school	191	23,7
	University	502	62,2
	Graduate	59	7,3
<b>Settlement</b>	City Center (including Central Districts)	492	61,0
	District (provincial)	201	24,9
	Town	18	2,2
	Village or Neighborhood	96	11,9

The demographic attributes of participants can be seen in Table 1 numerically. Regarding gender, 56.5% of the participants are female and 43.5% are male. The higher participation of women in the survey can be explained by the fact that they are more sensitive to violence against

women. Besides, this sensitivity increases by the reasons that participants are concentrated at the high school and university level; living in provincial centers and districts.

## Normal Distribution Analysis

Normal or near-normal distribution of the data is of great importance for the application of statistical tests. The distribution expressing the standard normal distribution with a mean of "0" and a standard deviation of "1" has a bell-shaped frequency curve (Kalaycı et al., 2005: 53-54)

Shapiro-Wilk and Kolmogorov-Smirnov tests are generally used to reveal whether data show normal distribution (Karagöz, 2019: 352). Moreover, normality can be controlled using different statistical methods as well as one of them is to control Skewness and Kurtosis coefficients (Çokluk et al., 2012: 6). Skewness and Kurtosis values determine the symmetry, asymmetry, orthogonality, kurtosis, or normality of the series (Karagöz, 2019: 352).

In this context, skewness and kurtosis coefficients between +1.0 and -1.0 do not disturb the normality (Morgan et al., 2011: 51). Again, Tabachnick and Fidell (2013) expressed that skewness and kurtosis coefficients between +1.5 and -1.5 will not disrupt normality.

*Table 2: Normality Distribution Analysis Results*

		Statistics	Std. Error
Attitude to Violence Against the Body (F1)	Mean	1,2497	,01631
	Skewness	2,925	,086
	Kurtosis	11,204	,172
Attitude to Violence Against the Identity (F2)	Mean	2,0684	,03442
	Skewness	,929	,086
	Kurtosis	-,144	,172

As is seen in Table 2, the data of the study were distributed close to normal based on the skewness and kurtosis coefficients. Analyses of these findings can be seen in the following chapters.

## Reliability and Validity Analysis

Reliability is the degree to which a test or scale consistently measures what it intends to measure (Tekin, 2007: 28; Altunışık et al., 2010: 122). The most frequently used technique in scientific researches to calculate reliability is the Alpha Model (Cronbach Alpha Coefficient) (Lorcu, 2015: 207). In this regard, the reliability of the scale is interpreted as the levels below based on the values of the alpha ( $\alpha$ ) coefficient (Kalaycı et al., 2005: 405);

- The scale is not reliable if there is  $0,00 \leq \alpha < 0,40$ ,
- Reliability of scale is low if there is  $0,40 \leq \alpha < 0,60$ ,
- The scale is pretty reliable if there is  $0,60 \leq \alpha < 0,80$ ,
- The scale is reliable at the top level if there is  $0,80 \leq \alpha < 1$ .

The reliability analysis result of the survey in this study has the value of  $\alpha=0,959$ . This value jibes with  $0,80 \leq \alpha < 1$ ; so, our scale can be accepted as reliable at the top level.

Validity can be defined as the degree to which a scale or test measures what it intends to measure (Altunışık et al., 2010: 121), namely, the degree to which the data serves the purpose, and the data representation of what is intended to be measured (Bursal, 2019: 177).

## Exploratory Factor Analysis

Factor analysis is an analysis technique that targets to bring together a large number of interrelated variables and reduce them to fewer conceptually meaningful basic dimensions (factors/dimensions) (İslamoğlu, 2011:238; Coşkun et al., 2019: 296). Factor analysis is divided into two as confirmatory and exploratory (Büyüköztürk, 2003: 117). Exploratory factor analysis is used to test whether the indicators under a certain factor are indicators of the theoretical structure while confirmatory factor analysis is used to test whether the structure is verified with the data obtained from the measurement tool created in line with the theoretical structure (Çokluk et al., 2012: 177).

Barlett test and Kaiser-Meyer-Olkin (KMO) are used to evaluate where collected are suitable for the factor analysis. A value below 0.50 is not accepted as a KMO value in studies conducted in this context while a value of 0.60 is considered “moderate”, a value of 0.70 is “good”, a value of 0.80 is “very good”, and finally, a value of 0.90 is “excellent” (Kalaycı et al., 2005: 321-322).



*Table 3: KMO and Bartlett's Test Values*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,969
Bartlett's Test of Sphericity	Approx. Chi-Square	19412,282
	df	435
	Significance level (Sig.)	,000

As is seen in Table 3, the KMO test in this study gave the result of 96,9% (0,969); since there is  $0,969 > 0,50$ , it is a dataset that is suitable for the factor analysis. Another applied test was the Bartlett test and this test was also significant (sig.value= 0,000). Within this framework, for the findings, there is a high correlation among variables and the data are suitable for the factor analysis.

*Table 4: Factor Analysis Regarding Scale*

	SCALE OF VIOLENT ATTITUDE TO WOMEN (İSKEBE ATTITUDE SCALE)	Factors	
		1	2
1	A woman should get permission from the man when she goes somewhere.		,861
2	A woman must take her husband's surname when she marries.		,707
3	I adopt the word "He is your husband. He both loves and beats".	,837	
4	The woman who has been sexually harassed is at fault.	,619	
5	The woman does not have to be under the control of the man.		,639
6	The expenditures of the woman must be under the control of the man.		,726
7	Women must not go alone to places where men are concentrated.		,860
8	I think the beating is a good training tool.	,862	
9	A woman has to have sex with her husband, even if she does not want to.	,594	
10	I believe that the man has good reasons to beat the woman.	,785	
11	I don't find it right for women to work in workplace where males work predominantly.		,815

12	I excuse the beating as long as it's not severe.	,949	
13	The man should decide on financial matters in the family.		,644
14	It's normal to perve on women.	,611	
15	A woman must have sex the way the man wants even if she does not want it.	,731	
16	I think there is some justification for honor killing.		,534
17	A woman should give birth to a child just because her husband wants, even if the woman herself does not want.	,521	
18	A woman should not work if the man does not want it.		,783
19	The man is right not to let the woman out of the house when he deems it necessary.		,794
20	I excuse the violence if the degree of physical violence is not high.	,854	
21	I find it wrong for women to be out late.		,806
22	It is normal to be perved on a woman traveling alone.	,745	
23	I don't find it right for women to work in every sector.		,788
24	I find it normal for a married woman to have boyfriends.		,636
25	If a woman disobeys, beating her solves this problem.	,836	
26	I think some women deserve verbal harassment.	,579	
27	A woman must not wear a dress that the man does not allow.		,858
28	It is normal for a woman who is out late to be harassed.	,544	
29	If the man earns enough money, the woman does not need to work.		,711
30	I think that the reason for physical violence against women is the woman herself.	,609	

As is seen in Table 4, regarding the factor analysis based on ISKEBE Attitude Scale there are found two sub-dimensions as attitudes to the body (sexual and physical violence) and attitudes to identity (psychological and economic violence). Accordingly, it was determined as a result of the

exploratory factor analysis applied to the entire questionnaire consisting of two dimensions that the explained variance rate is 60,750%.

### Independent t-Test Findings regarding Gender Variable

In this chapter, T-test was used to research whether there was a significant difference relating to sub-dimensions of gender variable in answers of participants. Below hypotheses were specified in terms of gender variables.

**H<sub>1a</sub>:** The attitudes of the participants towards violence against the body vary by gender.

**H<sub>1b</sub>:** The violent attitudes of the participants vary by gender.

*Table 5: Independent t-Test Findings regarding Gender Variable*

	Group	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Attitude to Violence Against the Body (F1)	Female	456	1,09	,22812	-10,933	430,049	,000*
	Male	351	1,45	,59277			
Attitudes to Violence Against Identity (F2)	Kadın	456	1,60	,64919	-17,502	568,031	,000*
	Erkek	351	2,67	,99977			

*\*significant at  $p < 0,05$  level*

As is seen in Table 5, there is a significant difference at  $p < 0,05$  significance level in violence attitudes of participants towards body and identity based on the gender variable. In this regard, H<sub>1a</sub> and H<sub>1b</sub> hypotheses are accepted. Attitudes of females and males toward violence against body and identity are close to each other; the rate of females ( $X=1.09$ ) agreeing with the negative statements here is lower than the males ( $X=1.45$ ) regarding the attitude towards violence against the body. Again, for the findings above, females ( $X=1.60$ ) participated in the negative statements in the attitude of violence against identity with a perceptible difference lower than males ( $X=2.67$ ). In conclusion, we can say that females are more sensitive about violence to body and identity compared to males.

## Findings on the One Way Variance (One-Way Anova) Analysis

One-way variance analysis is a statistical method analyzing whether the difference between the mean of two or more unrelated samples makes a significant difference (Büyüköztürk, 2003: 44). There can be talked about a significant difference among groups if sig. value is lower than 0,01 for 1% significance level; 0,05 for 5% significance level. On the other hand, it can be concluded that there is no significant difference among the groups if the values are bigger than these relevant percentages (Yazıcıoğlu and Erdoğan, 2007: 220). The post-hoc statistic helped to see where this difference originated in the variables that had a significant difference between the two groups; the Tukey test was used in this context.

### One Way Variance (One-Way Anova) Analysis in terms of Marital Status Variable

This chapter shows one-way variance analysis findings regarding the age variable that is one of the demographic attributes in the sub-dimension of the survey. In this context, the below hypotheses were specified in terms of the marital status variable.

H<sub>2a</sub>: The attitudes of the participants towards violence against the body vary by their marital status.

H<sub>2b</sub>: The violent attitudes of the participants vary by their marital status.

As is seen in Table 6, there is a significant difference in both sub-dimensions at  $p < 0,05$  significance level based on the marital status variable; so, H<sub>2a</sub> and H<sub>2b</sub> hypotheses are accepted. The "tukey" test was used to explain between which groups the significant difference in attitudes of singles ( $X=1.17$ ), married ( $X=1.40$ ), widowed ( $X=1.97$ ), and divorced ( $X=1.26$ ) towards violence against the body occurred. It can be emphasized that these attitudes are at a "quite low" level.<sup>1</sup>

Regarding another dimension that is violent attitudes to identity, these attitudes are at a "low" level when we consider the averages of singles ( $X=2,58$ ), married ones ( $X=2,44$ ), widowed ones ( $X=2,47$ ), and divorced ones ( $X=2,54$ ). Below Tukey test explained the groups in which the difference arises.

---

1 Arithmetic averages are generally evaluated as "quite low" for 1.00-1.79; "low" for 1.80-2.59, "medium" for 2.60-3.39; "high" for 3.40-4.19, 4; "quite high" for 20-0.00 (Geçikli, 2012: 58).

*Table 6: One-Way Variance Analysis Results relating to Marital Status Variable*

		N	Mean	Std. Deviation	Std. Error	F	Sig.
<b>Attitudes to Violence Against the Body (F1)</b>	Single	537	1,17	,38051	,01642	19,886	<b>,000*</b>
	Married	240	1,40	,56072	,03619		
	Widowed	5	1,97	,81731	,36551		
	Divorced	25	1,26	,48759	,09752		
	Total	807	1,24	,46342	,01631		
<b>Violence Attitudes Against Identity (F2)</b>	Single	537	2,58	,85698	,03698	27,326	<b>,000*</b>
	Married	240	2,44	1,06153	,06852		
	Widowed	5	2,47	1,17851	,52705		
	Divorced	25	2,54	1,13361	,22672		
	Total	807	2,06	,97789	,03442		

*\*significant at  $p<0,05$  level*

As is seen in Table 7, the difference in violent attitudes towards the body, which is the first dimension, occurred between single with "married and widowed"; married and widowed; widowed and divorced ( $p<0,05$ ).

The difference in violent attitudes towards identity, which is the other dimension, occurred between singles with married ones and widowed ones ( $p<0,05$ ).

*Table 7: Tukey Test Regarding Variables that Make a Difference Between Marital Status Variable and Dimensions*

Dependent Variable	(I) Marital Status	(J) Marital Status	Sig.
Attitudes to Violence Against the Body (F1)	Single	Married	,000*
		Widowed	,000*
		Divorced	,760
	Married	Widowed	,028*
		Divorced	,400
	Widowed	Divorced	,007*
Violence Attitudes Against Identity (F1)	Single	Married	,000*
		Widowed	,023*
		Divorced	,879
	Married	Widowed	,536
		Divorced	,061
	Widowed	Divorced	,097

*\*significant at  $p<0,05$  level*

### One-Way Variance Analysis Findings in terms of Age Variable

This chapter shows the one-way variance analysis findings that were conducted for the age variable that is one of the demographic attributes in the sub-dimensions of the survey. Accordingly, the below hypotheses were specified in terms of age variable.

**H<sub>3a</sub>:** The attitudes of the participants towards violence against the body vary by age.

**H<sub>3b</sub>:** The violent attitudes of the participants vary by age.

As is seen in Table 8, there is a significant difference in violent attitudes in both dimensions at significance level based on age variable ( $p<0,05$ ). So, H3a and H3b were accepted. The significant difference can be seen in participants in 18-24 years old ( $X=1.14$ ), 25-30 years old ( $X=1.43$ ), 31-40 years old ( $X=1.29$ ) 41-55 years old ( $X=1.46$ ), and the age range over 55 ( $X=1,39$ ).

*Table 8: One-Way Variance Analysis Results relating to Age Variable*

		N	Mean	Std. Deviation	Std. Error	F	Sig.
<b>Attitudes to Violence Against the Body (F1)</b>	18-24	452	1,14	,34660	,01630	16,029	,000*
	25-30	95	1,43	,59896	,06145		
	31-40	147	1,29	,47498	,03918		
	41-55	90	1,46	,60677	,06396		
	55+	23	1,39	,55082	,11485		
	Total	807	1,24	,46342	,01631		
<b>Violence Attitudes Against Identity (F2)</b>	18-24	452	1,80	,80551	,03789	22,811	,000*
	25-30	95	2,58	1,10533	,11340		
	31-40	147	2,27	,99043	,08169		
	41-55	90	2,47	1,12730	,11883		
	55+	23	2,20	1,13288	,23622		
	Total	807	2,06	,97789	,03442		

*\*significant at  $p < 0,05$  level*

Violence attitude against identity is at “low level” considering the averages of participants in 18-24 ( $X=1,80$ ), 25-30 ( $X=2,58$ ), 31-40 ( $X=2,27$ ), 41-55 ( $X=2,47$ ) and 55 years and older ( $X=2,20$ ). Below Tukey test explained the groups which are the reason for the significant difference.

As is seen in Table 9, the difference in violent attitudes against the body that is the first dimension is between participants in the 18-24 age range and participants in 25-30; 31-40, and 41-55. Finally, there also is a difference between participants in the 31-40 age range and 41-55 age range ( $p < 0,05$ ). It was also concluded that the difference in violent attitudes against identity is between participants in the 18-24 age range and 25-30, 31-40 with 41-55 ( $p < 0,05$ ).

*Table 9: Tukey Test Relating to Variables that Make a Difference Between Age Variable and Dimensions*

Dependent Variable	(I) Age	(J) Age	Sig.
Attitudes to Violence Against the Body (F1)	18-24	25-30	,000*
		31-40	,006*
		41-55	,000*
		55+	,074
	25-30	31-40	,119
		41-55	,992
		55+	,996
	31-40	41-55	,037*
		55+	,851
	41-55	55+	,965
Violence Attitudes Against Identity (F2)	18-24	25-30	,000*
		31-40	,000*
		41-55	,000*
		55+	,262
	25-30	31-40	,089
		41-55	,942
		55+	,397
	31-40	41-55	,476
		55+	,997
	41-55	55+	,708

*\*significant at  $p < 0,05$  level*

### One Way Variance analysis Findings in terms of Educational Background Variable

This chapter shows the One-Way Anova findings regarding the educational background variable that is one of the demographic attributes with the sub-dimensions of the survey. Accordingly, the below hypotheses were specified in terms of educational background variable.



**H<sub>4a</sub>:** Attitudes toward violence against the body of the participants vary by their educational status.

**H<sub>4b</sub>:** The violent attitudes of the participants vary by their educational status.

*Table 10: One Way Variance Analysis Results Relating to Educational Background Variable*

		N	Mean	Std. Deviation	Std. Error	F	Sig.
<b>Attitudes to Violence Against the Body (F1)</b>	Literate	18	1,74	,66545	,15685	23,715	<b>,000*</b>
	Primary education	37	1,76	,67268	,11059		
	High school	191	1,32	,55386	,04008		
	University	502	1,17	,36342	,01622		
	Graduate	59	1,19	,33523	,04364		
	Total	807	1,24	,46342	,01631		
<b>Violence Attitudes Against Identity (F2)</b>	Literate	18	2,75	1,13279	,26700	21,191	<b>,000*</b>
	Primary education	37	3,19	,98955	,16268		
	High school	191	2,23	1,07023	,07744		
	University	502	1,91	,87622	,03911		
	Graduate	59	1,94	,10503	,10503		
	Total	807	2,06	,03442	,03442		

*\*significant at  $p < 0,05$  level*

As is seen in Table 10, there is a significant difference in violence attitudes of participants at significance level based on the educational background ( $p < 0,05$ ); so, H<sub>4a</sub> and H<sub>4b</sub> hypotheses are accepted. In this context, the Tukey test explained from which groups the significant difference in attitudes of literates ( $X=1,74$ ), primary school graduates ( $X=1,76$ ), high-school graduates ( $X=1,32$ ), bachelors ( $X=1,17$ ), and those who have master or doctorate degree ( $X=1,19$ ) towards violence against the body originated. It can be said in general that relevant attitudes are at a "pretty low" level.

*Table 11: Tukey Test relating to Variables that Make a Difference between Educational Background Variable and Dimensions*

Dependent Variable	(I) Educational Status	(J) Educational Status	Sig.
Attitudes to Violence Against the Body (F1)	Literate	Primary education	1,000
		High school	,001*
		University	,000*
		Graduate	,000*
	Primary education	High school	,000*
		University	,000*
		Graduate	,000*
	High school	University	,001*
		Graduate	,304
	University	Graduate	,997
Violence Attitudes Against Identity (F2)	Literate	Primary education	,486
		High school	,150
		University	,002*
		Graduate	,010*
	Primary education	High school	,000*
		University	,000*
		Graduate	,000*
	High school	University	,001*
		Graduate	,222
	University	Graduate	,999

*\*significant at  $p < 0,05$  level*

Violent attitude against identity is at “low level” considering the averages of participants in 18-24 ( $X=1,80$ ), 25-30 ( $X=2,58$ ), 31-40 ( $X=2,27$ ), 41-55 ( $X=2,47$ ) and 55 years and older ( $X=2,20$ ). Tukey test explained the groups which are the reason for the significant difference.

As is seen in Table 11, the difference in violent attitudes against the body that is the first dimension is between literates and bachelors with participants who have master or doctorate degree; participants who graduated from primary school and high school with bachelors and those who have master or doctorate degree; finally, between high school graduates and bachelors ( $p<0,05$ ). The difference in violent attitudes against the body that is the other dimension is between literates with bachelors and those who have master or doctorate degree; primary school-graduates and high school graduates, bachelors with those who have master or doctorate degree; finally, between high school graduates and bachelors ( $p<0,05$ ).

### **One Way Variance Analysis Findings in terms of Settlement Variable**

This chapter shows the one-way variance analysis (One-Way Anova) findings regarding settlement variable that is one of the demographic attributes in the sub-dimensions of the survey. Below hypotheses were specified in terms of this variable.

$H_{5a}$ : The attitudes of the participants towards violence against the body vary by the settlement.

$H_{5b}$ : The violent attitudes of the participants vary by the settlement.

As is seen in Table 12, there is a significant difference in violence attitudes of participants towards both dimensions at significance level based on settlement variable ( $p<0,05$ ); accordingly,  $H_{5a}$  and  $H_{5b}$  hypotheses are accepted. In this context, the "tukey" test explained from which groups the significant difference in violence attitudes of participants living in the city center (including the central districts) ( $X=1.19$ ); living in the district (country) ( $X=1.31$ ); living in the town ( $X=1.57$ ), and also those living in the village ( $X=1.30$ ) against the body originated. Relevant attitudes can be accepted as at a “pretty low” level.

Table 12: One-Way Variance Analysis Results Relating to Settlement Variable

		N	Mean	Std. Deviation	Std. Error	F	Sig.
<b>Attitudes to Violence Against the Body (F1)</b>	City Center (including Central Districts)	492	1,19	,40784	,01839	6,802	,000*
	District (provincial)	201	1,31	,49350	,03481		
	Town	18	1,57	,75882	,017885		
	Village	96	1,30	,54906	,05604		
	Total	807	1,24	,46342	,01631		
<b>Violence Attitudes Against Identity (F2)</b>	City Center (including Central Districts)	492	1,95	,91254	,04114	7,713	,000*
	District (provincial)	201	2,28	1,01782	,07179		
	Town	18	2,60	1,31773	,31059		
	Village	96	2,11	1,04421	,10657		
	Total	807	2,06	,97789	,03442		

\*significant at  $p < 0,05$  level

These violent attitudes against identity, in general, can be accepted as at a “pretty low” level compared to the averages of those living in the city center (including the central districts) ( $X=1.95$ ); living in the district (country) ( $X=2.28$ ); living in the towns ( $X=2.60$ ) and also living in the villages ( $X=2.11$ ). Tukey test below explained the groups where the difference occurred.

As is seen in Table 13, the difference in violent attitudes against the body is between participants living in the city center (including central districts) and those living in the district (provincial) and town ( $p < 0,05$ ). Besides, the difference in violent attitudes against identity is between those living in the city center (including central districts) and those living in the district (provincial) and town ( $p < 0,05$ ).

*Table 13: Tukey Test Relating to Variables that Make a Difference between Settlement Variable and Dimensions*

Dependent Variable	(I) Settlement	(J) Settlement	Sig.
Attitudes to Violence Against the Body (F1)	City Center (including Central Districts)	District (Taşra)	,011*
		Town	,004*
		Village	,183
	District (provincial)	Town	,114
		Village	,993
	Town	Village	,105
Violence Attitudes Against Identity (F2)	City Center (including Central Districts)	District (Taşra)	,000*
		Town	,024*
		Village	,408
	District (provincial)	Town	,524
		Village	,510
	Town	Village	,199

*\*significant at  $p<0,05$  level*

### Discussion and Conclusion

Violence fact which is at the forefront of individual problems and also has increased day by day is a global problem because it is observed in almost all societies. We can say that it is an interdisciplinary issue considering its complexity and impact area on humanity. Violence, at the same time, is an obstacle for future generations to sustain their presence in a safe environment. This phenomenon displays itself in different types as well as we frequently experience it as violence to women, a sexist form of violence. In this regard, the questionnaire in this study was applied to individuals over the age of 18 living in the TR90 region, and the collected data were analyzed. In the focal point of the study, it was measured whether the sub-factors belong to violence fact for women differ by specified variables.

According to the research results, violence to women and specified sub-factors are associated with the variables of gender, marital status, age, educational background, and settlement in general. It was also revealed that

the sub-factors of violence to women vary by gender while women are more sensitive compared to men regarding their violent attitudes to body and identity.

Concerning marital status, there can be seen a significant relationship between this variable and the sub-factors of violence to women. The difference in violent attitudes against the body that is the first dimension is between singles with “married and widowed”; married and widowed; finally, widowed and divorced. The difference in violent attitudes against the identity that is the other dimension is between singles with married and widowed participants. These findings jibe with the research belong to Snow et al., (2003); for relevant study results, single persons are less tend to violence to women.

There was found a significant difference in violence attitudes against both dimensions at significance level when the effect of age variable on violence to women was analyzed. Concerning relevant averages, the ratios are high in the age ranges of 25-30 and 41-55. A study with similar results was conducted by Tatlıoğlu (2019) in Bingöl province. Study results highlight that the age group who both perpetrate violence and do not regret consists of those who have been married for 20 years, that is, individuals over the age of 40.

It can be said when the effect of an educational background variable on violence to women is reviewed that as the education level increases, violence to women decreases. This finding jibes with the researches belong to Jansen et al., (2009) and Yanık et al., (2014); for their results, educational level increases, rate of resorting to violence decreases. Again, a similar study was performed by Kocacık et al., (2007); for their findings, the prevalence of violence decreases in persons who graduate from university or who have masters or doctorate degrees. In addition to all these results, Yanık et al., (2014) found that as the educational background increases, the ratio of being subjected to violence decreases at the same time.

One of the factors that can affect violence against women is the settlement variable. According to the results, there is a significant difference between the settlement variable and violent attitudes toward both dimensions. The significant difference in violent attitudes against the body is between those living in the city center (including central districts) with those living in the district (provincial) and town. The significant difference in violent attitudes against identity is between participants living in the city center (including central districts) and those living in the district (provincial) and town. This result jibes with the report titled “Violence Against Women in

Turkey” published by the International Strategic Research Organization in March 2012. For the related report, the settlement variable is associated with the phenomenon of “violence to women” as well as women living in urban areas are subjected to violence less than women living in rural areas.

After all, according to the results, there is a significant difference between the variables of gender, marital status, age, educational background, settlement, and violent attitudes toward body and identity. So, factors associated with attitudes towards violence to women were endeavored to be determined within the scope of the scale applied to a specific audience. This study revealed that participants’ attitudes relating to dimensions of violence against body and violence against identity vary. In addition, participants’ perceptions of violence against the body, in general, are higher than their perceptions of violence against identity. Thus, we can say that participants are more sensitive to physical violence against women compared to psychological violence; they may be, do not accept psychological violence as a kind of violence.

The thing that must be done at first is to increase social awareness on this issue to struggle with each kind of violence against women. Because “violence phenomenon towards women” which is a social problem can be solved by the public sector, private institutions, and non-governmental organizations acting together with the society and changing the social mentality. It is of great importance to regulate legal reforms and sanctions and create educational programs in order to change the general mentality in society, to create preventive and protectionist policies, to eliminate socio-economic and socio-cultural inequalities, especially educational inequalities.

## References

- Akkaş, İ. and Uyanık, Z. (2016). Kadına Yönelik Şiddet. *Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi*, Cilt 6, Sayı 1, ss.32-42.
- Akyüz, A., Yavan, T., Şahiner, G. and Kılıç, A. (2012). Domestic Violence and Woman's Reproductive Health: A Review of The Literature. *Aggression and Violent Behavior*, Vol 17, Iss. 6, pp.514–518.
- Altunışık, R. et al. (2010). *Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamaları* (6. Baskı). Sakarya: Sakarya Yayıncılık.
- Avcı, S. (2020). *Kadına Yönelik Aile İçi Şiddete Genel Bakış* (1. Baskı). İstanbul: Hiper Yayıncılık.

- Bursal, M. (2019). *SPSS ile Temel Veri Analizleri* (2. Basım). Ankara: Anı Yayıncılık.
- Büyüköztürk, Ş. (2003). *Sosyal Bilimler İçin Veri Analizi El Kitabı* (3. Baskı). Ankara: Pegem Akademi Yayıncılık.
- Cohen, L. et al. (2007), *Research Methods in Education* (6. Baskı). London: Taylor and Francis.
- Çakmut, Ö. Y. (2018). Kavramsal olarak kadına karşı şiddet/cinsel şiddet ve Türk ceza hukukunda cinsel saldırı suçunun genel değerlendirmesi. *Marmara Üniversitesi Kadın ve Toplumsal Cinsiyet Araştırmaları Dergisi*, Cilt 2, Sayı 1, ss.49-54.
- Coşkun, R., Altunışık, R. and Yıldırım, E. (2019). *Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı*, (10. Baskı). İstanbul: Sakarya Yayıncılık.
- Çokluk, Ö. et al. (2012), *Sosyal Bilimler İçin Çok Değişkenli İstatistik SPSS ve LISREL Uygulamaları* (2. Baskı). Ankara: Pegem Akademi Yayıncılık.
- Dişsiz, M. and Şahin, N. H. (2008). Evrensel bir kadın sağlığı sorunu: kadına yönelik. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi*, Cilt 1, Sayı 1, ss.50-58.
- Garcia-Moreno, C. (2002). Violence against women: what is the world health organization doing?. *International Journal of Gynecology and Obstetrics*, Vol 78, Iss. 1, pp.119-122.
- Geçikli, F. (2012), *Kurum İmajı* (1. Baskı). Erzurum: Fenomen Yayıncılık.
- Genç Y., Altıparmak İ. B. and Ustabası Gündüz D. (2019). Kadına Yönelik Şiddetin Erkekler Tarafından Değerlendirilmesi: Sakarya Örneği. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, Cilt 21, Sayı 2, ss.391-408.
- Gupta, J. (2020). *What does coronavirus mean for violence against women?* (Rapor No: March 19, 2020). London: Women's Media Centre
- Güleç, H., Topaloğlu, M., Ünsal, D. and Altıntaş, M. (2012). Bir kısır döngü olarak şiddet. *Psikiyatriye Güncel Yaklaşımlar Dergisi*, Cilt 4, Sayı 1, ss.112-137.
- Gürkan, Ö. C., and Coşar, F. (2009). Ekonomik Şiddetin Kadın Yaşamındaki Etkileri. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi*, Cilt 2, Sayı 3, ss.124-129.



- İslamoğlu, A. H. (2011). *Sosyal Bilimlerde Araştırma Yöntemleri* (2. Baskı). İstanbul: Beta Yayıncılık.
- Jansen, H., Yüksel, İ. and Çağatay, P. (2009). Prevalence of violence against women. Turkish Republic Prime Ministry directorate general on the status of women, Vol 3, pp.45-69.
- Kabasakal, Z. and Gırlı, A., (2012). Üniversite öğrencilerinin kadına yönelik şiddet hakkındaki görüşlerinin, deneyimlerinin bazı değişkenler ve yaşam doyumu ile ilişkisi: DEÜ buca eğitim fakültesi örneği. *DEÜ Sosyal Bilimler Dergisi*, Cilt 14, Sayı 2, ss.105-123.
- Kalaycı, Ş. (2005). *SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri* (1. Baskı). Ankara: Asil Yayın.
- Karagöz, Y. (2019). *SPSS ve AMOS Uygulamalı Nicel-Nitel-Karma Bilimsel Araştırma Yöntemleri ve Yayın Etiği* (2. Basım). Ankara: Nobel Yayınları.
- Kocacık, F., Kutlar, A. and Erselcan, F. (2007). Domestic violence against women: a field study in Turkey. *The Social Science Journal*, Vol 44, No 4, pp.698-720.
- Page, A. Z. and İnce, M. (2008). Aile içi şiddet konusunda bir derleme. *Türk Psikoloji Yazıları*, Cilt 11, Sayı 22, ss.81-94.
- Senn, C. Y., Eliasziw, M., Barata, P. C., Thurston, W. E., Newby-Clark, I. R., Radtke, H. and SARE Study Team (2014). Sexual violence in the lives of firstyear university women in canada: no improvements in the 21st century. *BMC Women's Health*, Vol 14, No 1, pp.135–143.
- Snow DL, Swan SC and Raghavan, C. (2003). The relationship of work stressors, coping, and social support to psychological symptoms among female secretarial employees. *Journal of Work and Stress*, Iss. 17, pp.241–63.
- Social Politicals Research Centers (2020). *COVID-19 Karantinasından Kadının Etkilenimi ile Kadın ve Çocuğa Yönelik Şiddete İlişkin Türkiye Araştırma Raporu* (Rapor No.8). Diyarbakır: SAHA.
- Stewart, D. E. and Robinson, G. E. (1998). A Review of Domestic Violence and Women's Mental Health. *Archives of Women's Mental Health*, No 1, pp.83-89.
- Tabachnick, B. G. and Fidell, Linda S. (2013). *Using Multivariate Statistics* (6. Baskı). Boston: Pearson Education.

- Tatlıoğlu K. (2019). Aile içi kadına karşı şiddetin bazı demografik değişkenlere göre incelenmesi: Bingöl ili örneği. *Bingöl Araştırmaları Dergisi*, Cilt 6, Sayı 1, ss.55-76.
- Tekin, V. N. (2007), *SPSS Uygulamalı Bilimsel Pazarlama Araştırmaları (2. Baskı)*. Ankara: Seçkin Yayıncılık.
- Uluocak Ş., Gökulu G., Bilir O., Karacık N. E. and Özbay D. (2014). *Toplumsal Cinsiyet Eşitsizliği ve Kadına Yönelik Şiddet*. Edirne: Paradigma Akademi.
- Uluslararası Stratejik Araştırmalar Kurumu (2012). *Türkiye’de Kadına Yönelik Şiddet Araştırma (Rapor no: 12-01)*. Ankara: USAK.
- United Nations Declaration (2019). *The Shadow Pandemic* (Report No.2). New York: UN.
- Ünal, B. and Gülseren, L. (2020). Covid-19 Pandemisinin görünmeyen yüzü: aile içi kadına yönelik şiddet. *Klinik Psikiyatri Dergisi*, Vol 20, No 23, pp.89-94
- Venturini, T. (2012). Building on faults: How to represent controversies with digital methods. *Public Understanding of Science*, Vol 21, No 7, pp.796- 812.
- Women’s Aid (2020). *The Impact of COVID-19 on Women and Children Experiencing Domestic Abuse, and the Life-Saving Services that Support Them* (Report 2.). UK: WA.
- World Health Organization (2013). *Global and regional estimates of violence against women: prevalence and health impacts of intimate partner violence and non-partner sexual violence* (Report No. 5). Geneva: WHO.
- World Health Organization (2020). *COVID 19 and violence against women report* (Report No. 9). Geneva: WHO.
- World Health Organization (2021). *Global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women Report* (Report No. 12). Geneva: WHO.
- Yanık, A., Hanbaba, Z., Soygür, S., Ayalıtı, B., and Doğan, M. (2014). Kadına yönelik şiddet davranışlarının değerlendirilmesi: Türkiye’den kanıt. *Electronic Journal of Vocational Colleges*, Vol 4, Iss. 4, pp.104-111.

- Yazıcıoğlu, Y. and Erdoğan, S. (2007), *SPSS Uygulamalı Bilimsel Araştırma Yöntemleri* (2. Baskı). Ankara: Detay Yayıncılık.
- Yetim, D. and Şahin, EM. (2008). Aile hekimliğinde kadına yönelik şiddete yaklaşım. *Aile Hekimliği Dergisi*, Cilt 2, Sayı 2, ss.48-53.
- Yount, K. M., Halim, N., Hynes, M. and Hillman ER. (2011). Response effects to attitudinal questions about domestic violence against women: A comparative perspective. *Social Science Research*, No 40, pp.873–884.

# 5

## Personnel Policies in Turkey

H. Tuğba Eroğlu (Selcuk University)

ORCID ID: 0000-0003-0067-2766

hteroglu@gmail.com

### Abstract

*The personnel are one of the most significant elements of public administration. The public personnel are the most significant actors in offering the public services in public administration. The employment, training, waging, promoting, supervising, assessing, social security, retirement or the expiry of commission public personnel in other cases are included in the subjects of public personnel management. An evolution has been experienced in the public personnel system in all over the world from the status quo to flexibility, from personnel management to human resources management. A change is experienced in the Turkish public personnel system depending on the developments in the world. Turkish public personnel system has problems arising from the traditional approach of public administration; solutions to those problems have been produced within the framework of the new public administration but they failed to suffice. This paper discusses the problems of the Turkish public personnel system and the suggestions for solution on periods basis and focuses on the things to be done at this stage.*

*Keywords: Personnel Administration, Public Personnel Administration, New Public Administration, Human Resources Office of Presidency*

### Introduction

The effectiveness of public personnel management expressed as a sub-discipline of public administration is extremely important for fulfillment of the public services. The subject of personnel management is making the regulations devoted to the economic and socio-psychological needs of the personnel who fulfill the public services before recruitment, during his/her professional life and during his/her retirement. The socio-economic developments accelerating as a consequence of the movements of change and transformation starting particularly from 1980s, affected the public administration in general and personnel management in particular. The new management approach which has become inevitable in public administration rendered new regulations in personnel management compulsory. A new model shaped on a flexible structure covering principles including transparency, entrepreneurship, and performance is stipulated to replace the strict, hierarchical, top to bottom

traditional model which leads to deadlocks in the existing personnel management. Looking through the public personnel management in Turkey, a change from personnel management to human resources management is observed. The efforts of improvement that started in the Republican period that prioritized solution of the problems taken over from the Ottoman Empire still continue.

## **Public Personnel Management**

Personnel management examines humans in a working environment and their relations. It shows the ways and methods of providing the necessary human resource and benefiting from this resource with maximum effectiveness and efficiency (Tutum, 1979: 1).

On the other hand, public personnel management contains the managerial regulations necessary for the public institutions responsible for carrying on the public services they undertake to recruit the personnel and benefit from such personnel in conformity with the service requirements. The need for a higher number of public servants due to increasing growth of the state rendered the state the biggest employer (Ergun and Polatoğlu, 1992: 275).

The subject of the public personnel management is the personnel problems of the public institutions. It covers the ways and methods of providing the manpower for public administration and benefiting from this source most efficiently. It is required to deal with public personnel management with two dimensions. Classification, wage regime, personnel units and the rules of status that will be binding on the public servants constitute the structural dimension; human resource planning, personnel recruitment, training, assessment and motivation constitute the functional dimension (Tutum, 1979: 10-11). The problems and suggestions of solutions with respect to public personnel management should be discussed considering those two dimensions.

## **Public Personnel Policies in Turkey**

The development of the public personnel management in Turkey has evolved from a formal regulation to a more flexible regulation similarly to the development of the public personnel regime in the world. Consequently the development in the public personnel management changed in line with the efforts of reform in the Turkish public administration. In this context the development of the Turkish public personnel management could be summarized under the following periods:

*Figure 1: Turkish Public Personnel Management*

Before the Planned Period	After Planned Period
• From 1923 to 1960	• From 1960 to 1980 • From 1980 to 2000 • After 2000

### Public Personnel Policies Before the Planned Period

The early years of the Republic passed for the Turkish public personnel system rather by solving the problems encountered in the last periods of the Ottoman Empire. The most important effort in this period is the Law of Public Servants dated 1926 and numbered 788. This law is important for being the first legal regulation arranging the public personnel system in the best way under the circumstances of that era. One of the most prominent features of this law is regulating for the first time that female public servants could be assigned (Akgüner, 2009: 16).

The pre-planned period is a period during which the reports prepared by foreign experts are prominent for the Turkish public administration. Problems related to the imbalance distribution of the public servants, unfair distribution of salaries, insufficiency of in-service training, insufficiency of the personnel records, failure to consider merit in promotions and recruitments, insufficiency in classification, working hours, qualifications of the top directors have been expressed in the reports prepared by Neurmark, Barker, Martin, Cush, Leimgruber, Dantel and submitted to the government. The experts mentioned such suggestions as emergent establishment of the State Department of Personnel, materializing an effective wage regime in salary distribution, taking merit as basis, placement on the basis of a central examination, promotion on the basis of competency and sufficiency, improving the directors' qualifications in those reports with respect to solution of those problems. However the suggestions expressed in those reports prepared since 1949 were materialized approximately ten years later. One of the most important works in this period is a draft of State Personnel Law submitted to the Grand National Assembly of Turkey (TBMM) (Kayar, 2019; Akgüner, 2009: 19). One of the significant developments of this period was establishment of TODAİE (Public Administration Institute of Turkey and Middle East)\*.

---

\* TODAİE was closed with the Statutory Decree dated 09.07.2018 and numbered 703.

## **Public Personnel Policies After the Planned Period**

We can discuss the regulations on the public personnel management after the planned period dividing them into sub-periods.

### **Public Personnel Policies from 1960 to 1980**

1961 Constitution brought about significant changes in terms of the public personnel system, the fundamental and continuous missions required by the public services that the state and other public legal entities are obligated to execute on the basis of the general administration principles of legal entities were stipulated to be carried on through the public servants and it was emphasized that the qualifications, appointments, duties, rights and obligations, salaries and allowances and other personnel affairs of public servants would be regulated in laws. The most important development of this period was establishment of the State Personnel Department in 1960. The State Personnel Department started its activities and prepared reports related to the state personnel regime either personally or by means of foreign experts. It was suggested in the reports prepared by Van Mook among those reports issuing monthly schedules rather than salary scale regime and making improvements with respect to merit, career, in-service training, social welfares, and monthly pensions. It was emphasized in the report prepared by Fisher again in this period that the principle of merit was required to be developed, as well as the significance of the form of examination of entrance in public service and the necessity of the principle of classification (Kayar, 2019; Akgüner, 2009: 21).

The Central government Organization Research Project (MEHTAP) prepared in 1963 is one of the significant works of this period. According to the report, it is mandatory to provide monotony of the cadre titles and to improve the personnel regime. Development of the administration depends on the competency and sufficiency of the personnel employed. The report emphasized the necessity of training specialist personnel (Kayar, 2019).

The Law of Public Servants numbered 657 enacted in 1965 is one of the most important legal regulations enacted after the planned period. The law based on classification, career and merit brought about a new definition of classification. It has also been targeted at basing the public service on a merit system. The condition of examination has been imposed for recruitment, assignment to fundamental public service and promotions. The principles of promotion and salary increase have been shown, it has been stipulated to have degrees for promotion with respect to the significance and responsibility of the position within the classes and grades within the degrees which allow the public servant receiving positive

qualification without increase of the significance and responsibility of the duty and providing salary increase depending on a specific term of office. A new qualification system has been brought about and a new discipline regime associating service requirements and public servant safety has been regulated. Three categories has been detected with respect to the wage regime being public servant, contracted personnel and per diem personnel, the former salary scale regime was changed and it has been stipulated to transit to wage practices based on criteria such as indemnity, indicator and coefficient. Principle of in-service has been brought about for efficiency. Additional missions except for the exceptions were annulled and the rights including health, housing and retirement were associated to new principles. A system which would allow the representatives of public servants and the personnel discussing their problems has been brought about (Kayar, 2019).

### **Public Personnel Policies of 1980-2000 Period**

The personnel system was affected by the neoliberal policies and the discussions of downsizing the state in the world in the post-1980 period. While the problems and insufficiencies of the traditional public administration increased, the new public administration emerged as a change of paradigm underlining how the public sector should be managed. This period is also named as the post-fordist period. This period reflects more flexible public personnel management. In 1984, the State Personnel Department was reorganized as the State Personnel Department (Kayar, 2019).

The Public Administration Research Project (KAYA) published in 1991 is one of the most significant works for the Turkish public personnel system. A research group was created for the personnel regime and the problems and suggestions for solution with respect to the public personnel system were included in this report. In fact the problems indicated in this report were not much different from those in the previously prepared reports. However looking through the perspective of suggestions for solution; move this work to a distinctive place for the arrangements related to the public personnel system, having mentioned performance assessment, focused on personnel recruitment, mentioned the necessity to improve the standards of in-service training, used the information communication technologies, focused on effectiveness of public service offering, speed and quality (TODAİE, 1991). However the fact that those regulations were practiced rather after 2000 although such changes were mentioned in 90s revived one of the biggest problems of the Turkish public personnel system once more. The problems are defined, suggestions for solution are listed but it takes time to implement those solutions.



## **Public Personnel Policies of the Post-2000 Period**

The Post-2000 Period is quite an important period in the efforts of reform in Turkish public administration. While it was rather focused in the abovementioned periods on the reports and suggestions that those reports contain, the post-2000 reform efforts are regarded as more concrete efforts based on the laws. The three titles on the public administration reform contained in the Emergency Action Plan prepared in 2003 determine the direction of the reform efforts. Within the Post-2000 reform efforts, the Presidency Government System was accepted as a consequence of the referendum held in 2017. The Presidency Government System has begun to be implemented actually since 2018. The new system suggests a new simple administration model where the offices decreased, which adapts to the innovations quickly, which allows development of the human resources, the fields of authority and responsibility of which have been determined clearly, the decision making process of which is fast, the competitive power of which is high, which is participant and which targets at digital transformation (Akıncı, 2019; Gezici and Kutlu, 2019; Koçak, 2021; Sobacı and Köseoğlu, 2018).

One of the significant works performed in this period is the Emergency Action Plan of 2003. It has been stated that one of the fields of reform which is of longer term and which should definitely been realized is the State Personnel Regime Reform. It is mentioned in the plan that this field was regulated with the Law of Public Servants numbered 657 and it was tried to rearrange the field subsequently through amendments to the law depending on the newly emerging needs. Although all governments coming to power from 1980s to date promised for reform in this regard, failure to realize those promises indicates the current condition of the personnel system. Although preparations for reform were made by the State Personnel Directorate and other certain institutions and draft laws were prepared those drafts could not be materialized. It shall take time and be difficult to make rooted changes in this field. Political concerns are among the most significant factors effecting such change. One of the most significant problematic areas of the Turkish public personnel system is observed at that point. Considering that there are nearly five million public personnel in Turkey it shall not be very easy to perform certain radical changes in this field. For this reason, permanent staff practice has been adopted in public institutions within the framework of the issues indicated in the Emergency Action Plan and it has been focused on imposing objective criteria for recruitment and promotion, arrangements were made for the wage regime, flexible working procedures were brought about and performance based waging system and performance assessment system were adopted.

Looking through the arrangements made after 2000 with respect to the public personnel system, particularly the performance assessment that replaced the qualification assessment in 2011 is one of the most significant innovations. Performance assessment, as an arrangement that will allow objective assessment of the personnel in public, implements at the same time an open personnel system mentality in the public personnel system.

From a general point of view, the post-2000 reform efforts could be assessed as transition from personnel management to human resources management

*Table 1: Change in the Turkish Public Personnel Management*

Personnel Management	Human Resources Management
Status guarantee	Direct relation between contract, performance and job security
Single-joint regulation	A decentralized institutional arrangement
Personnel unit	It is the human resources unit.
Recruitment through examination	Recruitment at corporate level
Promotion on education and severance basis	Promotion on performance basis
The salary regime is uniform, relatively egalitarian	The salary regime has changed, non-egalitarian and competitive
Qualification assessment	Performance assessment
Public in-service training	Central and public in-service training

*Source: Aslan, 2005.*

Although a change is focused on with respect to the Turkish public personnel system as summarized in the above table, there are still problems in practice. Despite the fact that a new public personnel management is mentioned under a new public administration approach; the reason for this is existence of the changes made on the fact that the Public Servants Law numbered 657 regulating the public personnel system has rather been prepared with the reasoning of closed personnel system are changes toward open personnel system and the conflict between open and closed conflict. For this reason, a new public personnel law is required.

In line with the Presidency Government System, significant innovations occurred with respect to the Turkish public personnel system. The Statutory Decree dated 02.07.2018 and numbered 703 (article 123) and the Statutory Decree and numbered 217 (Statutory Decree on the Incorporation and Tasks of State Personnel Directorate) were annulled. It was judged with the Statutory Decree numbered 703 (provisional article 3) and the legislation that the duties given to the State Personnel Directorate shall continue to be carried on the aforementioned Directorate

for one year from the date of enforcement of this article and the Directorate would be deemed to be closed at the end of this period and it was decided for assignment of its units to the Ministry of Family, Labor and Social Service in terms of personnel, movable and immovable properties (Kayar, 2019).

With the Decree of Presidency on the Organization of Presidency dated 10.07.2018 and numbered 1 (article 525) a Human Resources Office reporting to the Presidency, with special budget, having public legal entity identity, having administrative and financial autonomy was established (Kaya, 2019).

The duties of the Human Resources Office are listed as follows (Kayar, 2019):

- *To issue the inventory of human resources of Turkey and carry on talent development activities where needed,*
- *To produce projects for development of human resources on the basis of the vision, objectives and priorities of Turkey,*
- *To provide discovery of special talents and carry on talent administration projects,*
- *To perform detection of human resources at global level in the fields prioritized by the policy boards and have the same given to the national projects,*
- *To develop projects for materializing career administration, performance administration and other modern human resources management models in the public,*
- *To produce projects and perform works for increasing merit and competency in public employment,*
- *To perform works toward human resources planning for increasing efficiency, and*
- *To perform the other duties assigned by the President.*

Although the transition from the personnel management to the human resources management through the Human Resources Office of Presidency realized within a structural framework, there are functional problems that continue.

The other units that took charge with the Human Resources Office include the General Directorate of Personnel and Principles\*, Directorate of Strategy and Budget and the General Directorate of Labor\*\*. The duties of those directorates and general directorates could be summarized as follows in terms of the public personnel system (Kayar, 2019):

#### **The Duties of the General Directorate of Personnel and Principles:**

- *To examine the transactions of the appointments of the top public directors and the other appointments and selections to be performed by the President with reference to the general principles of the Constitution, laws, Decrees of President and the law and to perform the necessary transactions,*
- *To collect information about the top directors commissioned in administration and governing of the state, to keep the qualification summaries and biographies,*
- *To perform the transactions related to the in-service trainings of the top directors,*
- *To provide the coordination of the legislation works related to the public personnel,*
- *To carry out the personnel works of the President, to make suggestions with respect to the personnel policy of the central organization of the Presidency and to implement the policies, to perform the works related to the appointment, transfer, personnel and retirement of the personnel and perform the required works for training the personnel.*

#### **The Duties of the Directorate of Strategy and Budget:**

- *To examine the cadre formation proposals,*

---

\* The General Directorate of Personnel and Principles positioned among the main service units of the Prime Ministry before the Presidency Government System continues with its activities reporting to the Administrative Affairs Directorate of Presidency.

\*\* The General Directorate of Labor, one of the main service units of the Ministry of Family, Labor and Social Services continues with its activities as the main unit of the Ministry of Family, Labor and Social Services and of the Ministry of Labor and Social Security after establishment of the Ministry of Labor and Social Security in 21.04.2021 with the Decree of the Presidency numbered 1.

- *To give permission for open appointment for the cadres of public servant and instructor and permanent workers as well as contracted personnel positions,*
- *To perform cadre, position and job analyses with respect to issues related to personnel employment and determine standards.*

**The Duties of the General Directorate of Labor:**

- *To perform, pursue and inspect the transactions related to the personnel cadres of the institutions and entities,*
- *To collect the statistical information related to the public personnel, to keep the personnel records on central basis, to provide the technical coordination necessary for inter-corporate data exchange,*
- *To contribute to the preparation of the draft legislations with respect to the personnel and the organization,*
- *To take the measures which will provide implementation unity in the implementation of the legislation with respect to the trade unions of the public officers, to carry on the consultancy, support and coordination services in the activities executed by and between the authorized boards representing the public employer and the trade unions of the public officers and the top institutions,*
- *To determine the principles related to the public personnel recruitment examinations and the placement transactions and to carry on the actions and transactions with respect to the employment of the disabled,*
- *To perform all sorts of works related to the training of the public personnel, to pursue, assess and inspect the practices,*
- *To carry on the transactions of transfer of the personnel excessively employed in accordance with the provisions of the legislations with respect to the practices of privatization and restructuring,*
- *To carry on the transactions with respect to the personnel of the Public Economic Enterprises and relevant cadres and positions,*
- *To perform researches and investigations on the subjects covered in his/her field of duty and to assess the results of the same, to take the measures which will eliminate the problems and hesitations that could emerge and to express his/her opinion to be basis for the practice.*

Considering the duties and powers of the Human Resources Office of Presidency and the other concerned units, supporting those arrangements through a new public personnel law under the authority of the Human Resources Office shall increase the effectiveness of the practices. The problems related to the public personnel system and the suggestions for solution and the arrangements for reinforcement of the public personnel system within the framework of the human resources management were included in the 11th Development Plan in the manner to discuss this.

It is assessed in the plan as a problem not to make effective human resources planning in the public institutions and entities in order to raise the public personnel up to a competent level. Furthermore failure to subject the public personnel to sufficient in-service training prevents the public employees to have knowledge and skills sufficient to perform their works efficiently. Failure to define the issue of promotion in the public sector clearly and sufficiently in the legislation, lack of an effective awarding system and wage imbalance adversely affect the self-development of the public employees. The problems of imbalanced distribution of the public personnel among the public institutions and entities and personnel insufficiency are mentioned as well. Failure to transit to the practice of permanent staff practice completely in the public institutions and entities leads to inability to know the number of personnel required by the public services and the qualifications to be sought in the personnel. Enactment of a new law to replace the Public Servants Law numbered 657 for the purpose of solving the aforementioned problems is one of the prioritized solution proposals contained in the 11th Development Plan (sbb.gov.tr, 2019).

The works performed with respect to the public personnel system are given in the plan, in addition to those problems. Developments in the field of public personnel management including granting the public officers the right to conclude collective bargaining contract, improving the vacancy rights of the public personnel, granting the contracted personnel the right to establish trade union and being a member of trade union have been provided. Furthermore the qualification system has been annulled and personnel information system has been stipulated to replace it; facilities that will encourage transition from private sector to public sector have been brought about. In line with these developments, the need for eliminating the differences between the types of employment in the public, creating a merit-based and objective recruitment and promotion system, developing the opportunities of part time working, creating a performance assessment system, rendering the distribution of personnel among the institutions and between central-rural organizations of the institutions balanced, increasing

the access to and raising the quality of the career planning and in-service training activities of the public employees continues (sbb.gov.tr, 2019).

It has been determined as the fundamental purpose to increase the service quality and personnel productivity in all processes from recruitment to retirement in the public sector for the purpose of improving the public personnel system. It has been targeted at increasing the level of knowledge and skill of the public personnel, to take merit as basis in the processes of public human resources, generalizing the flexible working forms starting from the relevant institutions and developing a functional performance assessment system through generalization of the in-service training practices (sbb.gov.tr, 2019).

It has been targeted at creating a human resources model which will increase the service quality and personnel productivity in the public sector for the Turkish public personnel system.

## **Conclusion**

Determination and implementation of the policies for improvement of the public personnel management have been included in the prioritized issue in the Turkish public personnel management in order to provide effectiveness in public service offering. The public personnel management reform efforts are included in the reform efforts for development of public administration since 1923. This consequence which started with the foreign expert reports continued later with the reports prepared by the local experts. The problems of centralism toward public personnel system, imbalance in personnel distribution, unfair wage distribution, deficiencies in classification, failure to implement the principle of merit properly were repeated in those reports. It is recommended to consider merit, expanding the principles of classification, keeping the personnel records correctly, placement of personnel depending on the nature of the job, to make assessment on success basis, for solution of those problems. However those solutions generally remained as recommendations and could not be implemented. One of the problems of the Turkish public personnel management which has perhaps become chronic is indeed suspension of the solutions.

The years during which the public personnel policies started to change are the 1980s. The change that the neoliberal policies created in public administration was reflected to the public personnel management as well. A flexible, open, participative, accountable and performance focused human resources management in public personnel management began to be discussed in compliance with the new public administration. The

change and transformation with respect to the human resources management in Turkey became apparent particularly through the KAYA Project. The important arrangements include creating a research group for the purpose of improving the personnel regime, providing effectiveness in public service offering, training the personnel who will offer such service, and assessing their success. The failure to implement the personnel policies fully despite performance of a comprehensive work, as was the case for the earlier works as well could be assessed as failure for those policies.

The 2000s became a milestone within the context of effectuating the public personnel policies. However it should be remembered that the changes are to be supported by legal regulations. The amendments to the existing law are arrangements for the open personnel system but since the law has the reasoning of the closed personnel system, the works cannot reach up to the desired level.

For this reason, it is necessary to focus rather on the policies for the Turkish public personnel management oriented toward functionality through a new personnel law which contains arrangements for increasing effectiveness, efficiency of public service offering and the employee satisfaction, which covers the policies of reinforcement of the capacity of the public institutions with respect to human resources management, to create a more efficient public personnel system which increases the capacity of the Human Resources Office of Presidency with the sense of human resources management of the personnel units in the public institutions and entities, which places the ethical consciousness, develops the public personnel's digital skills and facilitates adaptation to digital transformations and technological developments, organizes the trainings for increasing the public personnel's qualification, fully taking success focused assessment as basis and performs continuity of the position, promotion and waging on this basis and offers high quality service for the society.

## References

- Akgüner, T. (2009). *Kamu Personel Yönetimi*. İstanbul: Der Yayınları.
- Akıncı, B. (2019). *Cumhurbaşkanlığı Hükümet Sistemi Sisteme Yönelik Tartışmalar ve Çözüm Önerileri*. Ankara: Nobel Yayınevi.
- Aslan, O. E. (2005). *Kamu Personel Rejimi Statü Hukukundan Esnekliğe*. Ankara: TODAİE Yayınları.
- Ergun, T. and Polatoğlu, A. (1992). *Kamu Yönetimine Giriş*. Ankara: TODAİE Yayınları.



Gezici, H. S. and Kutlu, Ö. (2019), *Cumhurbaşkanlığı Hükümet Sistemi*. Konya: Çizgi Kitabevi.

Kayar, N. (2019). *Kamu Personel Yönetimi*. Bursa: Ekin Yayınları.

Koçak, B. (2021). *2010-2020 Arasında Türkiye’de Siyasalın Belirışı*. Ankara: Savaş Yayınevi.

Sobacı M. Z. and Köseoğlu, Ö. (2018), *Cumhurbaşkanlığı Hükümet Sisteminde Üst Kademe Yöneticiler*. Ankara: SETA Yayınları.

TODAİE (1991). *Kamu Yönetimi Araştırması Genel Rapor*. Ankara: TODAİE Yayınları.

Tutum, C. (1979). *Personel Yönetimi*. Ankara: TODAİE Yayınları.

<https://www.sbb.gov.tr/wp-content/uploads/2019/07/OnbirinciKalkinmaPlani.pdf>.

# 6

## The Effect of Applied Public Policies in Struggle with Covid-19 on Air Pollution: An Empirical Analysis for The Marmara Region

*Abdulgazi Yıkıcı (Karadeniz Technical University)*

*ORCID ID: 0000-0003-1230-1612*

*abdulgaziyyikici@ktu.edu.tr*

*Hüseyin Ünal (Karadeniz Technical University)*

*ORCID ID: 0000-0001-6323-1322*

*huseyin.unal@ktu.edu.tr*

*Çağrı Çolak (Trabzon University)*

*ORCID ID: 0000-0001-5806-9084*

*cagricolak@trabzon.edu.tr*

### **Abstract**

*This study is intended to examine whether the public policies implemented in struggle with Covid-19 virus, which emerged in Wuhan, China and spread to a significant part of the world in a short time, caused a change in the air pollution level of the Marmara Region. Using PM<sub>10</sub>, O<sub>3</sub>, NO<sub>2</sub> and SO<sub>2</sub> air pollutants between April 2018 and March 2021, the change in air pollution was analyzed with ANOVA F-Test and Kruskal-Wallis H Test. As a result of the evaluation, it was determined that thanks to the implemented public policies, air pollution improved in terms of PM<sub>10</sub>, O<sub>3</sub> and NO<sub>2</sub> and that there was an increase in SO<sub>2</sub> levels. From this point of view, it was observed that there was a partial improvement in the air pollution of the Marmara Region.*

*Keywords: Air Pollution, Air Pollutants, Covid-19, Public Policies, ANOVA F-Test, Kruskal-Wallis H Test, Marmara Region*

### **Introduction**

It is a known fact that human activities, in other words anthropogenic activities, have harmful effects on the environment. One of these harmful effects is air pollution. This pollution is one of the environmental factors that affect all regions, environments, socio-economic groups and age groups and threaten health (Forouzanfar, 2016).

Breathing polluted air is an important risk factor in respiratory diseases (Anastasaki et al., 2021: 1). It was revealed that one out of every nine deaths in 2012 was caused by conditions related to air pollution (World Health Organization [WHO], 2016: 15). In a recent study, it was stated that the number of people who died due to air pollution worldwide is approximately 8.8 million (Lelieveld, 2020: 3).

Air pollution, which is a global problem, has existed since the Industrial Revolution. Although natural resources such as dust storms, volcanic eruptions, plants and microorganisms are also known to be effective, it is accepted that air pollution is mainly caused by anthropogenic activities (McCann, 2021: 2). In addition, it was determined that 42.26% of the 213 million tons of pollutants mixed into the atmosphere as a result of human activities originate from transportation, 35.21% from industry and energy facilities, 17.37% from forest fires and 5.16% from solid wastes (Ertürk, 2018: 79). In this context, it can be said that transportation, industry and energy facilities are important causes of pollution.

As a precaution against the Covid-19 virus, which emerged in China at the end of 2019 and spread rapidly around the world, many countries have chosen to suspend social and economic activities partially or completely. This situation has limited many activities such as transportation which are seen as the main sources of air pollution. In other words, it has paved the way for the implementation of practices that will contribute to the improvement of air quality (Henao, 2021: 1-2). Turkey is one of the countries where parallel developments are experienced.

Although it is known that some natural factors are also effective, it is accepted that air pollution is mainly caused by anthropogenic activities. The public policy measures implemented in response to the Covid-19 pandemic in Turkey, on the other hand, brought about a dramatic and sudden decrease in anthropogenic activities. In this context, the aim of the study is to evaluate how the measures taken as a precaution against the Covid-19 pandemic caused a change in the air pollution level of the Marmara Region. The Marmara Region is home to cities such as Istanbul, Kocaeli and Bursa which correspond to approximately 30% of Turkey's population and are at the forefront of industrial production. These situations correspond to a significant part of anthropogenic activities in Turkey. From this point of view, the Marmara Region was chosen as the sample of the study. Bilecik, which is one of the provinces in this region, was not included in the study due to insufficient data. The study was carried out over the change in air pollutants of particulate matter (PM10), ozone (O3), nitrogen dioxide (NO2) and sulfur dioxide (SO2) between April 2018 and March 2021.

## Public Policy and The First Three Months of Policies to Struggle with Covid-19

The public authority is authorized to take certain decisions to ensure the public interest and well-being in matters that concern and affect the society. The academic field that deals with each stage of the said decisions from the agenda to the formulation and from application to evaluation is called “public policy” (Çolak, 2017: 76). Various definitions have been made for the concept of public policy. Some of the most frequently cited definitions in the literature are as follows: “Everything that governments choose to do or not do (Dye, 1987: 3)”; “activities carried out by the authorities to solve a problem; or inactivity (Anderson, 1994: 5)” and “an academic field in which the tools and processes that are effective in making public decisions are investigated (Schultz, 2004: 351)”.

Public policies vary considerably as societal needs and problems are associated with different policy areas. Governments take certain decisions in a wide range of education, health, housing, social security, justice, defense, foreign relations, foreign trade and tax policies within the framework of public interest and national interests. The features of public policies can be listed as follows (Akdoğan, 2015: 77; Yıldız and Sobacı, 2013: 18; Çevik and Demirci, 2012: 12-13; Çolak, 2021: 165-166):

- Public policies should take their source from legal regulations.
- Public policies are made only through the authorized bodies and persons of the state.
- Public policy is a set of goals and targeted actions.
- Public policies include not only a decision-making situation, but also a wide process that includes implementation and evaluation.
- Public policy can include inactivity as well as positive action.
- Public policy includes behavior as well as goals.
- Public policy is based on the idea that politics and administration are inseparable.

The Covid-19 virus, which emerged as a viral pneumonia in Wuhan City of Hubai region in China in December 2019 and spread to various parts of the world in March 2020, has forced all governments in the political arena to produce policies to tackle high complexity problems. In struggle with Covid-19 (Uzun, 2020: 1198-1199), which is characterized as a

wicked problem that cannot remain stable due to its unpredictable results in terms of its medical and socio-economic effects and due to the constant updating of information, various public policies have been produced in Turkey like many countries. In this context, Table 1 displays the policies produced within three months since March 2020, when the first Covid-19 case was seen in Turkey.

*Table 1: The First Three Months of the Struggle with Covid-19 in Turkey*

March 12, 2020	It was decided to suspend education for 1 week in primary and secondary schools and for 3 weeks at universities, and to play sports competitions without spectators.
March 14, 2020	Flights to European countries were suspended.
March 16, 2020	Bars, nightclubs, theatres, cinemas, gyms and cafes were closed. Mass worship in mosques was ended. A two-week quarantine was imposed on everyone returning from abroad.
March 19, 2020	The border gates with Greece and Bulgaria were closed. Sports matches were suspended.
March 21, 2020	Flights to 46 countries were stopped. Hairdressers and beauty parlors were closed.
March 27, 2020	THY announced that flights from all countries were stopped except five. The number of domestic flights were reduced. The number of settlements under quarantine across the country increased to 12.
April 3, 2020	A curfew was imposed under the age of 20, excluding workers.
April 4, 2020	Entry and exit to 30 Metropolitan and Zonguldak provinces were prohibited for 15 days. Turkish Airlines suspended domestic flights.
April 10-13, 2020	The first weekend curfew was imposed in Turkey.
April 14, 2020	THY announced that all international flights were suspended until May 20, 2020.
April 18, 2020	The summons and discharge dates were postponed.
April 18-19, 2020	Curfew was implemented for the second time in 31 provinces.
April 23-26, 2020	Combined with the official holiday, a 4-day curfew was imposed on the weekends in 31 provinces.
May 9-10, 2020	Weekend curfew was declared in 24 provinces.
May 16-19, 2020	A four-day curfew was declared in 15 provinces.
May 23-26, 2020	A four-day curfew was declared throughout the country during the Eid al-Fitr.
May 29, 2020	Worship in mosques was allowed under certain conditions.
June 1, 2020	Normalization

The practices in Table 1 caused various negative effects in many areas from economy to education, from art to sports, from health to transportation. However, it is also a matter of research whether there are areas where these practices have positive effects. From this point of view, the study focused on the relationship between the above applications and air pollution. Therefore, before moving on to the research part, it would be useful to address air pollution.

## Air Pollution

The environment, which consists of living environments such as air, water, soil, is expressed as the set of values that make up human existence. Each of these living environments is indispensable to life (Keleş et al., 2015: 113). However, these resources have certain limits and capacities, and if these thresholds are exceeded, their structures are deteriorated. Due to human activities, air, water, soil, various environmental elements and the ecosystem itself are damaged in every way (Bilgili, 2017: 559; Appannagari, 2017: 151). Environmental problems arise as a result of damage to environmental values. One of these environmental problems is air pollution.

The air which contains 78% nitrogen, 21% oxygen, 0.93% argon, 0.03% carbon dioxide and water vapor in varying percentages is a mixture that forms the atmosphere (Kim et al., 2015: 2502). Pollution in the air can be cleaned to a large extent by the air itself. An example of this is the separation of solid and liquid particles from the air being pulled downward by the effect of gravity, and the separation and decomposition of substances mixed into the air in the form of gas and vapor by the factors such as oxygen and light (Ertürk, 2018: 78). From this point of view, it can be stated that the air has the ability to clean itself within certain limits.

Pollutants released into the atmosphere with rapid population growth, urbanization and industrialization change the natural form of the air by exceeding certain thresholds over time, in other words, pollute the air (Keleş et al., 2015: 113). Air pollution occurs when the concentration of pollutants in the environment exceeds the self-cleaning capacity of the air (Ertürk, 2018: 78). The World Health Organization defines air pollution as “the change in the natural properties of the atmosphere by any chemical, physical or biological factor” (WHO, 2018).

Chemical, biological and physical substances that cause changes in the natural form of the atmosphere are described as atmospheric pollutants (WHO, 1980: 76). It is stated that atmospheric pollutants, especially PM<sub>10</sub>, O<sub>3</sub>, NO<sub>2</sub> and SO<sub>2</sub>, have the potential to cause serious effects on health (Breton et al., 2021: 1-2). These substances have various emission sources, and have different effects on human health, and some also on the environment.

*Particulate Matter (PM<sub>10</sub>):* A critical component of air pollution is atmospheric PM, which contains fine particles suspended in the air. PM<sub>10</sub>, on the other hand, refers to particles that are suspended in the air and have a diameter of 10 µm or less (Li et al., 2017: 1-2). Particles may enter the air directly from anthropogenic sources such as motor vehicles, solid fuels,

industrial activities, and from natural sources such as volcanic eruptions and dust storms, or they may form in the atmosphere from substances such as sulfur dioxide and nitrogen oxides (WHO, 2013: 3). Due to their size, these substances descend directly into the lungs and irritate the respiratory tract (McCann, 2021: 2). In addition, these substances have the potential to cause environmental problems such as atmospheric visibility impairment (Li et al., 2017: 2).

*Ozone ( $O_3$ ):* Ozone is a secondary pollutant that occurs as a result of the photochemical reaction of volatile organic compounds and nitrogen oxides in sunlight (Seinfeld, 1989; Central Pollution Control Board [CPCB], 2014: 30). The cessation of photochemical ozone production at sunset indicates the existence of a direct relationship between the emergence of this substance and temperature (Seinfeld, 1989: 746). In this context, it can be said that ozone levels will be higher in the summer months compared to other periods of the year. Ozone, which prevents ultraviolet radiation in the upper layers of the atmosphere, can cause serious harm to human health by creating breathing difficulties at ground level ([www.concawe.eu](http://www.concawe.eu)).

*Nitrogen Dioxide ( $NO_2$ ):* Nitrogen dioxide, which is in the group of reactive gases, is a colorless gas that plays an important role in the nitrogen cycle (WHO, 1980: 68). Motor vehicles and power plants are the main emission sources of nitrogen dioxide mixed into the air as a result of fuel combustion. In addition to causing respiratory tract diseases, this substance harms lake and forest ecosystems by forming acid rain as a result of its interaction with water, oxygen and other chemicals in the atmosphere ([www.epa.gov](http://www.epa.gov)).

*Sulfur dioxide ( $SO_2$ ):* Another substance that causes air pollution is sulfur dioxide. This substance, which is an important air pollutant in many parts of the world, comes out with the combustion of fossil fuels containing sulfur. Although volcanic eruptions raise sulfur dioxide levels, the main concern is the use of sulfur-containing fossil fuels for domestic heating and electricity generation (WHO, 2000). The damage caused by this substance on human and animal health and on the growth of plants is greater than the sum of the damage caused by other pollutants (Ertürk, 2018: 80).

Based on this information, it can be said that air pollution is mainly caused by anthropogenic activities. The measures taken against the Covid-19 pandemic, on the other hand, caused a serious contraction in the said activities. The sudden decrease in these activities, which are seen as the main source of air pollution, provides an important opportunity to examine the change in air pollutant concentrations.

## Dataset and Method

In the study, the changes in the air pollutants of particulate matter ( $PM_{10}$ ), ozone ( $O_3$ ), nitrogen dioxide ( $NO_2$ ) and sulfur dioxide ( $SO_2$ ) were investigated specifically in the Marmara Region period April 2018 and March 2021. Bilecik, one of the provinces in this region, was not included in the study due to insufficient data. The measurement results regarding air pollutant concentrations in this time period were approached as 3 periods of 12 months (April 2018-March 2019/April 2019-March 2020/April 2020-March 2021) and 6 periods of 6 months in the form of summer and winter (April-September 2018 [Period 1]/October 2018-March 2019 [Period 2]/April-September 2019 [Period 3]/October 2019-March 2020 [Period 4]/April-September 2020 [period 5]/October 2020-March 2021 [Period 6]). The data of these variables were taken from the database of Air Pollution in Turkey: Real-time Air Quality Index (AQI) Visual Map website. While obtaining the data of the variables in the provinces included in the sample, if there is more than one air quality measurement station in the province in question, the averages of these measurements were used. While monthly data were obtained by taking the average values of the daily data taken from the air quality measurement stations for the  $PM_{10}$ ,  $O_3$ ,  $NO_2$  and  $SO_2$  air pollutant variables of the provinces, 6-month and one-year data were obtained by taking the averages of these data. To observe the change in air pollutants better, the 12-month (April-March) time interval was considered in two ways as April-September and October-March. Whether there is a difference between the mentioned periods was evaluated with parametric and non-parametric tests. In addition, the monthly variation of air pollutants in the Marmara Region in the period under consideration was presented by graphical method.

## Findings of The Research

In this study, it was examined whether the public policies implemented in the struggle with Covid-19 in Turkey had an effect on air pollutants in the Marmara Region. In this context,  $PM_{10}$ ,  $O_3$ ,  $NO_2$  and  $SO_2$  variables were used as the determinants of air pollution in the period of April 2018-March 2021.

Considering the annual and 6-month periods in the study, Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test whether the variables comply with the normal distribution, and the results are shown in Table 2. Then, whether there is a difference between the annual and 6-month periods was examined with the Parametric ANOVA F-Test and the non-parametric Kruskal-Wallis H Test, and the test results are summarized in Table 3. As a result of the tests, it was determined that there was a difference on the basis of variables between the 6-month periods. Non-



parametric Tamhane’s T2 Post Hoc Test was used to determine between which periods this difference occurred, and the results are given in Table 4.

Table 2: Normality Test

Annual (April-March)				
Variables	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	Prob.	Statistic	Prob.
PM <sub>10</sub>	0.156*	0.060	0.836***	0.000
O <sub>3</sub>	0.159*	0.052	0.911**	0.016
NO <sub>2</sub>	0.128	0.200	0.928**	0.042
SO <sub>2</sub>	0.204***	0.003	0.878***	0.003
Semiannual (April-September/October-March)				
PM <sub>10</sub>	0.155***	0.001	0.902***	0.000
O <sub>3</sub>	0.098	0.200	0.974	0.237
NO <sub>2</sub>	0.108*	0.078	0.943***	0.008
SO <sub>2</sub>	0.185***	0.000	0.854***	0.000

Notes: \*, \*\* and \*\*\* denote at the 10%, 5% and 1% significance levels, respectively.

When Table 2 is examined, the Null Hypothesis, which accepts that the data come from a normally distributed population according to Kolmogorov-Smirnov and Shapiro-Wilk test results, was generally rejected and it was observed that the variables did not comply with the normal distribution. The Null Hypothesis could not be rejected according to both test results for the O<sub>3</sub> variable only in the 6-month data, and it was revealed that the data for the said variable came from a normally distributed population.

Table 3: ANOVA F-Test and Kruskal-Wallis H Test

Annual (April-March)				
Variables	ANOVA F-Testi		Kruskal-Wallis H Testi	
	Statistic	Prob.	Statistic	Prob.
PM <sub>10</sub>	1.062	0.360	1.040	0.595
O <sub>3</sub>	2.325	0.117	5.623*	0.060
NO <sub>2</sub>	0.812	0.455	2.261	0.323
SO <sub>2</sub>	2.728*	0.083	3.442	0.179
Semiannual (April-September/October-March)				
PM <sub>10</sub>	2.826**	0.024	18.710***	0.002
O <sub>3</sub>	13.818***	0.000	33.313***	0.000
NO <sub>2</sub>	1.648	0.163	8.496	0.131
SO <sub>2</sub>	2.982**	0.019	13.161**	0.022

Notes: \*, \*\* and \*\*\* denote at the 10%, 5% and 1% significance levels, respectively.

When the results of the ANOVA F-Test and Kruskal-Wallis H Test given in Table 3 are examined, the Null Hypothesis, which accepts that there is

no difference between the periods on the basis of the variable in the annual data, could not be rejected and it was determined that there was no difference between the periods. According to the test results, it was revealed that there was a difference between the periods in the 6-month data compared to the variables apart from NO<sub>2</sub>.

Table 4: Tamhane's T2 Post Hoc Test of Air Pollutants

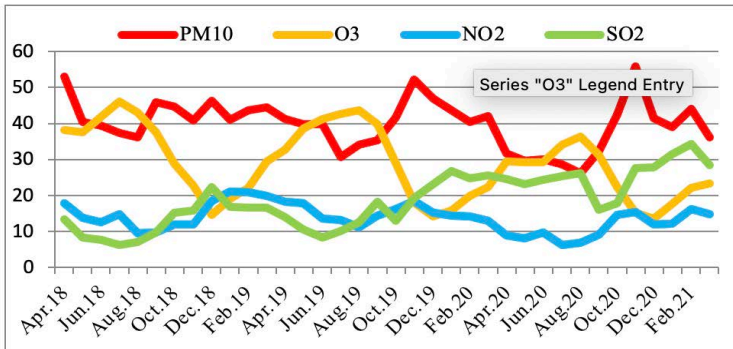
	Period (I)	Period (J)	Difference Mean (I-J)	Prob.		Period (I)	Period (J)	Difference Mean (I-J)	Prob.
PM <sub>10</sub>	1	2	-1.98	1.000	NO <sub>2</sub>	1	2	-4.76	0.939
		3	5.12	0.999			3	-2.16	1.000
		4	-2.83	1.000			4	-2.78	1.000
		5	12.54	0.326			5	4.48	0.885
		6	-1.34	1.000			6	-1.90	1.000
	2	3	7.10	0.976		2	3	2.60	1.000
		4	-0.86	1.000			4	1.99	1.000
		5	14.52	0.156			5	9.25	0.128
		6	0.64	1.000			6	2.87	1.000
	3	4	-7.95	0.840		3	4	-0.62	1.000
		5	7.43	0.555			5	6.64	0.567
		6	-6.46	0.897			6	0.27	1.000
	4	5	15.38**	0.027		4	5	7.26	0.388
		6	1.49	1.000			6	0.88	1.000
	5	6	-13.89***	0.007		5	6	-6.38	0.765
O <sub>3</sub>	1	2	18.48***	0.000	SO <sub>2</sub>	1	2	-9.34	0.798
		3	1.04	1.000			3	-3.56	0.974
		4	21.30***	0.000			4	-14.25	0.177
		5	10.11	0.296			5	-14.68	0.460
		6	22.52***	0.000			6	-	0.043
	2	3	-17.45**	0.031		2	3	5.77	0.995
		4	2.81	0.997			4	-4.91	1.000
		5	-8.37	0.481			5	-5.34	1.000
		6	4.03	0.877			6	-10.61	0.905
	3	4	20.26***	0.010		3	4	-10.68	0.546
		5	9.08	0.804			5	-11.12	0.819
		6	21.48***	0.006			6	-16.39	0.140
	4	5	-11.18	0.155		4	5	-0.44	1.000
		6	1.22	1.000			6	-5.70	1.000
	5	6	12.40*	0.072		5	6	-5.27	1.000

Notes: \*, \*\* and \*\*\* denote at the 10%, 5% and 1% significance levels, respectively.

When Tamhane's T2 Post Hoc Test results are examined, it is seen that there is no difference between the periods in terms of NO<sub>2</sub> variable, and the biggest difference occurs in O<sub>3</sub> and PM<sub>10</sub> variables. It can be said that

air pollution decreases when the Difference Mean statistic in Table 4 is positive and significant, and in the opposite case, air pollution increases. From this point of view, in terms of  $PM_{10}$  variable, it is seen that there is a decrease in air pollution from Period 4 to Period 5, and an increase in air pollution from Period 5 to Period 6. It was determined that there was no difference between the periods in terms of  $NO_2$ , and there was a negative difference at low significance level between Period 1 and Period 6 in terms of  $SO_2$  variable. In  $O_3$  variable, it is observed that there is a difference in the direction of decreasing air pollution from Period 1 to Period 2, Period 4 and Period 6; from Period 3 to Period 4 and Period 5; and from Period 5 to Period 6. In addition, it is understood that there is a difference in this variable in the direction of increasing air pollution from Period 2 to Period 3. Considering the seasonal changes of  $O_3$ , in other words the values between summer and winter, it is seen that the measurement results are in parallel with the statement of Coates et al. (2016) that the temperature accelerates chemical reaction rates and increases  $O_3$  levels. The changes in the values of the air pollutants between April 2018 and March 2021 are visualized through Graphic 1.

*Graphic 1: Change in Monthly Averages of Air Pollutants in the Marmara Region ( $\mu g/m^3$ )*



Based on Graphic 1, it can be stated that there is an increase in  $SO_2$  concentrations, and a relative decrease in the values of  $PM_{10}$ ,  $O_3$  and  $NO_2$  variables.

Meteorological variables also have a significant impact on the levels of air pollutants, in other words air pollution. Kalisa et al. (2018) revealed in their studies that temperature increases  $PM_{10}$ ,  $O_3$ , and  $NO_2$  levels. Oji and Adamu (2020) quantitatively analyzed the effects of precipitation, temperature and humidity on pollutants. As a result of the analysis, it was observed that the pollutant levels were lower in humidity and precipitation conditions increasing with low temperature than dry seasons. Apart from

these, there are various studies that specifically reveal that precipitation is an important meteorological factor affecting air pollutant concentrations. Ouyang et al. (2015) determined that precipitation reduces particulate matter pollution as a result of their observations and measurements in Beijing. Similarly, in their study to evaluate the effect of meteorological conditions on air pollutants, Zalakeviciute et al. (2018) concluded that precipitation reduces the pollution level. Parallel to this, McMullen et al. (2021) also stated in their study that precipitation causes a significant reduction in particulate matter levels with a diameter of 10 to 50  $\mu\text{m}$ . In the said study, it was also revealed that heavy rainfall events caused a 10-fold reduction in particulate matter concentrations between 10 and 30  $\mu\text{m}$  in diameter. Various information was given above and some explanations were made about the effect of meteorological variables on air pollutant concentrations. The temperature and precipitation data of the region subject to the study in the determined time interval are given in Table 5 in the form of annual and 6-month periods.

*Table 5: Average Temperature and Precipitation Data of Marmara Region*

Period	Precipitation (mm)	Temperature (°C)
Annual Average		
Period 1	60.247	15.481
Period 2	47.427	15.694
Period 3	54.956	15.536
Semiannual Average		
Period 1	45.629	21.461
Period 2	74.866	9.502
Period 3	39.541	20.710
Period 4	55.313	10.679
Period 5	37.233	20.579
Period 6	72.680	10.494

When Table 5 is examined, it is seen that there are no fluctuations in annual and 6-month periods in average values obtained for precipitation. Although its size is not very large, the fluctuations generally do not tend to contribute to the reduction of air pollution. Looking at the temperature measurement results in the table in question, it can be stated that the values here almost do not change between annual and 6-month periods. From this point of view, it can be said that the effect of meteorological variables on the air pollution of the Marmara Region remains in a passive position.

Motor vehicles constitute an important source of emission of these pollutants, especially  $\text{O}_3$  and  $\text{NO}_2$ . In this context, the annual and 6-month changes in the number of motor vehicles and flights in the examined region are visualized in Table 6.

*Table 6: Number of Motor Vehicles and Flights in the Marmara Region*

Period	Car	Public Transport	Truck/Small Truck	Motorcycle	Special Purpose	Tractor	Flight
Total Annual							
Period 1	78776	1737	19646	38202	679	6141	755041
Period 2	36469	983	12486	41349	753	3743	750437
Period 3	248019	-1346	58324	73265	1914	8630	347570
Total Semiannual							
Period 1	66285	2061	14089	26629	458	3946	400511
Period 2	12491	-324	5557	11573	221	2195	354530
Period 3	-111	-18	1225	27083	400	1391	405703
Period 4	36580	1001	11261	14266	353	2352	344734
Period 5	81862	475	21264	43088	740	3912	140231
Period 6	166157	-1821	37060	30177	1174	4718	207339

When Table 6 is examined, it can be said that the policies implemented during the Covid-19 period led to some behavioral changes in people. First of all, the decrease in the number of public transportation vehicles and flights can be considered as a result of people's desire to stay away from crowded places. In addition, the fact that the increase in the number of automobiles is more than twice the total of the previous two-year period and the widespread use of motorcycles and special purpose vehicles can be considered as another reflection of this change in behavior. Besides, the increase in the number of trucks/pickup trucks and tractors is quite high compared to previous periods. Travel and curfew restrictions, as well as restrictions on certain business lines, led to a decline in anthropogenic activities. These developments can be evaluated positively in terms of air pollution. However, with the widespread use of individual vehicles, the increase in vehicle types with larger engines, in other words trucks/pickup trucks and tractors, is one of the developments that can be considered negative in terms of air quality. It is known that motor vehicles are an important catalyst of air pollution and increase in air pollutant concentrations. However, Heintzelman et al. (2021: 2) revealed in their study that the type of vehicle is as important as the number of vehicles on the amount of emissions, and that multi-axle vehicles cause more emissions. Therefore, it can be said that the decrease in anthropogenic activities and the improvement in air pollution are balanced with the increase in vehicle types and numbers. As a matter of fact, the fact that there were no significant decreases in the measurement results of the air pollutants in the said periods can be considered as an indicator of this.

## Conclusion

The Covid-19 virus, which affected a large part of the world in a short time, has caused some changes in the normal flow of life. Governments have taken various measures against the pandemic within the framework of public interest and national interests. In addition, the Government of Turkey has implemented various public policies to combat the pandemic, taking into account the views of the Scientific Committee. These policies include the limitation of many activities that cause air pollution, especially transportation. The sudden and dramatic decrease in these activities provided an important opportunity to examine the change in air pollutant concentrations.

In this study, the change in the air pollution level of the Marmara Region between April 2018 and March 2021 was analyzed using  $PM_{10}$ ,  $O_3$ ,  $NO_2$  and  $SO_2$  variables. The 36-month period in the mentioned date range was first divided into 3 periods of 12 months (April-March), and then into 6 periods of six months as Summer-Winter. Kolmogorov-Smirnov and Shapiro-Wilk tests were used to check whether the variables used fit the normal distribution. While none of the variables fit the normal distribution on an annual basis, it was observed that the others, except for  $O_3$ , did not fit the normal distribution in the 6-month data. Then, Parametric ANOVA F-Test and non-parametric Kruskal-Wallis H Test were used to examine whether there was a difference between the annual and 6-month periods. It was revealed that there was no difference between periods on a variable basis for annual data, and there was a significant difference between periods in other variables in 6-month data, other than  $NO_2$ . Tamhane's T2 Post Hoc Test was used to determine between which periods the difference found between 6 month-periods occurred. Based on the findings obtained from Tamhane's T2 test, it can be said that there is a partial improvement in air pollution in terms of  $PM_{10}$  and  $NO_2$  variables, a partial deterioration in air pollution in terms of  $SO_2$ , and a decrease in air pollution in terms of  $O_3$ . Furthermore, it can be argued that there is no fluctuation in the meteorological variables included in the analysis that could affect the level of air pollution. As a result, it was observed that there was a partial improvement in the air pollution level of the Marmara Region.

In the study, which was analyzed on four pollutants, it was witnessed that three pollutant levels ( $PM_{10}$ ,  $NO_2$ ,  $O_3$ ) decreased and one ( $SO_2$ ) increased. The main source of emission of pollutants, which have decreased, is motor vehicles. In addition, solid fuels and power plants are among the other important emission sources of these pollutants. In the pandemic conditions, it is seen that people generally move away from public transportation, while the use of individual vehicles is widespread. In this

context, the re-dissemination of public transportation by taking the necessary hygiene and social distance measures in line with the recommendations of the Science Committee will allow to reduce air pollution. The main emission source of SO<sub>2</sub> air pollutant, which is increasing, is domestic heating. As a result of continuing education online, providing flexible and working from home, and introducing various restrictions, a significant part of the population had to spend most of the day at home. The increase in the time spent at home naturally increased the energy consumption used for heating the house. With the discovery of the vaccine, the opening of educational institutions, the return of working conditions and social life (cinema, astroturf, cafe and entertainment venues, etc.) as a whole to normal, it is expected that there will be a spontaneous decrease in the level of this pollutant.

## References

- Akdoğan, A. A. (2015). Türkiye’de Kamu Politikası Disiplininin Tarihsel İzleri. Filiz Kartal (Ed.), *Türkiye’de Kamu Yönetimi ve Politikaları* içinde (ss.75-98), Ankara: TODAİE Yayınları.
- Anastasaki, M., Tsiligianni, I., Sifaki-Pistolla, D., Chatzea, V. E., Karelis, A., Bertias, A., Chavannes, N. H., Gemert, F. V., Lionis, C. and FRESH AIR Collaborators. (2021). Household Air Pollution and Respiratory Health in Rural Crete, Greece: A Cross-Sectional FRESH AIR Study. *Atmosphere*, Vol 12, Iss. 11, 1369. <https://doi.org/10.3390/atmos12111369>.
- Anderson, J. E. (1994). *Public Policymaking*. New York: Houghton Mifflin Company.
- Appannagari, R. R. (2017). Environmental Pollution Causes and Consequences: A Study. *North Asian International Research Journal of Social Science & Humanities*, Vol 3, No 8, pp.151-161.
- AQI (2021). Air Pollution in Turkey: Real-time Air Quality Index Visual Map, <https://aqicn.org/map/turkey/>, Date of Access: 03.11.2021.
- Bilgili, M. Y. (2017). Ekonomik, Ekolojik ve Sosyal Boyutlarıyla Sürdürülebilir Kalkınma. *Uluslararası Sosyal Araştırmalar Dergisi*, Cilt 10, Sayı 49, ss.559-569.
- Breton, R. M. C., Breton, J. C., De La Luz Espinosa Fuentes, M., Kahl, J., Guzman, A. A. E., Martínez, R. G., Guarnaccia, C., Severino, R. D. C. L., Lara, E. R. and Francavilla, A. B. (2021). Short-Term Associations between Morbidity and Air Pollution in Metropolitan

Area of Monterrey, Mexico, *Atmosphere*, Vol 12, Iss. 10, 1352.  
<https://doi.org/10.3390/atmos12101352>.

- Coates, J., Mar, K. A., Ojha, N. and Butler, T. M. (2016). The Influence of Temperature on Ozone Production Under varying NO<sub>x</sub> Conditions - A Modelling Study. *Atmospheric Chemistry and Physics*, Vol 16, No 18, pp.11601-11615. <https://doi.org/10.5194/acp-16-11601-2016>.
- Concawe (2021). An Introduction to Air Quality, [https://www.concawe.eu/wp-content/uploads/2017/09/DEF\\_AQ\\_AirQuality\\_digital.pdf](https://www.concawe.eu/wp-content/uploads/2017/09/DEF_AQ_AirQuality_digital.pdf) Date of Access: 08.11.2021.
- CPCB (2014). National Air Quality Index, New Delhi: Government of India Ministry of Environment, Forest & Climate Change.  
[https://app.cpcbcr.com/ccr\\_docs/FINAL-REPORT\\_AQI\\_.pdf](https://app.cpcbcr.com/ccr_docs/FINAL-REPORT_AQI_.pdf) Date of Access: 07.11.2021.
- Çevik, H. H. and Demirci, S. (2012). *Kamu Politikası*. Ankara: Seçkin Yayınevi.
- Çolak, Ç. (2017). An Internal Security Public Policy Analysis: Law No. 6638. *Kastamonu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 18, Sayı 1, ss.75-87.
- Çolak, Ç. (2021). Kamu Politikası. A. Uzun (Ed.), *Kamu Yönetimi* içinde (ss.160-177), Erzurum: Atatürk Üniversitesi Açıköğretim Fakültesi Yayınları.
- Dye, T. R. (1987). *Understanding Public Policy*, London: Prencite Hall.
- Ertürk, H. (2018). *Çevre Bilimleri*. Bursa: Ekin Yayınevi.
- Forouzanfar, M. H., Afshin, A., Alexander, L. T., Anderson, H. R., Bhutta, Z. A., Biryukov, S., ... and Carrero, J. J. (2016). Global, Regional, and National Comparative Risk Assessment of 79 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990-2015: A Systematic Analysis for the Global Burden of Disease Study 2015, *Lancet*, No 388, pp.1659-1724.  
[https://doi.org/10.1016/S0140-6736\(16\)31679-8](https://doi.org/10.1016/S0140-6736(16)31679-8).
- Heintzelman, A., Filippelli, G. and Lulla, V. (2021). Substantial Decreases in U.S. Cities' Ground-Based NO<sub>2</sub> Concentrations During COVID-19 from Reduced Transportation. *Sustainability*, Vol 13, No 16, <https://doi.org/10.3390/su13169030>.
- Henao, J. J., Rendón, A. M., Hernández, K. S., Giraldo-Ramirez, P. A., Robledo, V., Posada-Marín, J. A., Bernal, N., Salazar, J. F. and Mejía, J. F. (2021). Differential Effects of the COVID-19 Lockdown and Regional Fire on the Air Quality of Medellín, Colombia. *Atmosphere*, Vol 12, Iss. 9. <https://doi.org/10.3390/atmos12091137>.



- Kalisa, E., Fadlallah, S., Amani, M., Nahayo, L. and Habiyaemye, G. (2018). Temperature and Air Pollution Relationship During Heatwaves in Birmingham, UK. *Sustainable Cities and Society*, No 43, pp.111-120. <https://doi.org/10.1016/j.scs.2018.08.033>.
- Keleş, R., Hamamcı, C. and Çoban, A. (2015). *Çevre Politikası*. Ankara: İmge Kitabevi.
- Kim, C. S., Lee, J. G., Cho, J. H., Kim, D. Y. and Seo, T. B. (2015). Experimental Study of Humidity Control Methods in a Light-Emitting Diode (LED) Lighting Device. *Journal of Mechanical Science and Technology*, Vol 2, No 6, pp.2501-2508. <https://doi.org/10.1007/s12206-015-0546-7>.
- Lelieveld, J., Pozzer, A., Poschl, U., Fnais, M., Haines, A. and Munzel, T. (2020). Loss of Life Expectancy from Air Pollution Compared to Other Risk Factors: A Worldwide Perspective. *Cardiovascular Research*, Vol 116, Iss. 11, pp.1910-1917. <https://doi.org/10.1093/cvr/cvaa025>.
- Li, X., Chen, X., Yuan, X., Zeng, G., León, T., Liang, J., Chen, G. and Yuan, X. (2017). Characteristics of Particulate Pollution (PM<sub>2.5</sub> and PM<sub>10</sub>) and Their Spacescale-Dependent Relationships with Meteorological Elements in China. *Sustainability*, No 9, 2330. <https://doi.org/10.3390/su9122330>.
- Mccann, J. E., Zajchowski, C. A. B., Hill, E. L. and Zhu, X. (2021). Air Pollution and Outdoor Recreation on Urban Trails: A Case Study of the Elizabeth River Trail, Norfolk. *Atmosphere*, Vol 12, Iss. 10, 1304. <https://doi.org/10.3390/atmos12101304>.
- Mcmullen, N., Annesi-Maesano, I. and Renard, J. B. (2021). Impact of Rain Precipitation on Urban Atmospheric Particle Matter Measured at Three Locations in France between 2013 and 2019. *Atmosphere*, Vol 12, Iss. 6, 769. <https://doi.org/10.3390/atmos12060769>.
- Oji, S. and Adamu, H. (2020). Correlation Between Air Pollutants Concentration and Meteorological Factors on Seasonal Air Quality Variation. *Journal of Air Pollution and Health*, Vol 5, No 1, pp.11-32. <https://doi.org/10.18502/japh.v5i1.2856>.
- Ouyang, W., Guo, B., Cai, G., Li, Q., Han, S., Liu, B. and Liu, X. (2015). The Washing Effect of Precipitation on Particulate Matter and the Pollution Dynamics of Rainwater in Downtown Beijing. *Science of The Total Environment*, No 505, pp.306-314. <https://doi.org/10.1016/j.scitotenv.2014.09.062>.

- Schultz, D. (2004). *Encyclopedia of Public Administration and Public Policy*. New York: Facts on File.
- Seinfeld, J. H. (1989). Urban Air Pollution: State of the Science. *Science*, No 243, pp.745-752. <https://doi.org/10.1126/science.243.4892.745>.
- USEPA (2021). United States Environmental Protection Agency, Basic Information about NO<sub>2</sub>, <https://www.epa.gov/no2-pollution/basic-information-about-no2>, Date of Access: 07.11.2021.
- Uzun, A. (2020). Kötü Hıyly Problem Perspektifinden Covid-19 Pandemisi ile Mücadele Stratejileri: Teorik ve Pratik Bir Analiz. *Turkish Studies*, Vol 15, Iss. 4, pp.1193-1214.
- WHO (1980). *Glossary on Air Pollution*, Copenhagen: WHO Regional Publications.  
<https://apps.who.int/iris/bitstream/handle/10665/272866/9789290201090-eng.pdf?sequence=3&isAllowed=y> Date of Access: 05.11.2021.
- WHO (2000). *Air Quality Guidelines-Second Edition*, Copenhagen: WHO Regional Office for Europe.  
[https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0020/123086/AQG2ndEd\\_7\\_4Sulfurdioxide.pdf](https://www.euro.who.int/__data/assets/pdf_file/0020/123086/AQG2ndEd_7_4Sulfurdioxide.pdf) Date of Access: 07.11.2021.
- WHO (2013). *Health Effects of Particulate Matter: Policy Implications for Countries in Eastern Europe, Caucasus and Central Asia*, Copenhagen: WHO Regional Office for Europe.  
[https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf](https://www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf) Date of Access: 06.11.2021.
- WHO (2016). *Ambient Air Pollution: A Global Assessment of Exposure and Burden of Disease*, Geneva: WHO Library Cataloguing in Publication Data.  
<https://apps.who.int/iris/bitstream/handle/10665/250141/9789241511353-eng.pdf?sequence=1&isAllowed=y> Date of Access: 08.11.2021.
- WHO (2018). *Fact Sheets on Sustainable Development Goals: Health Targets-Air Quality and Health*, Copenhagen: The Regional Office for Europe of the World Health Organization.  
[https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0012/385959/fs-sdg-3-9-air-eng.pdf](https://www.euro.who.int/__data/assets/pdf_file/0012/385959/fs-sdg-3-9-air-eng.pdf) Date of Access: 07.11.2021.
- Yıldız, M. and Sobacı, M. Z. (2013). *Kamu Politikası: Kuram ve Uygulama*. Ankara: Adres Yayınları.

Zalakeviciute, R., López-Villada, J. and Rybarczyk, Y. (2018). Contrasted Effects of Relative Humidity and Precipitation on Urban PM<sub>2.5</sub> Pollution in High Elevation Urban Areas. *Sustainability*, Vol 10, No 6, 2064. <https://doi.org/10.3390/su10062064>.

# 7

## Global Climate Change in The Framework of Modern Disaster Management

Afşin Ahmet Kaya (Gümüşhane University)  
ORCID ID: 0000-0003-2082-6478  
afsinakaya@gumushane.edu.tr

Meryem Akbulut (Yozgat Bozok University)  
ORCID ID: 0000-0002-1299-7421  
meryem.akbulut@bozok.edu.tr

### *Abstract*

*The concept of global climate change, which has been frequently mentioned in the international public opinion recently, has started to become an increasingly important issue in our lives. The phenomenon of climate has emerged along with the appearance of the first living forms on the earth. The increase in anthropogenic effects have led to changes in climate, which in return entailed a risk and began to adversely affect the life of living things. Consequentially, these risks of uncertain nature gave rise to the concept of global climate change, which needs to be managed. Researches argue that it will be very difficult to intervene in the events that will occur due to global climate change in the future, to the extent that it will be impossible to reverse these events. Taking this situation under control will only be possible via disaster management. The modern disaster management approach requires that certain preventive works are carried out in advance in order not to be exposed to a disaster, and that certain intervention steps are followed in case of risks that cannot be eliminated. In this context, the primary aim of this study is to come up with recommendations that will be useful in the management of global climate change, which has recently turned into a disaster along with the increase in anthropogenic effects. Secondly, it is aimed to develop a roadmap on how modern disaster management phases can be utilized in the best possible way to reduce the damages of global climate change. Based on these objectives, a document analysis has been made taken into consideration the activities that can be carried out with respect to the global climate change within the scope of modern disaster management phases, i.e. preparedness, mitigation, response and recovery. In the conclusion section, recommendations that will contribute to the literature in the relevant field are given with a view to minimize the damage that may be caused by global climate change, as a disaster, by referring to the commonly-held opinions.*

**Keywords:** Global Climate Change, Disaster Management, Prevention, Protection

## Introduction

In today's world, human needs are increasing and changing with each passing day, creating a vicious consumption cycle. This situation does not seem to have an impact on our everyday lives just yet, but the future does not look very promising. Global climate change is one of this effects, which already started to adversely affect our lives, even though it is not noticeable by most as they can go about their daily lives. A series of disruptions have started to take place in the natural cycle of Earth with the increase in its average temperature, including but not limited to the melting of glaciers, the increase in the number of extreme weather phenomena and the deterioration in the ecosystem (Capra, 1989; IPCC, 2001; IPCC, 2014; Arnell and Gosling; 2016; Anderson et al., 2018).

The concept of global climate change, which has been frequently mentioned in the international public opinion recently, has started to become an increasingly important issue in our lives. The concept of climate emerged long before the appearance of the first living forms on the earth. Changes in the global climate conditions and the ever-increasing anthropogenic effects pose a risk on the lives of living things that needs to be managed. It has been asserted in many studies available in the literature that in not very far future it will be very difficult to intervene in the events that will occur due to global climate changes, and that irreversible problems will arise (IPCC, 2001; IPCC, 2014; Arnell and Gosling; 2016; Anderson et al., 2018). Disaster management is the discipline which allows taking such situations under control, if at all possible. Modern disaster management approach requires certain protection works to be carried out beforehand in order not to meet with a disaster, and sets forth the intervention steps to be followed in case of disasters that cannot be avoided (Adger and Brooks, 2003; O'Brien et al., 2006)

In this context, the objective of this study is to provide recommendations that will be useful in the management of global climate change, which has turned into a disaster along with the increase in the anthropogenic effects, and to develop a roadmap on how modern disaster management processes can be utilized to mitigate the adverse effects of the global climate change.

In line with the said objective, document analysis has been conducted on the preparatory activities to be carried out in the risk management phase within the scope of modern disaster management. In consequence, based on the results of this analysis and with reference to the opinions that meet on the common ground, certain recommendations, which were thought to possibly contribute to the literature on the minimization of the damages that may be caused by global climate change, have been put forward.

## Global Climate Change and the Concept of Disaster

### The Concept of Climate Change

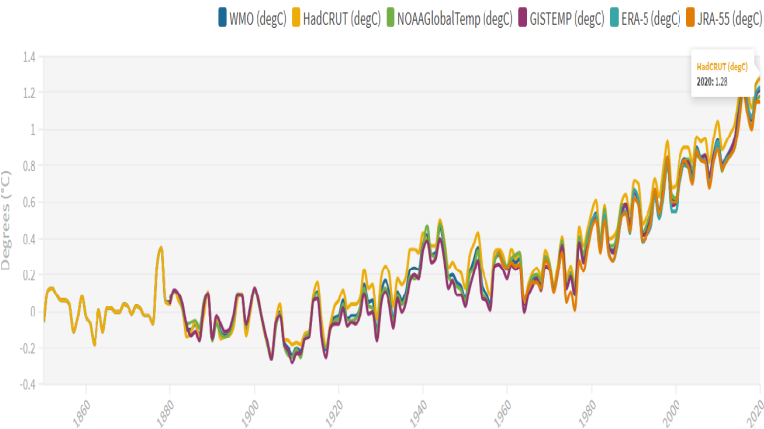
It may be insufficient to make sense of the concept of climate change through a single hypothesis. Hence, before explaining climate change, it is necessary to define other concepts related to climate change. There are a number of systems at force on earth at any given time that ensure the continuity of normal living conditions. The climate system is one of these systems. Climates have contributed to the formation of life forms since the formation of the earth. The climate system comprises different elements, including atmosphere, land, sea and the cryosphere. The elements in this system interact with each other through energy transfers and contribute to the formation of the climate balance. It is this system that ensures the balanced use of the solar rays that reach our world, which receives most of its energy from the sun (Houghton et al., 1997; Barrie, 2005, Thorpe, 2005; WMO, 2021).

The World Meteorological Organization (WMO) defined the concept of climate as the average of the weather conditions anywhere on earth over a thirty-year time period. Based on this definition, a climatic condition can be defined as a climate change if it substantially deviates from the average conditions. Detection and measurement of the extent of these deviations necessitates assessing the long-term statistical data and evaluating the differences between the climates in thirty-year periods. During the process from the formation of the world to the present day, deteriorations, changes and leaps in the climate have occurred in a number of different ways. For instance, we are witnessing changes in the climate today primarily due to anthropogenic effects. The deterioration of the natural balance and the increase in the average temperature of the world turned the changes in climate to an important problem to be dealt with, which can be categorized as a disaster today by most, and which can be categorized as a catastrophe in the future if not dealt with properly (Barrie, 2005, Thorpe, 2005; WMO, 2021; IPCC, 2007). The temperature changes during the period of 1850-2020 are given in the below graph published by WMO (Figure 1).

It can be seen from the graph that the world temperature is in an increasing trend no matter which parameter it is plotted against. The increase in the anthropogenic factors has accelerated along with the industrial revolution as of 1850s, giving rise to the rapid deterioration in the balance of the climate as a result. The risks associated with the deterioration in the balance of the climate need to be well-managed in order to prevent the climate balance from deteriorating even more to the point of consequences that

cannot be reversed. As a reason, it is widely accepted that if the climate balance, which deteriorates in a relatively slow rate today, starts to deteriorate rapidly turning into a catastrophe, it will be the end of life as we know it (Kaya and Akbulut, 2021; Kadioğlu, 2012).

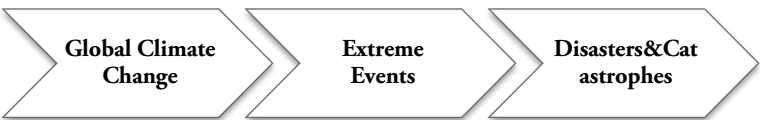
*Figure 1: Temperature changes during the period of 1850-2020*



*Source: World Meteorology Organization (WMO), 2020*

It is the capacity to cope with extreme events that draws the line between an extreme event and a disaster or a catastrophe in that extreme events do not lead to substantial material and nonmaterial losses, disasters lead to substantial material and nonmaterial losses, yet are recoverable, and catastrophes lead to substantial material and nonmaterial losses, however are not recoverable (Kaya and Akbulut, 2021; Kadioğlu, 2012). Climate change and the sequence of events that may occur in relation thereto are given in Figure 2.

*Figure 2: Climate change and the order of occurrence of related events*



*Source: Kadioğlu, 2012*

Global climate change, which is already considered a disaster, requires immediate action when taking into consideration the secondary disasters it causes. In the Emergency Events Database (EM-DAT), the international

disaster database, the disasters that may occur secondary to climate change are classified under the categories of hydrological, meteorological and climatological disasters (EM-DAT, 2019).

## Causes of the Climate Change

In addition to the climate changes that occur due to natural causes every now and then within the course of restoring the balance of nature, climate changes may also be caused by the increases in consumption needs, technological developments and unconscious human behaviors. Some of these major causes are as follows (Akbulut and Kaya, 2020; Goosse et al., 2010; Leggett, 2007; Justus and Fletcher, 2006):

- The continental drift due to the movements of the plates that make up the earth's crust gives rise to changes in the wind and ocean systems, and these changes can cause climate change over the long term.
- The gases released into the atmosphere due to volcanic eruptions block the sun's rays, which can cause climate change in the form of leaps.
- As per Milankovitch cycle, axis of the world tends to flatten in certain periods which can cause climate change.
- The glaciers available in the Antarctica and the Arctic are important climate elements. Thus, any changes in these glaciers can automatically cause a change on the climate.
- Sunspots cause variations in the solar energy that reaches the earth, hence can lead to climate change.
- The continuous increase in the use of fossil fuels in order to meet consumption needs as well as the increases in the numbers of factories and similar industrial establishments lead to an increase in greenhouse gas emissions, causing climate change as a result.
- Increasing urbanization and urban sprawl due to rapid population growth lead to destruction of forestland, causing climate change as a result.
- Lack of attention to important issues such as recycling and waste reduction can cause climate change.



- Failure to stop unconscious anthropogenic factors can cause climate change.

As mentioned in detail above, there are many factors, both natural or anthropogenic, which can cause climate change. The effects of these factors on the climate accelerate when due attention is not paid. Therefore, the efforts to be protected from the adverse effects of climate change shall be planned carefully and in a timely manner.

### **Events that Occur Secondary to Global Climate Change**

In recent years, a number of events have occurred due to climate change and have attracted the attention of all international organizations, as they had the potential to render people helpless. Some of these events that are considered to occur secondary to climate change are as follows (IPCC, 2001; IPCC, 1996; Akbulut and Kaya, 2020; Cromwell et al., 2007):

- increases in abnormal weather events and in material and non-material losses in relation thereto,
- increase in the average temperature of the world and abnormal increases in the seasonal temperature averages in recent years compared to previous years,
- deterioration of the natural environment and ecosystem resulting in adverse effects on living life forms,
- deterioration of the financial system resulting in an increase in poverty,
- deterioration of the agricultural areas and food supply resulting in an increase in climate-related migrations.
- increases in the average levels of water masses and seas around the world due to melting of the glaciers, important climate elements,
- deterioration of human health,
- imbalances in energy needs, and
- irreversible damages on physiography and anthropogeography.

Climate change continues and will continue to be a threat to every living thing on earth because of the primary and secondary disasters it causes and will cause, unless no precautions are taken.

## **Climate Change and Turkey**

Given its geographical location, Turkey is highly prone to the risks related to climate change. The Mediterranean basin in particular is one of the most sensitive areas in this regard. Climate risks of Turkey arising as a result of the industrial developments and rapid population growth are among the issues that need to be addressed urgently. The forecasting studies predict that temperature increases will occur in the future in this region. Among the adverse impacts of the temperature increases are droughts, agricultural losses, ecological losses, as well as reductions in tourism activities, which are an important source of income. Given the gravity of the problem, Turkey has recently started to take steps against climate change. In this context, Turkey has adopted the Paris Agreement (UNFCCC-United Nations Framework Convention on Climate Change), and changed the name of the Ministry of Environment and Urbanization to the Ministry of Environment, Urbanization and Climate Change. The general objective of these efforts is to significantly reduce future emissions and minimize climate risks (Jefriess and Campogianni, 2021; WWF, 2020).

## **Occurrence of Disasters Associated with Global Climate Change in Recent Years**

With the increase in extreme climatic events, there has been an increase in the types and numbers of disasters that have been experienced in relation to these events, rendering people helpless. Extreme weather events caused by climate change have caused great economic damage as well as loss of life. It has been stated in the relevant United Nations (UN) report that the significant increase in the number of meteorological and hydrological disasters in recent years is the result of climate change (IPCC, 2021; Jetten et al., 2021; Mal et al., 2018). Some of these disasters and extreme events that had the potential to turn into a disaster, which are thought to have been caused by climate change in recent years are as follows (Walton and van Aalst, 2020; IFRC, 2018):

- increases in forest fires in the United States,
- acceleration of the hydrological cycle, which causes disasters such as floods, hurricanes, tornadoes and storms in different countries around the world, at a heightened frequency, size and severity,

- increases in the number of infectious diseases due to the warming caused by the climate change, and the negative effects on human health thereof
- increases in hazards affecting human livelihoods, settlements and infrastructure,
- changes in the ecology and geography of certain human, animal and plant diseases,
- changes in the population movements that increase dangers and exposure to danger, in response to climate change,
- increases in the frequency of exposure of vulnerable groups to dangers, e.g., the majority of those who lost their lives due to the heat wave which caused the death of tens of thousands of people in 2003 were from the vulnerable groups of the society,
- the heat waves that severely affected Western Europe in 2019, causing thousands of deaths,
- increases in hurricanes that caused both loss of life and property in the United States and its coastline,
- the flood disaster in the South American continent adversely affecting more than half a million people,
- the fires that have broke out in September 2019 and continued until February 2020 in the Australian continent and which dealt a serious blow to both the forestland and the biodiversity.
- the drought in Afghanistan in 2018 and 2019 which has adversely affected more than 10 million people,
- the droughts and cyclones in the African continent which have caused loss of life and property,
- the cyclones in the Philippines and India in 2019 which have adversely affected millions of people and caused hundreds of deaths,

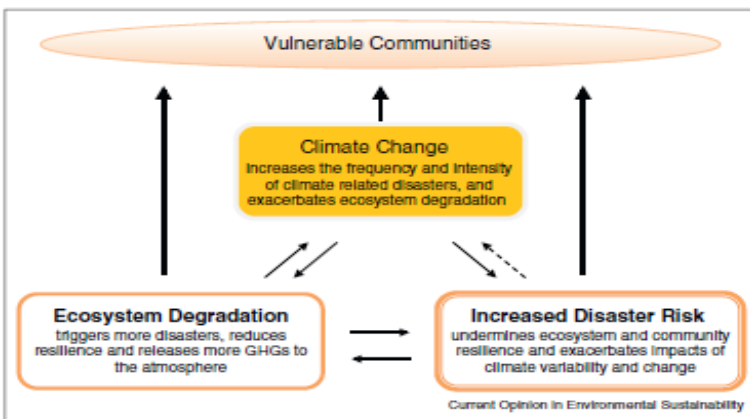
It has been emphasized in the relevant studies that droughts and other disasters secondary to droughts are to occur even more frequently if the climate change that lead to extreme temperatures cannot be prevented.

Extreme weather conditions such as heat and cold air waves cause serious damage not only to the human population but also to the ecosystem, directly affecting all living things. Disasters caused by climate change increase the number of people vulnerable to these disasters in varying proportions depending on the development level of countries. Climate change and the resulting extreme events are a threat to the future as well.

## Global Climate Change in the Framework of Modern Disaster Management

Both material and non-material risks associated with natural disasters caused by climate change continue to increase with each passing day placing people around the world in jeopardy. The climate change may not be the only factor to blame for these adverse effects; however, the increase in the number of meteorological disasters and the fact that this increase has been observed concurrently with the increase in temperatures all around the world, clearly indicate that the climate change has been the major reason for the increase in the type and number of disasters experienced in recent years. The increases in the risks of climate-related disasters create serious problems for individuals from the vulnerable groups of the societies in particular. In cases where climate risks cannot be avoided, the disasters thereof will continue to increase and the vulnerabilities of the societies to these disasters will further worsen (IFRC, 2018; Jetten et al., 2021; Mal et al., 2018; O'Brien, 2006). A schematic representation of the relationship between the increases in the disaster risks and the climate change is shown in Figure 3 below.

*Figure 3: Simplified illustration of the complex interactions between climate change, disruption of the ecosystem and the increased disaster risks*



Source: Munang et al., 2013.

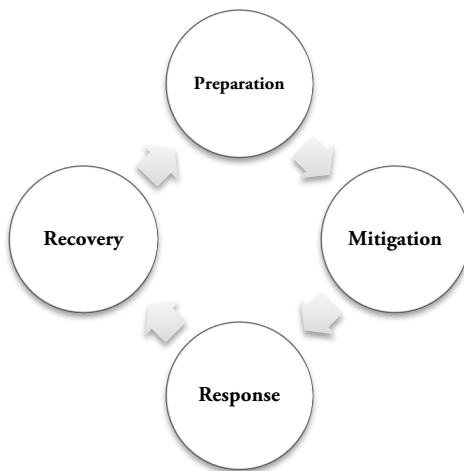
As can be seen in the figure above, people gain indispensable benefits from the ecosystem. The ecosystem plays a major role in meeting the vital needs of the humanity. However, the ecosystem is destroyed and sustainability is ignored during the process of reaping benefits of the ecosystem. The disruption of the ecosystem ensuingly compromises the carbon sequestration ability of the natural systems, which in turn exacerbates the downward spiral shown in Figure 3 (Munang et al., 2013; Uy and Shaw, 2012).

Persistent unwise use of ecosystems by humans aggravates the vicious circle mentioned above, which may only be counteracted by the adoption and implementation of a good disaster management approach.

### **Scope of Modern Disaster Management**

In the face of any disaster, the resources should suffice, and an efficient and coordinated approach should be adopted in respect of the use of these resources in particular. Modern disaster management approach is a comprehensive approach, which aims to adress all issues that develop directly in connection with the disaster in question or that develop secondary to the disaster. In order to prevent disasters pursuant to the risk management, and to reduce the damages thereof pursuant to the crisis management, modern disaster management includes 4 different phases under normal conditions, which are preparation, mitigation, response and recovery phases (Kurita, 2004; Kadioğlu and Özdamar, 2005).

*Figure 4: Modern disaster management cycle*



*Source: Kadioğlu and Özdamar, 2005*

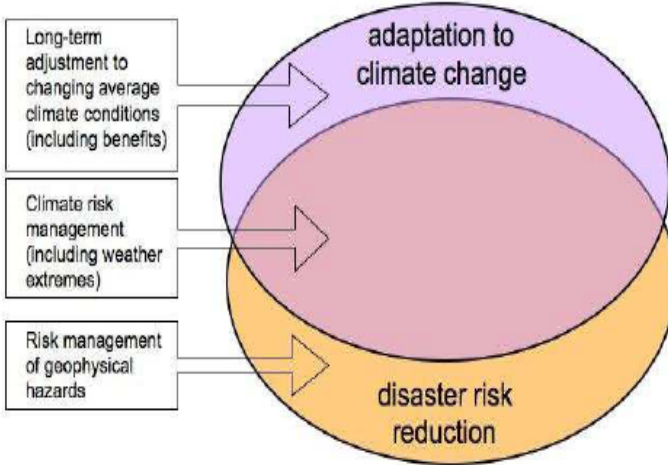
Nevertheless, there are cases in which the number of phases envisaged within the scope of modern disaster management is increased up to 8. The modern disaster management cycle is shown in Figure 4.

Global climate change is addressed under risk management rather than under crisis management within the scope of modern disaster management. As a reason, with the global climate change turns into a crisis, it is foreseen that it will be not only very difficult to fight against the global climate change, but also will be probably too late to be able do anything at all. Thus, the important thing here is to reduce the effects of climate change and to prevent its rapid progress. The efforts to be made within the scope of the risk management phase, which includes the preparations to be made against the effects of climate change and the work to eliminate the deficiencies, constitute an important step in the modern disaster management. Additionally, incorporation of the efforts of the individuals and institutions into the work to be done within the scope of modern disaster management will ensure that the respective preparatory work can be planned in detail (O'Brien, 2006; Mitchell and van Aalst, 2008; Zaman, 2021).

### **Preparatory Studies to be Done within the Scope of Modern Disaster Management Approach to Mitigate Risks Associated with Global Climate Change in Turkey and in the World**

Risk management phase, which is one of the important steps of disaster management, should be planned carefully as it directly affects the activities to be carried out during the crisis phase. Risk management phase is even more important in the context of climate change, taking into consideration that it progresses slowly and has a great potential to create secondary disasters. Hence, the respective preparations and efforts should be made jointly and in coordination in order to reduce or prevent any negative consequences that might occur in relation to climate change. The gradual increase in disaster events arising from climate hazards in recent years is an important reason for taking urgent action. Addressing the issues of adaptation to climate change and reduction of disaster risks in an harmonious manner will facilitate the prevention of the risks associated with climate change (O'Brien, 2006; Mitchell and van Aalst, 2008; Kagawa and Selby, 2012; Zaman, 2021). The relation between adaptation to climate change and reduction of disaster risks is shown in Figure 5 below.

*Figure 5: The relation between adaptation to climate change and reduction of disaster risks*



*Source: Mitchell and van Aalst, 2008*

The relationship between disaster management and climate change is shown from a different perspective in the above figure. Adaptation to climate change is important in terms of reducing the related risks. In this context, the risk reduction activities performed within the scope of the preparatory work directed at climate change risks will both reduce disaster risks and facilitate adaptation to climate change. The preparation and mitigation works to be carried out in order to be protected from the effects of climate change as per the modern disaster management approach are as follows;

- More detailed studies should be done for the climate change action plan for Turkey.
- Studies should be carried out for renewables in Turkey.
- In order to reduce emissions in Turkey, preparatory studies should be carried out within the framework of international platforms and agreements.
- recognizing that tackling climate-related disasters and reducing natural risks to a safer world in a coordinated manner at the international, regional, national and local levels is a necessity,

- dissemination of the results of the most up-to-date studies on the effects of the climate change,
- awareness raising activities about climate change,
- efforts to reduce the carbon footprint,
- efforts to change the prevalent dietary habits to minimize the damages inflicted upon the environment thereof,
- extending the use of electric and hybrid vehicles that are less harmful to nature,
- paying attention to low carbon consumption in the products we use,
- extending the use of energy-saving products,
- reducing the use of materials that harm the nature such as plastic,
- paying attention to water consumption and to prioritize the conservation of water resources.
- paying attention to waste management by ensuring waste sorting,
- emphasizing the use of alternative energy resources,
- giving due importance to recycling,
- carrying out the preparatory studies with respect to rapid and unplanned urbanization with a view to prevent the destruction of nature thereof,
- including every individual of the society in the preparatory and support works that are carried out to reduce the risks related to climate change, particularly in the works that pertain to their own living spaces and social lives, as per the modern disaster management approach,
- carrying out the necessary works on the replacement of lost green areas and natural resources,
- providing support to the activities to be carried out to protect against the negative effects of climate change,



- guidance activities by the Governments and international organizations for the preparations to be made against climate change,
- organizing conferences and executing agreements with a view to meet on common ground for a common future,
- carrying out the activities and measurements directed at reducing greenhouse gas emissions and fossil fuel use in accordance with a certain systematic,
- developing new approaches and conducting studies to that effect in order to support the inclusion of risk management in the efforts against climate change and the inclusion of climate change in natural hazards and development planning,
- harmonizing the climate risk mitigation strategies on a global and local scale to render better functioning of disaster management efforts,
- ensuring the progress of R&D studies with multi-stakeholders in a harmonious and coordinated manner to make the most out of the preparatory studies to be carried out for protection against the climate risks,
- ensuring long-term resilience in reducing the risks associated with climate change by using resources and capacities efficiently,
- ensuring a political consensus on the preparatory work against climate change,
- carrying out the necessary budgetary studies for the financial support needed for the preparatory work against climate change, thereby preventing the blockage of the process,
- ensuring continuity in the preparatory work to be carried out against the climate change and the disasters that develop secondary to the climate change,
- carrying out the necessary works to reduce the effects of the climate risks with high disaster potential, if they cannot be eliminated at the first place,

Weak and unwarranted preparatory work to mitigate climate change risks will cause a serious security vulnerability for post-disaster situations. A human-centered disaster risk reduction process is needed for a better future. Therefore, it is necessary to act with the same understanding in reducing climate-related risks.

## References

- Akbulut, M. and Kaya, A. A. (2020). Bir Afet Olarak Küresel İklim Değişikliği ve İlkokul Öğretmenlerinin İklim Değişikliği Farkındalığının İncelenmesi: Gümüşhane İli Örneği. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, Cilt 9, Sayı 2, ss.112-124.
- Anderson, S. E., Bart, R. R., Kennedy, M. C., MacDonald, A. J., Moritz, M. A., Plantinga, A. J., ... and Wibbenmeyer, M. (2018). The dangers of disaster-driven responses to climate change. *Nature Climate Change*, Vol 8, Iss. 8, pp.651-653.
- Arnell, N. W. and Gosling, S. N. (2016). The impacts of climate change on river flood risk at the global scale. *Climatic Change*, Vol 134, Iss. 3, pp.387-401.
- Brooks, N. and Adger, N. W. (2003). Country level risk measures of climate-related natural disasters and implications for adaptation to climate change.
- Capra, F. and Armağan, M. (1989). *Batı düşüncesinde dönüm noktası*. İstanbul: İnsan Yayınları.
- Cromwell, J. E., Smith, J. B., and Raucher, R. S. (2007). *Implications of climate change for urban water utilities*. Washington, DC: Association of Metropolitan Water Agencies.
- Emergency Events Database (2018). <https://www.emdat.be/classification>.
- Galip, A. K. I. N. (2017). Küresel ısınma, nedenleri ve sonuçları. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi*, Cilt 46, Sayı 2.
- Goosse, H., Barriat, P., Lefebvre, W., Loutre, M., and Zunz, V. (2010). Brief history of climate: causes and mechanisms. Introduction to climate dynamics and climate modelling, pp.109-144.
- Houghton, J. T., Meira Filho, L. G., Griggs, D. J. and Maskell, K. (Eds.) (1997). An introduction to simple climate models used in the IPCC Second Assessment Report, Vol. 410, WMO.

- Intergovernmental Panel on Climate Change (1996).  
<https://www.ipcc.ch/report/revised-1996-ipcc-guidelines-for-national-greenhouse-gas-inventories/> .
- Intergovernmental Panel on Climate Change (2001b).  
[https://www.ipcc.ch/site/assets/uploads/2018/05/SYR\\_TAR\\_full\\_report.pdf](https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_TAR_full_report.pdf).
- Intergovernmental Panel on Climate Change (2007). [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf).
- Intergovernmental Panel on Climate Change (2014). Summary for Policymakers. In Climate Change 2014: Impacts, Adaptation, and Vulnerability (eds Field, C. B. et al) 1–32 (Cambridge Univ. Press, 2014).
- Intergovernmental Panel on Climate Change (2021).  
[https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Full\\_Report.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf)2021.
- The International Federation of Red Cross and Red Crescent Societies (2018). <https://www.ifrc.org/sites/default/files/2021-09/B-WDR-2018-EN-LR.pdf> 2018.
- Jefriess, E. and Campogianni, S. (2021). WWF. İklim Değişikliğinin Akdenizdeki Etkileri, Aşırı Isınan Bir Denizden Altı Hikaye.  
[https://wwfr.awsassets.panda.org/downloads/iklim\\_deiiklii\\_nin\\_akdeniz\\_deki\\_etkileri\\_web.pdf?10920/İklim-Değişikliğinin-Akdenizdeki-Etkileri](https://wwfr.awsassets.panda.org/downloads/iklim_deiiklii_nin_akdeniz_deki_etkileri_web.pdf?10920/İklim-Değişikliğinin-Akdenizdeki-Etkileri).
- Jetten, J., Fielding, K. S., Crimston, C. R., Mols, F., and Haslam, S. A. (2021). Responding to Climate Change Disaster. *European Psychologist*.
- Justus, J. R. and Susan R. Fletcher (2001). Global climate change. Congressional Research Service, Library of Congress.
- Kadıoğlu, M. (2012). Türkiye’de İklim Değişikliği Risk Yönetimi. Türkiye’nin İklim Değişikliği II. Ulusal Bildiriminin Hazırlanması Projesi Yayını.
- Kadıoğlu, M. and Özdamar, E. (2005). Afet yönetiminin temel ilkeleri. JİCA Türkiye Ofisi Yayın, No. 1.
- Kagawa, F. and Selby, D. (2012). Ready for the storm: Education for disaster risk reduction and climate change adaptation and mitigation. *Journal of Education for Sustainable Development*, Vol 6, No 2, pp.207-217.
- Kaya, A. A. and Akbulut, M. (2021). A Very Real Environmental Problem: Global Climate Change. Lyon: Public Administration and Public Finance Research, p. 240.

- Kurita, T. (2004). *Total Disaster Risk Management and the Importance of International Cooperation*. Japan: Asian Disaster Reduction Center.
- Leggett, J. A. (2007). Climate change: Science and policy implications.
- Mal, S., Singh, R. B., Huggel, C. and Grover, A. (2018). Introducing linkages between climate change, extreme events, and disaster risk reduction. In *Climate change, extreme events and disaster risk reduction in* (pp. 1-14), Springer, Cham.
- Mitchell, T. and van Aalst, M. (2008). Convergence of disaster risk reduction and climate change adaptation. *A review for DFID*, Iss. 44, pp.1-22.
- Munang, R., Thiaw, I., Alverson, K., Liu, J. and Han, Z. (2013). The role of ecosystem services in climate change adaptation and disaster risk reduction. *Current Opinion in Environmental Sustainability*, Vol 5, Iss. 1, pp.47-52.
- O'Brien, G., O'keefe, P., Rose, J. and Wisner, B. (2006). Climate change and disaster management. *Disasters*, Vol 30, No 1, pp.64-80.
- Pittock, A. B. (2017). *Climate change: turning up the heat*. USA: Routledge.
- Thorpe, A. J. (2005). Climate change prediction: a challenging scientific problem. Institute of Physics.
- Uy, N. and Shaw, R. (2012). *The role of ecosystems in climate change adaptation and disaster risk reduction. In Ecosystem-based adaptation*. UK: Emerald Group Publishing Limited.
- Walton, D. and van Aalst, M. (2020). Climate-related extreme weather events and COVID-19.
- World Meteorology Organization (2020). <https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate>.
- World Meteorology Organization (2021). <https://public.wmo.int/en/our-mandate/climate>.
- WWF-Türkiye (2020). Sürdürülebilir Bir Türkiye İçin Korunan Alanlar Hedef: 2030'a Kadar  
[%30https://wwftr.awsassets.panda.org/downloads/korunanalanlar\\_korumazsak\\_ybederiz\\_rapor\\_web.pdf?10800/Surdurulebilir-Bir-Turkiye-Icin-Korunan-Alanlar](https://wwftr.awsassets.panda.org/downloads/korunanalanlar_korumazsak_ybederiz_rapor_web.pdf?10800/Surdurulebilir-Bir-Turkiye-Icin-Korunan-Alanlar).

Zaman, F. (2021). The role of popular discourse about climate change in disaster preparedness: A critical discourse analysis. *International Journal of Disaster Risk Reduction*, No. 60, 102270.

## 8

### An Overview of the Disaster Response Teams as the Group Neglected During the Covid-19 Pandemic Period

*İbrahim Kıymış (Gümüşhane University)*

ORCID ID: 0000-0001-5411-7421

ibrahimkiymis@gumushane.edu.tr

*Afşin Ahmet Kaya (Gümüşhane University)*

ORCID ID: 0000-0003-2082-6478

afsinakaya@gumushane.edu.tr

#### **Abstract**

*As a pandemic, the coronavirus 2019 (COVID-19) outbreak has affected the whole world. A lot of research has been done in the fields of medicine, health and social sciences on the effects of COVID-19 pandemic, yet the literature has remained barren in terms of the related effects on disaster management. Accordingly, this study was focused on the disaster response teams consisting of healthcare professionals (HCPs), firefighters, and members of the search and rescue teams. in the context of the COVID-19 pandemic period with a view to contribute to the literature in that regard. There are three main objectives of this study. The first objective is to reveal whether the COVID-19-related hygiene attitudes and phobias of the members of the disaster response teams differ according to certain variables. The second objective is to determine whether there is a significant relationship between the COVID-19-related hygiene attitudes and phobias of the members of the disaster response teams. The third objective is to determine whether the COVID-19-related phobias of the members of the disaster response teams has an effect on their COVID-19-related hygiene attitudes. The respective data of this relational study were collected from 302 disaster response personnel by means of a questionnaire. The statistical analyses of the collected research data were performed via SPSS (Statistical Package for Social Sciences) software using methods such as independent samples t-test, one-way analysis of variance (ANOVA), Pearson's correlation coefficient and simple linear regression. The results of this study revealed that the members of the disaster response teams have positive COVID-19-related hygiene attitudes (M [mean]: 3.60; SD [standard deviation]: .622) and moderate COVID-19-related phobia (M: 2.36; SD: .759). It has been found that the vast majority of members of the disaster response teams are very concerned about the likelihood of their family members catching the coronavirus. Additionally, it has been found that the COVID-19-related hygiene attitudes of female members of the disaster response teams were higher than the male members of the disaster response team in the positive direction (t [test statistic for the t-test]: 3.491; p [probability]: .001). The phobia levels of the members*

*of the disaster response teams who had been infected with the coronavirus before were found to be higher ( $t: 2,082$ ;  $p: ,038$ ). A moderately positive correlation was found between the COVID-19-related hygiene attitudes and phobia levels ( $r: .437$ ;  $p: .000$ ). In addition, it was found that COVID-19-related phobia has a significantly (19.1%) positive effect on COVID-19-related hygiene attitudes ( $F$  [test statistic of the  $F$ -test]: 70.780;  $t: 8.413$ ;  $p: .000$ ;  $R^2$  [correlation coefficient]<sup>2</sup>: .191). Disaster response teams should not be neglected during the pandemic period, taking into consideration their crucial role in the prevention of disasters secondary to global crises such as the COVID-19 pandemic. In parallel, it is recommended that more studies be carried out on the disaster response teams during the COVID-19 pandemic period and that the respective literature be enriched with multidisciplinary studies in particular.*

*Keywords: Disaster, Disaster Response Teams, COVID-19, Phobia, Hygiene*

## Introduction

The novel coronavirus disease 2019 (COVID-19) outbreak, which started in the Wuhan City of China on December 31<sup>st</sup> officially, 2019, affected the whole world turning into a pandemic of devastating scale (Arpacı et al., 2020). COVID-19 has spread very quickly to the whole world (Winter and Hegde, 2020; Zhang vd., 2020). As a matter of fact, there are only 5 countries, which have yet to report any COVID-19 cases, from among the 193 countries officially recognized by the United Nation (UN). Considering that 2 of these 5 countries, i.e., North Korea and Turkmenistan, have drawn skepticism from the international community about the accuracy of their health data, and that the other 3 are island nations with small populations in the Pacific Ocean, it would not be wrong to say that COVID-19 has actually spread to the whole world. The World Health Organization (WHO) had declared COVID-19 outbreak as an epidemic, a public health emergency of international importance on January 30<sup>th</sup>, 2020, and as a pandemic, an epidemic prevalent over the world on March 11<sup>th</sup>, 2020 (Yuen et al., 2020; WHO, 2020a). As the spread of COVID-19 expanded regionally, so has the death toll associated with COVID-19 (Wu and McGoogan, 2020). The number of cases reported worldwide and the number of cases with mortalities from among these reported cases currently exceed 175 million (WHO, 2021a) and 3 million (WHO, 2021b), respectively. These data clearly indicate that global cooperation is becoming more and more important in the fight against the COVID-19 pandemic (Dharmshaktu, 2020).

As a disease that has created a global crisis, COVID-19 has brought with it not only the risk of death due to infection, but also the unbearable psychological pressure caused by a wide array of negative effects of COVID-19 (Cao et al., 2020), including the COVID-19-related

economic crisis (Serafini et al., 2020) throughout the world in addition to the said risk of death. During the COVID-19 pandemic period, psychological disorders such as depression, anxiety, schizophrenia, and acute stress disorder are seen in both healthcare professionals and citizens (Huang & Liu, 2020; Kang et al., 2020; Hu et al., 2020; Sun et al., 2020). Medical institutions and universities throughout China offer psychological counseling during the COVID-19 pandemic period. Lack of planning and coordination between the relevant institutions emerges as the main problem in the organization and management of psychological intervention activities (Duan & Zhu, 2020). Stress disorders and basic psychological disabilities are among the main reasons of suicides (Thakur & Jain, 2020). Early intervention plays a key role in the treatment of psychological disorders (Campion et al., 2020). Nevertheless, it has been stated that the COVID-19 pandemic may deter those with mental health problems from seeking help for the first time (Daly & Robinson, 2021). As the COVID-19 pandemic period further prolongs, global health systems are more and more affected negatively (Shen et al., 2020; Giusti et al., 2020). Healthcare professionals providing direct care to COVID-19 patients may experience psychological distress as they are not subject to quarantine (Wu et al., 2020). In studies held on the effects of epidemics caused by the previous coronaviruses such as the severe acute respiratory syndrome (SARS) epidemic between 2002 and 2004, anxiety, depression, panic attacks, negative psychological effects, psychotic symptoms, and even delirium and suicide cases were detected among the survivors of the SARS epidemic (Lee et al., 2007; Maunder et al., 2003). Hence, it is necessary to examine the psychological effects of the COVID-19 pandemic on the healthcare professionals and to ensure their psychological well-being (Tan et al., 2020), as well as to identify the psychological problems of the society and reduce the consequences thereof (Tee et al., 2020).

The COVID-19 pandemic has resulted in hygiene awareness worldwide (Rundle et al., 2020). Hygiene rules, one of the pandemic control practices, significantly affect the spread of the virus (Finlay et al., 2021; Sehrawat & Rouse, 2020; Mushi & Shao, 2020). COVID-19 control policies are carried out primarily based on hygiene sanitation, i.e., personal protective equipment, health education, personal hygiene and sanitation (Purnama & Susanna, 2020). It is known that hand hygiene, one of the major components of the hygiene, causes skin damage (Cavanagh & Wambier, 2020; Araghi et al., 2020), yet it has become even more important for healthcare professionals during the COVID-19 pandemic (Gupta & Lipner, 2020; Roshan et al., 2020). Hand hygiene reduces the spread of infectious diseases by 24% (Kantor, 2020). Sanitary conditions must be provided to protect human health in case of all outbreaks, including the COVID-19 pandemic (WHO, 2020b). WHO and other authorities



strongly recommend the implementation of hygiene rules as it is one of the easiest, cheapest and most important ways to prevent the spread of the virus (Glabska et al., 2020).

When it comes to measures to be taken against pandemics, and COVID-19 pandemic in particular, it is necessary to first prevent human-to-human transmission, then quickly identify and isolate any patients infected with the virus in question, and provide them with the necessary medical treatment (Xiao & Torok, 2020). Hygiene, social distancing and quarantine measures play a key role in the prevention of the spread of the virus (Güner et al., 2020). As a matter of fact, it has been observed that these measures reduced the spread of the virus in this context of COVID-19 (Soo et al., 2020; Kharroubi & Saleh, 2020; Saez et al., 2020). COVID-19 measures should also include healthcare professionals and the emergency response teams (Berger et al., 2020).

Significant research has been conducted on the short-term outcomes of COVID-19 on patients hospitalized due to COVID-19, yet the research on the long-term outcomes of COVID-19 on individuals is insufficient. In this context, conducting studies using a multidisciplinary approach is becoming more and more important for the assessment and follow-up of the COVID-19 pandemic (Post-Acute Care Study Group, 2020). In addition, it is recommended to minimize the effects of COVID-19 utilizing collaborative and multi-sectoral approaches (Xiao & Torok, 2020). The need for more research to determine the negative effects of the COVID-19 pandemic on society has been uttered occasionally (Kraemer et al., 2020).

This study was carried out with a focus on the disaster response teams consisting of healthcare professionals, firefighters, and members of the search and rescue teams, in the context of the COVID-19 pandemic period with a view to contribute to the literature in that regard. There are three main objectives of this study. The first objective is to reveal whether the COVID-19-related hygiene attitudes and phobias of the members of the disaster response teams differ according to certain variables. The second objective is to determine whether there is a significant relationship between the COVID-19-related hygiene attitudes and phobias of the members of the disaster response teams, and to determine the direction and the significance of this relationship, if any. The third objective is to determine whether the COVID-19-related phobia has an effect on COVID-19-related hygiene attitudes. Accordingly, it is aimed with this study both to enrich COVID-19 research in general and to involve disaster response teams in COVID-19 research in specific.

## Method

### Research Design

Quantitative research methodology was used in this study involving likert type scales, in order to reveal whether these scales differ according to the variables used in the research. In this context, from among the quantitative research methods, both the causal-comparative and the correlational survey research designs were used. Causal-comparative research design involves comparison of two or more groups with a view to explain the current differences between these groups (Johnson, 2000). Correlational survey research design is a non-experimental method used to explain whether there is a relationship between variables (Seeram, 2019).

### Population and Study

The population of the research consists of the members of disaster response teams, i.e. healthcare professionals, firefighters and members of the search and rescue teams, working in the Gümüşhane Province of Turkey. Research population consisted of 1258 disaster response personnel in total. It was calculated that the sample size should include at least 294 disaster response personnel given that the confidence interval (CI) is taken as 95% and margin of error is taken as 5%. Consequentially, 302 disaster response personnel were included in the study sample using convenience sampling method, one of the probability-based sampling methods. Taking into consideration the study population, the respective sample size comprising 302 disaster response personnel has been deemed sufficient (Taherdoost, 2017). The characteristics of the study sample are given in Table 1. The research data were collected online in June 2021 by survey method. In this context, face-to-face questionnaires were administered to the firefighters and the members of the search and rescue teams, whereas healthcare professionals were asked to fill out the questionnaire online given the pandemic conditions.

### Data Collection Tool

A questionnaire form was used as the data collection tool. The questionnaire consists of three parts. The first part of the questionnaire inquiries about the socio-demographic characteristics of the participants such as gender, age, marital status, educational status and institution where he/she works, as well as clinical characteristics such as the status of having a chronic disease, the status of having contracted COVID-19, and use of personal protective equipment while working. These variables constitute the independent variables of the study. The second part of the

questionnaire includes the “COVID-19 Hygiene Scale” developed by Çiçek et al. (Çiçek et al., 2020). The scale, of which the scope and construct validity and reliability studies have been completed, consists of 6 sub-dimensions and 27 items. These 6 sub-dimensions are; “Changes in Hygiene Behaviors (CHB)”, “Home Hygiene (HomeH)”, Social Distancing and Mask Use (SDMU)”, “Shopping Hygiene (SH)”, “Hand Hygiene (HandH)”, and “Hygiene After Arriving Home from Outdoors (HAAHFO)”. The Cronbach's Alpha coefficient of the COVID-19 Hygiene Scale, a 5-point Likert type scale, was calculated as 0.908 within the 95% confidence interval. All items were assigned points between 1 (never) and 5 (always). The third part of the questionnaire includes the “COVID-19 Phobia Scale” developed by Arpacı et al. (2020). The validity and reliability studies of the scale have been completed. It consists of 4 sub-dimensions and 20 items. These 4 sub-dimensions are; “Psychological Sub-Dimension (PSD)”, “Somatic Sub-Dimension (SomSD)”, “Social Sub-Dimension (SocSD)” and “Economic Sub-Dimension (ESD)”. The Cronbach's Alpha coefficient of the COVID-19 Phobia Scale, a 5-point Likert type self-assessment scale, was calculated as 0.926 within the 95% confidence interval. All items were assigned points between 1 (strongly disagree) and 5 (strongly agree).

The ethics committee approval required to conduct the research was obtained from the Scientific Research and Publication Ethics Committee of Gümüşhane University. Additionally, the required official permissions were obtained from the public institutions before the administration of the questionnaire. The targeted objectives of the research were clearly indicated in the questionnaire, and the participants voluntarily participated in the research.

## **Analysis of the Research Data**

The research data were analyzed using the SPSS 25 (IBM Statistical Package for Social Sciences version 25) software package. Descriptive statistical methods used in the analysis of the research data included number (n), percentage (%), mean (M) and standard deviation (SD). Exploratory factor analysis was performed to determine the factor loadings of the scale items. Principal component analysis (PCA) and varimax rotation methods were preferred by the researchers in the performance of the exploratory factor analysis. Parametric analysis techniques were used as the research data conformed to the normal distribution. Independent samples t-test was used to determine whether there was a statistically significant difference between two independent groups, and one-way analysis of variance (ANOVA) test was used to determine whether there was a statistically significant difference between more than two

independent groups. Pearson's correlation analysis was performed to determine whether there was a significant relationship between two or more independent groups and, and to determine the direction and the significance of this relationship, if any. Simple linear regression analysis was performed to determine whether the dependent variable (hygiene) was predicted by the independent variable (phobia). Probability (p) values of  $\leq 0.05$  were deemed to indicate statistical significance.

## Results

### Socio-Demographic and Clinical Characteristics of the Study Participants

A total of 302 members of the disaster response teams participated in the study, and were administered the questionnaire used to collect the research data. All questionnaires were evaluated since there was no questionnaire with missing values. As can be seen in Table 1, 59.6% of the participants were women; 57% of them were in the 18-30 age range; 56% of them were married; 53% of them had a bachelor's degree; 79.5% of them were healthcare professionals; and 18.9% of them had a chronic disease. Twenty-five percent of the participants tested positive for COVID-19. It was determined that 88.7% of the participants were using personal protective equipment during working, whereas that the remaining 11.3% were not. Additionally, 78.5% of the participants thought that use of personal protective equipment has been protecting them against the coronavirus while they were working, whereas that the remaining 21.5% thought that the personal protective equipment was unprotective. Lastly, 66.2% of the participants thought that the use of personal protective equipment negatively affects their work performance, as compared to the 33.8% of the participants, who thought that the use of personal protective equipment did not negatively affect their work performance.

*Table 1: Distribution of Participants' Socio-Demographic&Clinical Variables  
(n:302)*

Variable	Distribution	n	%
Gender	Female	180	59,6
	Male	122	40,4
Age Group	18-30 years	172	57,0
	31-45 years	99	32,8
	46 years and above	31	10,3
Marital Status	Married	169	56,0
	Single	133	44,0
Educational Status	Elementary/Middle School Graduate	6	2,0
	High School Graduate	36	11,9
	Associate's Degree	78	25,8
	Undergraduate Degree	160	53,0
	Graduate Degree	22	7,3
Profession	Member of a Search and Rescue Team	30	9,9
	Firefighter	32	10,6
	Healthcare Professional	240	79,5
Status of Having a Chronic Disease	Yes	57	18,9
	No	245	81,1
Status of Having Tested Positive (+) for COVID-19*	Yes	78	25,8
	No	224	74,2
Status of Having been Using PPE**	Yes	268	88,7
	No	34	11,3
Status of Having been Thinking that PPE** are Protective against COVID-19	Yes	237	78,5
	No	65	21,5
Status of Having been Thinking that the Use of PPE** Negatively Affects Work Performance	Yes	200	66,2
	No	102	33,8

*\*COVID-19: Coronavirus disease 2019, \*\*PPE: Personal Protective Equipment*

## Results Pertaining to the Scores Obtained from the Scales and the Sub-Dimensions

The results of the analysis of the mean and standard deviations of the scores obtained from the items included in the COVID-19 Hygiene Scale can be seen in Table 2. Accordingly, the item with the highest mean value (M: 4.85, SD: .471) was the “I always wear a mask when going out.” item included in the Social Distancing and Mask Use sub-dimension, whereas the item with the lowest mean value (M: 1.97, SD: 1.118) was the “I make

frequently consumed food items (bread, etc.) at home.” included in the Changes in Hygiene Behaviors sub-dimension.

*Table 2: Descriptive Results pertaining to the COVID-19 Hygiene Scale*

COVID-19 Hygiene Scale	M	SD
Changes in Hygiene Behaviours (Sub-Factor)		
7- I wash my hands more than before the pandemic.	4,38	,771
11- Since the pandemic emerged in our country, I buy more than I need cleaning materials (toilet paper, paper towel, bleach, etc.).	3,50	1,316
12- I do more laundry.	3,83	1,121
14- I wash my clothes at 60-90 degrees Celsius.	3,53	1,229
21- I spend more time cleaning the house.	3,50	1,080
27- I make frequently consumed food items (bread, etc.) at home.	1,97	1,118
Home Hygiene (Sub-Factor)		
16- I ventilate the rooms regularly.	4,20	,892
18- I disinfect all the door, cabinet and window handles we use at home daily.	2,80	1,168
19- I do house cleaning (sweeping, dusting, etc.) every day.	3,12	1,164
20- I change the bedding sets I use once a week.	3,81	1,143
Social Distancing and Mask Use (Sub-Factor)		
1- I maintain social distancing in crowded environments.	4,04	,973
2- I always wear a mask when going out.	4,85	,471
3- If I have touched the mask after wearing a mask, I disinfect my hands.	3,38	1,174
25- I maintain social distancing with the delivery people, while receiving an order or cargo delivered to my home.	4,15	1,082
Shopping Hygiene (Sub-Factor)		
15- I disinfect anything that is delivered home (cargo packages, dispenser size bottled water, etc.) by letting it stand in the open air for a certain period of time.	2,98	1,388
22- I disinfect the fruits and vegetables I purchased with vinegar water, etc.	2,98	1,371
23- I wipe/wash the outer surfaces of the foods and drinks I purchased.	3,31	1,454
24- I wipe the plastic bags, which I used to carry the stuff I purchased from the market, with a soapy cloth or disinfectant, before entering the house.	2,40	1,367
26- I use the contactless feature of my credit card to pay for my purchases instead of rendering cash payments while shopping.	3,86	1,151
Hand Hygiene (Sub-Factor)		
4- I do not touch my mouth, nose and eyes without washing my hands first.	3,99	1,092
5- I wash my hands frequently with soap and water for at least 20 seconds.	4,10	,897
6- When I'm outdoors, I disinfect my hands with alcohol-based cleaners when soap and water are not available.	3,82	1,084
8- I wash my hands in accordance with the hygienic hand washing steps.	3,82	1,026
9- I dry my hands with a disposable paper towel or a towel of my own.	4,42	,858
Hygiene After Arriving Home from Outdoors (Sub-Factor)		
10- I take a shower after I come home from outside.	3,45	1,048
13- I air out my clothes immediately after I come home from outside.	3,65	1,178
17- I disinfect my bag, wallet, key chain and cell phone when I arrived home from outdoors.	3,10	1,343

The results of the analysis of the mean and standard deviation values of the items included in the COVID-19 Phobia Scale can be seen in Table 3. Accordingly, the item with the highest mean value (M: 3.59, SD: 1,369) was the “I am extremely afraid of the possibility of someone in my family catching the coronavirus.” included in the Psychological Sub-Dimension, whereas the item with the lowest mean value (M: 1.73, SD: .937) was the

“My hands and feet are shivering due to the fear of coronavirus.” item included in the Somatic Sub-Dimension.

*Table 3: Descriptive Results pertaining to the COVID-19 Phobia Scale*

COVID-19 Phobia Scale	M	SD
Psychological Sub-Dimension (Sub-Factor)		
1- The fear of contracting the coronavirus worries me a lot.	2,86	1,268
5- I am extremely afraid of the possibility of someone in my family catching the coronavirus.	3,59	1,369
9- The news of death from coronavirus worries me tremendously.	2,83	1,212
13- Uncertainties about the coronavirus seriously worry me.	2,94	1,297
17- The speed with which the coronavirus is spreading is making me extremely panicky.	2,68	1,230
20- I argue, or feel the urge to argue, angrily with people insensitive to the coronavirus disease.	2,65	1,296
Somatic Sub-Dimension (Sub-Factor)		
2- My stomach hurts because of the coronavirus-related stress.	1,77	,949
6- My chest hurts because of the coronavirus-related stress.	1,80	,971
10- My hands and feet are shivering due to the fear of coronavirus.	1,73	,937
14- I have trouble sleeping due to fear of coronavirus.	1,84	1,054
18- The coronavirus is making me so nervous that I can't even do the things I normally do.	2,07	1,091
Social Sub-Dimension (Sub-Factor)		
3- When I see people coughing, I get extremely worried with the suspicion of coronavirus.	2,75	1,197
7- I run away from people who sneeze, on the suspicion of coronavirus.	2,47	1,213
11- I am aware that I spend too much time cleaning my hands because of coronavirus.	2,46	1,232
15- My social relationships are seriously hampered by the fear of catching the coronavirus.	2,67	1,302
19- I am not able to desist from the fear of catching coronavirus from others.	2,40	1,182
Economic Sub-Dimension (Sub-Factor)		
4- I'm worried about running out of food items due to the pandemic situation.	2,17	1,162
8- I'm worried about running out of cleaning supplies due to the pandemic situation.	2,24	1,180
12- I'm stocking up on food for fear of coronavirus.	1,88	1,048
16- After the emergence of the coronavirus pandemic, I don't feel comfortable unless I regularly check the status of the supplies of need at home.	2,20	1,106

## Results of the Descriptive and Reliability Analyses of the Data Obtained from the COVID-19 Hygiene and Phobia Scales and the Sub-Dimensions

The results of the analysis of the mean and standard deviation values of the items included in the sub-dimensions of the COVID-19 Hygiene Scale can be seen in Table 4. Accordingly, the descriptive findings of the COVID-19 Hygiene Scale were found as M: 3.60, SD: .622 and the sub-dimension

with the highest mean value (M: 4, 11, SD: ,643) included in the COVID-19 Hygiene Scale was determined as the Social Distancing and Mask Use sub-dimension. Additionally, the descriptive findings of the COVID-19 Phobia Scale were found as M: 2,36, SD: ,759 and the sub-dimension with the highest mean value (M: 2,92, SD: ,967) included in the COVID-19 Phobia Scale was determined as the Psychological Sub-Dimension. Cronbach's Alpha internal consistency coefficients of COVID-19 Hygiene scale and COVID-19 Phobia Scale were calculated as ,908 and ,928, respectively, and were both excellent (George & Mallery, 2016).

*Table 4: Descriptive Findings and Cronbach's Alpha Values pertaining to the COVID-19 Hygiene and Phobia Scales and the Sub-Dimensions*

Scale	Cronbach's Alpha Value	Total number of items	M	SD
<u>COVID-19 Hygiene Scale</u>	,908	27	3,60	,622
Changes in Hygiene Behaviours (Sub-Factor)	,715	6	3,45	,694
Home Hygiene (Sub-Factor)	,702	4	3,48	,795
Social Distancing and Mask Use (Sub-Factor)	,712	4	4,11	,643
Shopping Hygiene (Sub-Factor)	,794	5	3,10	1,000
Hand Hygiene (Sub-Factor)	,720	5	4,03	,684
Hygiene After Arriving Home from Outdoors (Sub-Factor)	,705	3	3,40	,949
<u>COVID-19 Phobia Scale</u>	,928	20	2,36	,759
Psychological Sub-Dimension (Sub-Factor)	,850	6	2,92	,967
Somatic Sub-Dimension (Sub-Factor)	,851	5	1,84	,793
Social Sub-Dimension (Sub-Factor)	,828	5	2,55	,944
Economic Sub-Dimension (Sub-Factor)	,822	4	2,12	,908

### **Factor Loadings of the COVID-19 Hygiene and Phobia Scales and Sub-Dimensions, and the Results of the Exploratory Factor Analysis**

The factor loadings, Kaiser-Meyer-Olkin (KMO) and probability (p) values of all the items included in the sub-dimensions of the COVID-19 Hygiene and Phobia Scales are shown in Tables 5 and 6. The fact that the KMO and the p values were found to be above ,70 and below ,05, respectively, for all sub-dimensions of the COVID-19 Hygiene and Phobia Scales, indicating that the research data are suitable for factor analysis (Yong & Pearce, 2013).



*Table 5: Exploratory Factor Analysis of the COVID-19 Hygiene Scale*

COVID-19 Hygiene Scale			
Item #	Factor Loading	Item #	Factor Loading
Changes in Hygiene Behaviours (CHB)		Social Distancing and Mask Use (SDMU)	
Item 7	,537	Item 1	,805
Item 11	,758	Item 2	,500
Item 12	,797	Item 3	,685
Item 14	,441	Item 25	,675
Item 21	,735	KMO: ,722 p: ,000	
Item 27	,418	Shopping Hygiene (SH)	
KMO: ,737 p: ,000		Item 15	,831
Home Hygiene (HomeH)		Item 22	,830
Item 16	,719	Item 23	,748
Item 18	,726	Item 24	,846
Item 19	,746	Item 26	,385
Item 20	,716	KMO: ,817 p: ,000	
KMO: ,764 p: ,000		Hand Hygiene (HandH)	
Hygiene After Arriving Home from Outdoors (HAAHFO)		Item 4	,719
Item 10	,729	Item 5	,748
Item 13	,837	Item 6	,657
Item 17	,814	Item 8	,748
KMO: ,712 p: ,000		Item 9	,560
		KMO: ,739 p: ,000	

KMO and p values of the sub-dimensions of the COVID-19 Hygiene Scale were found as follows; ,737 and ,000, respectively, for the CHB sub-dimension; ,764 and ,000, respectively, for the HomeH sub-dimension; ,712 and ,000, respectively, for the HAAHFO sub-dimension; ,722 and ,000, respectively, for the SDMU sub-dimension; ,817 and ,000, respectively, for the SH sub-dimension; and ,739 and ,000, respectively, for the HandH sub-dimension.

*Table 6: Exploratory Factor Analysis of the COVID-19 Phobia Scale*

COVID-19 Phobia Scale			
Item #	Factor Loading	Item #	Factor Loading
Psychological Sub-Dimension (PSD)		Somatic Sub-Dimension (SomSD)	
Item 1	,798	Item 2	,812
Item 5	,699	Item 6	,821
Item 9	,817	Item 10	,862
Item 13	,778	Item 14	,773
Item 17	,822	Item 18	,706
Item 20	,630	KMO: ,858 p: ,000	
KMO: ,854 p: ,000		Social Sub-Dimension (SocSD)	
Economic Sub-Dimension (ESD)		Item 3	,816
Item 4	,785	Item 7	,785
Item 8	,813	Item 11	,725
Item 12	,820	Item 15	,729
Item 16	,815	Item 19	,799
KMO: ,803 p: ,000		KMO: ,809 p: ,000	

KMO and p values of the sub-dimensions of the COVID-19 Phobia Scale were found as follows; ,854 and ,000, respectively, for the PSD sub-dimension; ,803 and ,000, respectively, for the ESD sub-dimension; ,858 and ,000, respectively, for the SomSD sub-dimension; and ,809 and ,000, respectively, for the SocSD sub-dimension.

### **Results of the t-Test and ANOVA Test of the Data Obtained from the COVID-19 Hygiene and Phobia Scales and Sub-Dimensions**

The results of the t-test on the differences between the COVID-19 Hygiene and Phobia Scales and socio-demographic and clinical features of the study participants are given in Table 7.

In this context, the results of the t-test on the differences between the COVID-19 Hygiene scale and its sub-dimensions and the socio-demographic and clinical variables were found to be as follows; a statistically significant relation was found between the CHB sub-dimension and gender (t: 3.422, p: ,001), and the mean score obtained by the female participants (M: 3.56, SD: ,685) from the CHB sub-dimension was found to be higher than that of male participants (M: 3.29, SD: ,677); a statistically significant relation was found between the HomeH sub-dimension and gender (t: 2.846, p: ,005), and the mean score obtained by the female participants (M: 3,59 SD: ,760) from the HomeH sub-dimension was found to be higher than that of male participants (M: 3,33 SD: ,823); a statistically significant relation was found between the SH sub-dimension and gender (t: 2,557, p: ,011), and the mean score obtained by the female participants (M: 3,23, SD: ,974) from the SH sub-dimension was found to be higher than that of male participants (M: 2,93, SD: 1,015); a statistically significant relation was found between the HandH sub-dimension and gender (t: 3,571, p: ,000), and the mean score obtained by the female participants (M: 4,15, SD: ,678) from the HandH sub-dimension was found to be higher than that of male participants (M: 3,86, SD: ,661); a statistically significant relation was found between the HAAHFO sub-dimension and gender (t: 2,879, p: ,004), and the mean score obtained by the female participants (M: 3,53, SD: ,972) from the HAAHFO sub-dimension was found to be higher than that of male participants (M: 3,21, SD: ,884). All in all, a statistically significant relation was found between the overall hygiene scale and gender (t: 3,491, p: ,001), and the mean score obtained by the female participants (M: 3,70, SD: ,605) from the overall hygiene scale was found to be higher than that of male participants (M: 3,45, SD: ,620).

Additionally, the results of the t-test on the differences between the COVID-19 Hygiene scale and its sub-dimensions and the status of having been using PPE variable were found to be as follows; a statistically significant relation was found between the HandH sub-dimension and the status of having been using PPE ( $t: 2,643$ ,  $p: ,009$ ), and the mean score obtained by the participants who stated to have been using PPE while working ( $M: 4,07$ ,  $SD: ,668$ ) from the HandH sub-dimension was found to be higher than that of the participants who stated not to have been using PPE while working ( $M: 3,74$ ,  $SD: ,745$ ); a statistically significant relation was found between the HandH sub-dimension and the status of having been thinking that PPE are protective against COVID-19 ( $t: 2,892$ ,  $p: ,004$ ), and the mean score obtained by the participants who stated to have been thinking that PPE are protective against COVID-19 ( $M: 4,09$ ,  $SD: ,673$ ) from the HandH sub-dimension was found to be higher than that of the participants who stated not to have been thinking that PPE are protective against COVID-19 ( $M: 3,82$ ,  $SD: ,684$ ); a statistically significant relation was found between the HandH sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance ( $t: -2,599$ ,  $p: ,010$ ), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance ( $M: 4,17$ ,  $SD: ,580$ ) from the HandH sub-dimension was found to be higher than that of the participants who stated to have been thinking that the use of PPE negatively affects work performance ( $M: 3,96$ ,  $SD: ,722$ ); a statistically significant relation was found between the HomeH sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance ( $t: -2,456$ ,  $p: ,015$ ), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance ( $M: 3,64$ ,  $SD: ,832$ ) from the HomeH sub-dimension was found to be higher than that of the participants who stated to have been thinking that the use of PPE negatively affects work performance ( $M: 3,40$ ,  $SD: ,766$ ); a statistically significant relation was found between the SDMU sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance ( $t: -2,095$ ,  $p: ,037$ ), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance ( $M: 4,21$ ,  $SD: ,628$ ) from the SDMU sub-dimension was found to be higher than that of the participants who stated to have been thinking that the use of PPE negatively affects work performance ( $M: 4,05$ ,  $SD: ,645$ ); a statistically significant relation was found also between the SH sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance ( $t: -4,571$ ,  $p: ,000$ ), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance ( $M: 3,46$ ,  $SD: 1,070$ ) from the SH

sub-dimension was found to be higher than that of the participants who stated to have been thinking that the use of PPE negatively affects work performance (M: 2,92, SD: ,912); a statistically significant relation was found between the HAAHFO sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance (t: -2,826, p: ,005), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance (M: 3,62, SD: ,942) from the HAAHFO sub-dimension was found to be higher than that of the participants who stated to have been thinking that the use of PPE negatively affects work performance (M: 3,29, SD: ,935). All in all, a statistically significant relation was also found between the overall hygiene scale and the status of having been thinking that the use of PPE negatively affects work performance (t: -3,548, p: ,000), and the mean score obtained by the participants who stated not to have been thinking that the use of PPE negatively affects work performance (M: 3,77, SD: ,645) from the overall hygiene scale was found to be higher than that of male participants (M: 3,51, SD: ,593).

*Table 7: Results of the t-Test of Data Obtained from the COVID-19 Hygiene and Phobia Scales*

Scales and Their Sub-Dimensions	Socio-demographic and Clinical Variables	Groups	n	M	SD	SE	t	p
CHB	Gender	Female	180	3,56	,685	,051	3,422	,001
		Male	122	3,29	,677	,061		
HomeH	Gender	Female	180	3,59	,760	,056	2,846	,005
		Male	122	3,33	,823	,074		
SH	Gender	Female	180	3,23	,974	,072	2,557	,011
		Male	122	2,93	1,015	,091		
HandH	Gender	Female	180	4,15	,678	,050	3,571	,000
		Male	122	3,86	,661	,059		
HAAHFO	Gender	Female	180	3,53	,972	,072	2,879	,004
		Male	122	3,21	,884	,080		
Overall Hygiene	Gender	Female	180	3,70	,605	,045	3,491	,001
		Male	122	3,45	,620	,056		
ESD	Gender	Female	180	2,03	,869	,064	-	,045
		Male	122	2,25	,952	,086		
ESD	Marital Status	Single	169	2,24	,926	,071	2,690	,008
		Married	133	1,96	,864	,074		
Overall Phobia	Status of having tested positive (+) for COVID-19*	Yes	78	2,51	,775	,087	2,082	,038
		No	224	2,31	,747	,049		
ESD	Status of having tested positive (+) for COVID-19*	Yes	78	2,32	,937	,106	2,258	,025
		No	224	2,05	,890	,059		
HandH	Status of having been using PPE**	Yes	268	4,07	,668	,040	2,643	,009
		No	34	3,74	,745	,127		
PSD	Status of having been using PPE**	Yes	268	2,98	,968	,059	2,712	,007
		No	34	2,50	,860	,147		

**An Overview of the Disaster Response Teams  
as the Group Neglected During the Covid-19 Pandemic Period**  
İbrahim Kıymış, Afşin Ahmet Kaya

HandH	Status of having been thinking that PPE** are protective against COVID-19	Yes	237	4,09	,673	,043	2,892	,004
		No	65	3,82	,684	,084		
HandH	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	3,96	,722	,051	-	,010
		No	102	4,17	,580	,057	2,599	
HomeH	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	3,40	,766	,054	-	,015
		No	102	3,64	,832	,082	2,456	
SDMU	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	4,05	,645	,045	-	,037
		No	102	4,21	,628	,062	2,095	
SH	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	2,92	,912	,064	-	,000
		No	102	3,46	1,070	,106	4,571	
HAAHFO	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	3,29	,935	,066	-	,005
		No	102	3,62	,942	,093	2,826	
Overall Hygiene	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	3,51	,593	,041	-	,000
		No	102	3,77	,645	,063	3,548	
PSD	Status of having been thinking that the use of PPE** negatively affects work performance	Yes	200	3,02	,966	,068	2,382	,018
		No	102	2,74	,948	,093		

*\*COVID-19: Coronavirus disease 2019, \*\*PPE: Personal Protective Equipment*

As for the results of the t-test on the differences between the COVID-19 Phobia scale and its sub-dimensions and the socio-demographic and clinical variables were found to be as follows; a statistically significant relation was found between the ESD sub-dimension and gender (t: -2,010, p: ,045), and the mean score obtained by the male participants (M: 2,25, SD: ,952) from the ESD sub-dimension was found to be higher than that of female participants (M: 2,03, SD: ,869); a statistically significant relation was found between the ESD sub-dimension and marital status (t: 2,690, p: ,008), and the mean score obtained by the married participants (M: 2,24 SD: ,926) from the ESD sub-dimension was found to be higher than that of single participants (M: 1,96, SD: ,864); a statistically significant relation was found between the overall COVID-19 Phobia scale and the status of having tested positive (+) for COVID-19 (t: 2,082, p: ,038), and the mean score obtained by the participants who have had tested

positive (+) for COVID-19 (M: 2,51, SD: ,775) from the overall COVID-19 Phobia scale was found to be higher than that of the participants who have not had tested positive (+) for COVID-19 (M: 2,31, SD: ,747); a statistically significant relation was found between the ESD sub-dimension and the status of having tested positive (+) for COVID-19 (t: 2,258, p: ,025), and the mean score obtained by the participants who have had tested positive (+) for COVID-19 (M: 2,32, SD: ,937) from the ESD sub-dimension was found to be higher than that of the participants who have not had tested positive (+) for COVID-19 (M: 2,05, SD: ,890); a statistically significant relation was found between the PSD sub-dimension and the status of having been using PPE (t: 2,712, p: ,007), and the mean score obtained by the participants who stated to have been using PPE while working (M: 2,98, SD: ,968) from the PSD sub-dimension was found to be higher than that of the participants who stated not to have been using PPE while working (M: 2,50, SD: ,860); and a statistically significant relation was also found between the PSD sub-dimension and the status of having been thinking that the use of PPE negatively affects work performance (t: 2,382, p: ,018), and the mean score obtained by the participants who stated to have been thinking that the use of PPE negatively affects work performance (M: 3,02, SD: ,966) from the PSD sub-dimension was found to be higher than that of the participants who stated not to have been thinking that the use of PPE negatively affects work performance (M: 2,74, SD: ,948).

The results of the ANOVA test on the differences between the COVID-19 Hygiene and Phobia Scales and socio-demographic and clinical features of the study participants have been analyzed. In this context, the results of the ANOVA test on the differences between the COVID-19 Hygiene scale and its sub-dimensions and the socio-demographic and clinical variables are given below: A statistically significant difference was found between the SH sub-dimension and age group (F: 4,282, p: ,015), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the age group of 18-30 years and the age group of 46 years and above (p: ,023), and between the age group of 31-45 years and the age group of 46 years and above (p: ,021). The mean SH score of the participants aged 46 years and above (M: 3.60, SD: ,998) was found to be higher than those of the participants aged between 18-30 years (M: 3.06 SD: ,992) and between 31-45 years (M: 3.03, SD: ,980). Additionally, a statistically significant difference was found between the HandH sub-dimension and age group (F: 4,697, p: ,010), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the group of healthcare professionals and firefighters (p: ,042). The mean HandH score of the healthcare professionals (M: 4,09, SD: ,649) was

found to be higher than those of firefighters (M: 3,77, SD: ,661). Furthermore, a statistically significant difference was found between the SDMU sub-dimension and profession (F: 6,155, p: ,002), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the healthcare professionals and the members of the search and rescue teams (p: ,007), and between the firefighters and the members of the search and rescue teams (p: ,006). The mean SDMU score of the members of the search and rescue teams (M: 4,47, SD: ,484) was found to be higher than those of healthcare professionals (M: 4,08, SD: ,632) and firefighters (M: 3,95, SD: ,749).

The results of the ANOVA test on the differences between the COVID-19 Phobia scale and its sub-dimensions and the socio-demographic and clinical variables are given below: A statistically significant difference was found between the overall COVID-19 Phobia scale and age group (F: 6,133, p: ,002), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the age group of 18-30 years and the age group of 46 years and above (p: ,008). The mean overall COVID-19 Phobia scale score of the participants aged 46 years and above (M: 2,70, SD: ,877) was found to be higher than those of the participants aged between 18-30 years (M: 2,24, SD: ,650). A statistically significant difference was also found between the ESD and age group (F: 7,559, p: ,001), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the age group of 18-30 years and the age group of 46 years and above (p: ,006), and between the age group of 18-30 years and the age group of 31-45 years (p: ,018). The mean ESD score of the participants aged 18-30 years (M: 1,96, SD: ,763) was found to be lower than those of the participants aged between 31-45 years (M: 2,28, SD: 1,048) and the age group of 46 years and above (M: 2,52, SD: ,988). Additionally, a statistically significant difference was found between the SocSD and profession (F: 11,083, p: ,000), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the healthcare professionals and the members of the search and rescue teams (p: ,000), and between the healthcare professionals and firefighters (p: ,021). The mean SocSD score of the healthcare professionals (M: 2,43, SD: ,906) was found to be lower than those of the members of the search and rescue teams (M: 3,15, SD: ,865) and firefighters (M: 2,91, SD: 1,014). Furthermore, a statistically significant difference was found between the overall COVID-19 Phobia scale and profession (F: 10,963, p: ,000), and the result of the post-hoc analysis subsequent to the analysis carried out via ANOVA revealed that the said difference was between the healthcare professionals and the members of the search and rescue teams (p: ,008), and between the

healthcare professionals and firefighters ( $p: ,001$ ). The mean overall COVID-19 Phobia scale score of the healthcare professionals ( $M: 2,43$ ,  $SD: ,906$ ) was found to be lower than those of the members of the search and rescue teams ( $M: 3,15$ ,  $SD: ,865$ ) and firefighters ( $M: 2,91$ ,  $SD: 1,014$ ).

### **Results of the Correlation and Regression Analyses of the Data Obtained from the COVID-19 Hygiene and Phobia Scales and Sub-Dimensions**

The Pearson's correlation method was used to analyze the relationship between the COVID-19 hygiene scale and its sub-dimensions. In this context, an  $r$  value between  $.10$  and  $.29$  was interpreted as a weak correlation, an  $r$  value between  $.30$  and  $.50$  was interpreted as a moderate correlation, and an  $r$  value between  $.50$  and above was interpreted as a strong correlation (Cohen, 2013).

Accordingly, as can be seen in Table 8 below, a strong correlation was found in the positive direction between the overall COVID-19 hygiene scale and the CHB ( $r: ,804$ ,  $p: ,000$ ), HomeH ( $r: ,780$ ,  $p: ,000$ ), SDMU ( $r: ,720$ ,  $p: ,000$ ), SH ( $r: ,843$ ,  $p: ,000$ ), HandH ( $r: ,649$ ,  $p: ,000$ ) ve HAAHFO ( $r: ,850$ ,  $p: ,000$ ) sub-dimensions. A strong correlation was found in the positive direction between the HAAHFO sub-dimension and the CHB ( $r: ,664$ ,  $p: ,000$ ), HomeH ( $r: ,573$ ,  $p: ,000$ ), SDMU ( $r: ,534$ ,  $p: ,000$ ) and SH ( $r: ,670$ ,  $p: ,000$ ) sub-dimensions, and a moderate correlation was found in the positive direction between the HAAHFO sub-dimension and the HandH sub-dimension ( $r: ,436$ ,  $p: ,000$ ). A strong correlation was found in the positive direction between the HandH sub-dimension and the SDMU sub-dimension ( $r: ,515$ ,  $p: ,000$ ), and a moderate correlation was found in the positive direction between the HandH sub-dimension and the CHB ( $r: ,396$ ,  $p: ,000$ ), HomeH ( $r: ,388$ ,  $p: ,000$ ) and SH ( $r: ,413$ ,  $p: ,000$ ) sub-dimensions. A strong correlation was found in the positive direction between the SH sub-dimension and the CHB ( $r: ,629$ ,  $p: ,000$ ), HomeH ( $r: ,583$ ,  $p: ,000$ ) and SDMU ( $r: ,517$ ,  $p: ,000$ ) sub-dimensions. A moderate correlation was found in the positive direction between the SDMU sub-dimension and the CHB ( $r: ,442$ ,  $p: ,000$ ) and HomeH ( $r: ,458$ ,  $p: ,000$ ) sub-dimensions. Lastly, a strong correlation was found in the positive direction between the HomeH and CHB sub-dimensions ( $r: ,626$ ,  $p: ,000$ ).



*Table 8: Results of the Correlation Analysis of the COVID-19 Hygiene Scale and Its Sub-Dimensions*

Variables	M	SD	1	2	3	4	5	6	7
1. CHB	3,45	,694	-						
2. HomeH	3,48	,795	,626**	-					
3. SDMU	4,11	,643	,442**	,458**	-				
4. SH	3,10	1,000	,629**	,583**	,517**	-			
5. HandH	4,03	,684	,396**	,388**	,515**	,413**	-		
6. HAAHFO	3,40	,949	,664**	,573**	,534**	,670**	,436**	-	
7. Overall Hygiene Scale	3,60	,622	,804**	,780**	,720**	,843**	,649**	,850**	-

\*\* $p < ,001$

As can be seen in Table 9 below, a strong correlation was found in the positive direction between the overall COVID-19 phobia scale and the PSD (r: ,813, p: ,000), SomSD (r: ,801, p: ,000), SocSD (r: ,896, p: ,000) ve ESD (r: ,846, p: ,000) sub-dimensions. A strong correlation was found in the positive direction between the ESD sub-dimension and PSD (r: ,522, p: ,000), SomSD (r: ,669, p: ,000) and SocSD (r: ,662, p: ,000) sub-dimensions. A strong correlation was found in the positive direction between the SocSD sub-dimension and PSD (r: ,704, p: ,000) and SomSD (r: ,625, p: ,000) sub-dimensions. Lastly, a moderate correlation was found in the positive direction between the SomSD sub-dimension and the PSD sub-dimension (r: ,457, p: ,000).

*Table 9: Results of the Correlation Analysis of the COVID-19 Phobia Scale and Its Sub-Dimensions*

Variables	M	SD	1	2	3	4	5
1. PSD	2,92	,967	-				
2. SomSD	1,84	,793	,457**	-			
3. SocSD	2,55	,944	,704**	,625**	-		
4. ESD	2,12	,908	,522**	,669**	,662**	-	
5. Overall Phobia Scale	2,36	,759	,813**	,801**	,896**	,846**	-

\*\* $p < ,001$

The results of the correlation analysis between the overall COVID-19 hygiene and phobia scales on the other hand revealed a moderate and positive correlation between the two scales (r: ,437, p: ,000).

The results of the simple linear regression analysis of the effect of the COVID-19 phobia on COVID-19 hygiene is given in Table 10 below. Accordingly, COVID-19 phobia was found to have a significant and positive effect on COVID-19 hygiene (F: 70,780, t: 8,413, p: ,000). The created model explains 19.1% of the total variance ( $R^2$ : ,191). The

explanatory power of the model is 19.1%, that is COVID-19 phobia has a significant and positive effect on COVID-19 hygiene ( $\beta$ : ,437,  $p$ : ,000). In other words, 19.1% of the COVID-19 hygiene can be explained by the COVID-19 phobia.

*Table 10: Results of the Simple Linear Regression Analysis pertaining to the COVID-19 Hygiene and Phobia Scales*

Hygiene	B	SE*	$\beta$	t	p
Constant	2,754	,106		26,042	,000
Phobia	,358	,043	,437	8,413	,000
R: ,437, R <sup>2</sup> : ,191, A.R <sup>2</sup> : ,188, F: 70,780, p: ,000					

\*: standard error

## Discussion

As a result of this study, which aimed to measure the relationship between the COVID-19 hygiene and the COVID-19 phobia and the effect of COVID-19 phobia on COVID-19 hygiene, with a focus on disaster response teams, a neglected group during the COVID-19 pandemic period, it was found that there was a moderate and positive relationship was found between the COVID-19 hygiene and COVID-19 phobia. The vast majority of the members of the disaster response teams were determined to have been thinking that the use of PPE adversely affects their work performance. This finding may be attributed in part to the fact that working conditions of the disaster response teams are already very harsh, and that use of PPE only exacerbates the harshness of these conditions. Additionally, it was also found that the vast majority of the members of the disaster response teams were very concerned about the possibility of one of their family members contracting the coronavirus. This finding may be attributed in part to the fact that the healthcare professionals, who are part of the disaster response teams, are concerned about the possibility of infecting one of their family members, thinking of themselves as carriers of the disease given their profession.

In this study, members of the disaster response teams were found to have positive attitudes towards general hygiene and hand hygiene. This result is consistent with the respective results reported by many studies in the literature. As a matter of fact, general hygiene attitude levels of the general population were reported to be high during the COVID-19 pandemic period (Altaher et al., 2021), and an increase was reported in general population's compliance with hygiene rules during the COVID-19 pandemic as compared to the previous years (Wróblewski et al., 2020; Nallamotheu & Bhimaraju, 2020). Similarly, it has been reported that the healthcare professionals have changed their hygiene behaviors by

complying with COVID-19 control policies (Huang et al., 2021). Medical students in particular were found to have positive attitudes towards hand hygiene (Liyanage et al., 2021). However, it has been observed that the hand hygiene attitudes among healthcare professionals decrease as the pandemic progresses (Moore et al., 2021; Stangerup et al., 2021).

In this study, it was found that the members of the disaster response teams had a moderate COVID-19 phobia based on the psychological sub-dimension, and that their COVID-19 phobia based on the psychological sub-dimension did not differ significantly on the basis of gender. The COVID-19 phobia of the members of the disaster response teams based on the psychological sub-dimension was found to be higher than their COVID-19 phobia based on the social sub-dimension. In the literature, both similar and different results are available as compared to the said results found in this study. In one of these studies, it has been found that the COVID-19 pandemic disrupts the mental health by causing psychological distress on people and students (Zhang et al., 2021; Duong, 2021). In particular, infected persons and healthcare professionals were reported to be at higher risk of experiencing greater psychological distress (Dawra et al., 2021; Dong et al., 2021; Bekele et al., 2021; Zhang et al., 2021; Vincent et al., 2021). Additionally, it has been reported that women and people with middle-income have a significantly greater fear of COVID-19 (Haktanir et al., 2020). In another study, analysis of the posts about the COVID-19 pandemic on the social media revealed that people are afraid of getting sick and dying (Arpaci et al., 2020). In the early stages of the COVID-19 pandemic, rapid emotional reactions such as anxiety, anger and sadness were observed in humans (Morón & Biolik-Morón, 2021). A single global event such as the COVID-19 pandemic was found to cause symptoms of post-traumatic stress disorder (Bridgland et al., 2021). It has been observed that the social impact of the COVID-19 control policies on people was stronger than the psychological impact thereof (Androniceanu & Marton, 2021). Medical students and nurses in particular were found to have high levels of general coronaphobia (Rahman, 2021; Li et al., 2021). There are also studies which reported low levels of COVID-19 phobia among healthcare professionals (Dörttepe et al., 2020).

There were some limitations to this study. First, the study sample was relatively small and included participants from the Gümüşhane Province of Turkey only. In this regard, further studies are needed to generalize the results of this study to the target population. Secondly, the questionnaire could not be administered to the healthcare professionals face to face due to their very busy schedules given the pandemic conditions, as opposed to the firefighters and the members of the search and rescue teams.

Future studies on the disaster response teams in the context of COVID-19 pandemic can be built on the results of this study. The quantitative method alone may not be sufficient to come into conclusion in this regard, as it may not provide a detailed view of the dynamics in force in the context of COVID-19 pandemic. The qualitative method on the other hand may reveal a richer dimension of the findings found in this study. Therefore, use of mixed or qualitative methods in further studies would be useful in elaborating the findings in this study.

## Conclusion and Recommendations

This study revealed that the members of the disaster response teams have positive hygiene attitudes and moderate COVID-19 phobia. Additionally, the findings of this study suggested that the vast majority of the members of the disaster response teams are very concerned about one of their family members contracting the coronavirus. Furthermore, hygiene attitudes of female members of the disaster response teams were found to be more positive, and the phobia levels of the members of the disaster response teams who have been infected with the virus were found to be higher. A moderate and positive correlation was found between the COVID-19 phobia and COVID-19 hygiene. Accordingly, it was found that COVID-19 phobia has a significant and positive effect on COVID-19 hygiene, explaining 19.1% of the total COVID-19 hygiene.

Although a lot of research has been done in fields such as medicine, health sciences and social sciences during the course of the COVID-19 pandemic, the literature has remained barren in terms of disaster management. In order to prevent secondary disasters in the context of global crises such as the COVID-19 pandemic, disaster response teams should not be neglected. Accordingly, it is recommended that the literature be enriched with multidisciplinary studies conducted during the COVID-19 pandemic with a focus on disaster response teams.

## References

- Altaher, A. M., Elottol, A. E. Y., Jebril, M. A. and Aliwaini, S. H. (2021). Assessment of awareness and hygiene practices regarding COVID-19 among adults in Gaza, Palestine. *New Microbes and New Infections*, No. 41, 100876.
- Androniceanu, A. and Marton, D. M. (2021). The psychosocial impact of the Romanian government measures on the population during the COVID-19 pandemic. *Central European Public Administration Review*, Vol 19, Iss. 1.

- Araghi, F., Tabary, M., Gheisari, M., Abdollahimajd, F. and Dadkhahfar, S. (2020). Hand hygiene among health care workers during COVID-19 pandemic: challenges and recommendations. *Dermatitis*, Vol 31, No 4, pp.233-237.
- Arpaci, I., Alshehabi, S., Al-Emran, M., Khasawneh, M., Mahariq, I., Abdeljawad, T. and Hassanien, A. E. (2020). Analysis of twitter data using evolutionary clustering during the COVID-19 pandemic. *Computers, Materials & Continua*, Vol 65, Iss. 1, pp.193-204.
- Arpaci, I., Karataş, K. and Baloğlu, M. (2020). The development and initial tests for the psychometric properties of the COVID-19 Phobia Scale (C19P-S). *Personality and Individual Differences*, No. 164, 110108.
- Bekele, F., Machessa, D. F. and Sefera, B. (2021). Prevalence and associated factors of psychological impact of COVID-19 among community, health care workers and patients in Ethiopia: A systematic review. *Annals of Medicine and Surgery*, 102403.
- Berger, Z. D., Evans, N. G., Phelan, A. L. and Silverman, R. D. (2020). Covid-19: control measures must be equitable and inclusive.
- Bridgland, V. M., Moeck, E. K., Green, D. M., Swain, T. L., Nayda, D. M., Matson, L. A., ... and Takarangi, M. K. (2021). Why the COVID-19 pandemic is a traumatic stressor. *PLoS One*, Vol 16, No 1, e0240146.
- Campion, J., Javed, A., Sartorius, N. and Marmot, M. (2020). Addressing the public mental health challenge of COVID-19. *The Lancet Psychiatry*, Vol 7, Iss. 8, pp.657-659.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., and Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, No 287, 112934.
- Cavanagh, G. and Wambier, C. G. (2020). Rational hand hygiene during the coronavirus 2019 (COVID-19) pandemic. *Journal of the American Academy of Dermatology*, Vol 82, Iss. 6, e211.
- Çiçek, B., Şahin, H. and Erkal, S. (2020). Covid-19 Hijyen Ölçeği”: Bir Ölçek Geliştirme Çalışması. *Electronic Turkish Studies*, Vol 15, No 6.
- Cohen, J. (2013). Statistical power analysis for the behavioral sciences. Academic press.
- Daly, M. and Robinson, E. (2021). Psychological distress and adaptation to the COVID-19 crisis in the United States. *Journal of psychiatric research*, No 136, pp.603-609.

- Dawra, S., Shrivastava, S., Chauhan, V. S., Asturkar, V., Ahmad, F., Kumar, A., ... and Hasnain, S. (2021). The psychological impact of COVID-19 among newly diagnosed patients: COVID Impact study. *Medical Journal Armed Forces India*, Iss. 77, pp.S333-S337.
- Dharmshaktu, G. S. (2020). Three important events to reaffirm three important elements in global COVID-19 management. *Journal of Family Medicine and Primary Care*, Vol 9, No 8, 4490.
- Dong, F., Liu, H. L., Dai, N., Yang, M., and Liu, J. P. (2021). A living systematic review of the psychological problems in people suffering from COVID-19. *Journal of affective disorders*.
- Dörttepe, Z. Ü., Hoşgör, H., and Sağcan, H. (2020). The Effect of Covid-19 Phobia on Perceived Stress: The Sample of Prehospital Emergency Care Professionals.
- Duan, L. and Zhu, G. (2020). Psychological interventions for people affected by the COVID-19 epidemic. *The lancet psychiatry*, Vol 7, No 4, pp.300-302.
- Duong, C. D. (2021). The impact of fear and anxiety of Covid-19 on life satisfaction: Psychological distress and sleep disturbance as mediators. *Personality and Individual Differences*, No 178, 110869.
- Finlay, B. B., Amato, K. R., Azad, M., Blaser, M. J., Bosch, T. C., Chu, H., ... and Giles-Vernick, T. (2021). The hygiene hypothesis, the COVID pandemic, and consequences for the human microbiome. *Proceedings of the National Academy of Sciences*, Vol 118, No 6.
- George, D. and Mallery, P. (2016). *IBM SPSS statistics 23 step by step: A simple guide and reference*. Fourteenth Edition. USA: Routledge.
- Giusti, E. M., Pedroli, E., D'Aniello, G. E., Badiale, C. S., Pietrabissa, G., Manna, C., ... and Molinari, E. (2020). The psychological impact of the COVID-19 outbreak on health professionals: a cross-sectional study. *Frontiers in Psychology*, No. 11.
- Głąbska, D., Skolmowska, D. and Guzek, D. (2020). Population-based study of the influence of the COVID-19 pandemic on hand hygiene behaviors—Polish adolescents' COVID-19 experience (PLACE-19) study. *Sustainability*, Vol 12, No 12, 4930.
- Güner, H. R., Hasanoğlu, İ. and Aktaş, F. (2020). COVID-19: Prevention and control measures in community. *Turkish Journal of medical sciences*, Vol 50, Iss. SI-1, pp.571-577.

- Gupta, M. K. and Lipner, S. R. (2020). Hand hygiene in preventing COVID-19 transmission. *J Am Acad Dermatol*, No 82, pp.1215-1216.
- Haktanir, A., Seki, T. and Dilmaç, B. (2020). Adaptation and evaluation of Turkish version of the fear of COVID-19 scale. *Death Studies*, pp.1-9.
- Hu, W., Su, L., Qiao, J., Zhu, J. and Zhou, Y. (2020). COVID-19 outbreak increased risk of schizophrenia in aged adults. Chinaxiv. org (preprint) web resource [https://scholar.google.com/scholar\\_lookup](https://scholar.google.com/scholar_lookup).
- Huang, F., Armando, M., Dufau, S., Florea, O., Brouqui, P. and Boudjema, S. (2021). COVID-19 outbreak and healthcare worker behavioural change toward hand hygiene practices. *Journal of Hospital Infection*, No 111, pp.27-34.
- Huang, L. and Rong Liu, H. (2020). Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. MedRxiv.
- Johnson, B. (2000). It's (beyond) Time To Drop the Terms Causal-Comparative and Correlational Research in Educational Research Methods Textbooks.
- Kang, L., Li, Y., Hu, S., Chen, M., Yang, C., Yang, B. X., ... and Liu, Z. (2020). The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *The Lancet Psychiatry*.
- Kantor, J. (2020). Behavioral considerations and impact on personal protective equipment use: Early lessons from the coronavirus (COVID-19) pandemic. *Journal of the American Academy of Dermatology*, Vol 82, Iss. 5, pp.1087-1088.
- Kharroubi, S. and Saleh, F. (2020). Are lockdown measures effective against COVID-19?. *Frontiers in public health*, No 8, 610.
- Kraemer, M. U., Yang, C. H., Gutierrez, B., Wu, C. H., Klein, B., Pigott, D. M., ... and Scarpino, S. V. (2020). The effect of human mobility and control measures on the COVID-19 epidemic in China. *Science*, Vol 368, Iss. 6490, pp.493-497.
- Lee, A. M., Wong, J. G., McAlonan, G. M., Cheung, V., Cheung, C., Sham, P. C., ... and Chua, S. E. (2007). Stress and psychological distress among SARS survivors 1 year after the outbreak. *The Canadian Journal of Psychiatry*, Vol 52, Iss. 4, pp.233-240.

- Li, J., Su, Q., Li, X., Peng, Y. and Liu, Y. (2021). COVID-19 negatively impacts on psychological and somatic status in frontline nurses. *Journal of Affective Disorders*.
- Liyanage, G., Dewasurendra, M., Athapathu, A. and Magodarithne, L. (2021). Hand hygiene behavior among Sri Lankan medical students during COVID-19 pandemic. *BMC medical education*, Vol 21, No 1, pp.1-8.
- Maunder, R., Hunter, J., Vincent, L., Bennett, J., Peladeau, N., Leszcz, M., ... and Mazzulli, T. (2003). The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *Cmaj*, Vol 168, No 10, pp.1245-1251.
- Moore, L. D., Robbins, G., Quinn, J. and Arbogast, J. W. (2021). The impact of COVID-19 pandemic on hand hygiene performance in hospitals. *American Journal of Infection Control*, Vol 49, Iss. 1, pp.30-33.
- Moroń, M. and Biolik-Moroń, M. (2021). Trait emotional intelligence and emotional experiences during the COVID-19 pandemic outbreak in Poland: A daily diary study. *Personality and Individual Differences*, No 168, 110348.
- Mushi, V. and Shao, M. (2020). Tailoring of the ongoing water, sanitation and hygiene interventions for prevention and control of COVID-19. *Tropical Medicine and Health*, Vol 48, Iss. 1, pp.1-3.
- Nallamothu, T. and Bhimaraju, S. S. (2020). *The Impact of COVID-19 outbreak on the health consciousness and hygiene levels in the people of Hyderabad, India: A questionnaire-based community study*. AIJR Preprints.
- Post-Acute Care Study Group (2020). Post-COVID-19 global health strategies: the need for an interdisciplinary approach. *Aging Clinical and Experimental Research*. <https://doi.org/10.1007/s40520-020-01616-x>.
- Purnama, S. G. and Susanna, D. (2020). *Hygiene and sanitation challenge for COVID-19 prevention in Indonesia*. Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal).
- Rahman, S. (2021). Tıp fakültesi öğrencilerinin Covid-19 fobi durumlarının değerlendirilmesi. *Fırat Üniversitesi Sağlık Bilimleri Tıp Dergisi*, Cilt 35, Sayı 1, ss.68-73.
- Roshan, R., Feroz, A. S., Rafique, Z. and Virani, N. (2020). Rigorous hand hygiene practices among health care workers reduce hospital-associated infections during the COVID-19 pandemic. *Journal of primary care & community health*, Vol 11, 2150132720943331.



- Rundle, C. W., Presley, C. L., Militello, M., Barber, C., Powell, D. L., Jacob, S. E., ... and Dunnick, C. A. (2020). Hand hygiene during COVID-19: recommendations from the American Contact Dermatitis Society. *Journal of the American Academy of Dermatology*.
- Saez, M., Tobias, A., Varga, D. and Barceló, M. A. (2020). Effectiveness of the measures to flatten the epidemic curve of COVID-19. *The case of Spain. Science of the Total Environment*, No 727, 138761.
- Seeram, E. (2019). An overview of correlational research. *Radiologic technology*, Vol 91, No 2, pp.176-179.
- Sehrawat, S. and Rouse, B. T. (2020). Opinion: Does the hygiene hypothesis apply to COVID-19 susceptibility?.
- Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L. and Amore, M. (2020). The psychological impact of COVID-19 on the mental health in the general population. *QJM: An International Journal of Medicine*, Vol 113, Iss. 8, pp.531-537.
- Shen, X., Zou, X., Zhong, X., Yan, J. and Li, L. (2020). Psychological stress of ICU nurses in the time of COVID-19.
- Soo, R. J. J., Chiew, C. J., Ma, S., Pung, R. and Lee, V. (2020). Decreased influenza incidence under COVID-19 control measures, Singapore. *Emerging infectious diseases*, Vol 26, Iss. 8, 1933.
- Stangerup, M., Hansen, M. B., Hansen, R., Sode, L. P., Hesselbo, B., Kostadinov, K., ... and Calum, H. (2021). Hand hygiene compliance of healthcare workers before and during the COVID-19 pandemic: A long-term follow-up study. *American Journal of Infection Control*.
- Sun, L., Sun, Z., Wu, L., Zhu, Z., Zhang, F., Shang, Z., ... and Liu, W. (2020). Prevalence and risk factors of acute posttraumatic stress symptoms during the COVID-19 outbreak in Wuhan, China. *MedRxiv*.
- Taherdoost, H. (2017). Determining sample size; how to calculate survey sample size. *International Journal of Economics and Management Systems*, No 2.
- Tan, B. Y., Chew, N. W., Lee, G. K., Jing, M., Goh, Y., Yeo, L. L., ... and Sharma, V. K. (2020). Psychological impact of the COVID-19 pandemic on health care workers in Singapore. *Annals of internal medicine*, Vol 173, No 4, pp.317-320.
- Tee, M. L., Tee, C. A., Anlacan, J. P., Aligam, K. J. G., Reyes, P. W. C., Kuruchittham, V. and Ho, R. C. (2020). Psychological impact of

- COVID-19 pandemic in the Philippines. *Journal of affective disorders*, No 277, pp.379-391.
- Thakur, V. and Jain, A. (2020). COVID 2019-suicides: A global psychological pandemic. *Brain, behavior, and immunity*, No 88, 952.
- Vincent, A., Beck, K., Becker, C., Zumbunn, S., Ramin-Wright, M., Urban, T., ... and Hunziker, S. (2021). Psychological burden in patients with COVID-19 and their relatives 90 days after hospitalization: A prospective observational cohort study. *Journal of psychosomatic research*, No 147, 110526.
- WHO (2020a). Coronavirus disease (COVID-19) pandemic. March 11, 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019> (16.06.2021).
- WHO (2020b). Water, sanitation, hygiene, and waste management for the COVID-19 virus: interim guidance, 23 April 2020 (No. WHO/2019-nCoV/IPC\_WASH/2020.3). World Health Organization.
- WHO (2021a). Coronavirus disease 2019 (COVID-19) situation report. June 15, 2021. <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---15-june-2021> (16.06.2021).
- WHO (2021b). Coronavirus disease 2019 (COVID-19) dashboard. June 15, 2021. <https://covid19.who.int/table> (16.06.2021).
- Winter, A. K. and Hegde, S. T. (2020). The important role of serology for COVID-19 control. *The Lancet Infectious Diseases*, Vol 20, Iss. 7, pp.758-759.
- Wróblewski, H., Chojęta, D., Zimna, A., Zygmunt, E. and Maziarz, B. (2020). Hygiene behaviour among youths before and during the COVID-19 pandemic. *Journal of Education, Health and Sport*, Vol 10, No 8, pp.199-203.
- Wu, P. E., Styra, R. and Gold, W. L. (2020). Mitigating the psychological effects of COVID-19 on health care workers. *Cmaj*, Vol 192, No 17, pp.E459-E460.
- Wu, Z. and McGoogan, J. M. (2020). Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *Jama*, Vol 323, Iss. 13, pp.1239-1242.

- Xiao, Y. and Torok, M. E. (2020). Taking the right measures to control COVID-19. *The Lancet Infectious Diseases*, Vol 20, No 5, pp.523-524.
- Yong, A. G. and Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, Vol 9, Iss. 2, pp.79-94.
- Yuen, K. S., Ye, Z. W., Fung, S. Y., Chan, C. P. and Jin, D. Y. (2020). SARS-CoV-2 and COVID-19: The most important research questions. *Cell & bioscience*, Vol 10, No 1, pp.1-5.
- Zhang, C., Wang, C., Chen, C., Tao, L., Jin, J., Wang, Z. and Jia, B. (2021). Effects of tree canopy on psychological distress: A repeated cross-sectional study before and during the COVID-19 epidemic, *Environmental Research*, doi: <https://doi.org/10.1016/j.envres.2021.111795>.
- Zhang, N., Shi, W., Feng, D., Fang, W., Zeng, Q. and Qu, Y. (2021). A Preliminary Study on the Anxiety and Depression Situation and Psychological Intervention of the First-line Medical Staff in Our Hospital during the COVID-19 Epidemic. *Journal of Clinical Neuroscience*.
- Zhang, S., Wang, Z., Chang, R., Wang, H., Xu, C., Yu, X., ... and Cai, Y. (2020). COVID-19 containment: China provides important lessons for global response. *Frontiers of Medicine*, pp.1-5.

# 9

## Evaluation of Occupational Safety Perceptions of Vocational and Technical Anatolian High School Students

*Elif Çelenk Kaya (Gümüşhane University)*  
ORCID ID: 0000-0002-7811-7669  
elifcelenk1629@hotmail.com

*İbrahim Irmak (Gümüşhane University)*  
ORCID ID: 0000-0002-9202-8195  
ibrahimirmak5200@gmail.com

### **Abstract**

*Due to occupational diseases and work accidents in the world and in Turkey, people lose their lives or their mental and physical integrity is impaired. The safety culture, which is aimed to be created with education, is as important as the importance of legal sanctions applied to prevent occupational diseases and work accidents. It is important for young people to receive education in safe schools, to be informed about the risks related to the working environment, to acquire correct behavior models in occupational safety, to protect themselves, their colleagues and workplace equipment from negative situations and to work more safely when students start their working life during and after the education period. environment will enable them to work. The universe of this study consists of students studying at Vocational and Technical Anatolian High School in Gümüşhane in the 2018-2019 academic year in Turkey. According to the results of the study, there was a positive difference in the occupational safety perception levels of the students in the educational institution where occupational health and safety course is given in Turkey. According to the applied questionnaire, it was concluded that the students' perceptions of occupational safety were in good condition.*

*Keywords: Occupational Health and Safety, Occupational Safety Perception, Occupational Accident and Occupational Disease.*

### **Introduction**

Occupational accidents and occupational diseases cause serious health problems, injuries and even deaths in our country and in the world. In addition, while occupational accidents and occupational diseases cause great economic losses for businesses, they also

cause great psychological traumas on those who are exposed and their families (Ceylan, 2012: 95).

According to the researches carried out by the ILO, 160 employees have an occupational accident every 15 seconds. 6400 employees die daily due to work accidents and occupational diseases (TMMOB, 2018: 98). These accidents and occupational diseases cause social and economic losses for countries. Despite all the safety measures taken to prevent work accidents, work accidents and occupational diseases cannot be prevented (Saraç, 2016: 27).

As a result of intensive industrialization breakthroughs and technological developments that emerged with the industrial revolution, risks and dangers are increasing day by day in the workplace environment. Increasing risks and dangers cause work accidents and occupational diseases to increase rapidly. In addition, occupational accidents and occupational diseases cause greater psychological and economic consequences with each passing day. Job losses, decrease in work efficiency, and material and moral compensations (treatment-medication costs, death indemnities, court costs, etc. other penal payments) resulting from work accidents and occupational diseases cause great costs in companies (Türüdü, 2019:6). Occurring occupational accidents and occupational diseases cause economic costs within countries as well as companies. Factors that cause cost to the state such as the loss of qualified manpower, the increase in social assistance expenditures, and the increase in social security premiums emerge. According to 2016 data of the International Labor Organization, the economic cost of inadequate occupational health and safety practices is approximately 4% of the global Gross Domestic Product (GDP) (TMMOB, 2020:112).

The high rate of work accidents and occupational diseases in Turkey and the problems it creates necessitate focusing on occupational health and safety, taking the necessary precautions and conducting inspections regarding the measures (Üngüren ve Koç, 2015: 125). Especially in recent years, as a result of the rapid changes and transformations in the field of science and technology, the increase in the machinery, tools, and equipment used, the more intensive use of chemicals, the increase in production pressure on the employees due to the wage systems, the risks and dangers that the employees are exposed to in the working environment are greater. reached dimensions. It is important to carry out occupational health and safety inspections in order to be protected from the increasing risks and dangers in working life. Because of the inspections, a safe working environment should be created in the workplaces and continuous monitoring should be ensured.

By disseminating occupational health and safety practices, minimizing the financial losses that businesses are exposed to, and creating workplace belonging with the increase in the value given to employees, employees will gain a competitive advantage by causing them to work more effectively and efficiently. Good occupational health and safety practices will also lead to a reduction in the costs incurred by the government. Thanks to good occupational health and safety practices, increasing employee health, safety, and reducing economic losses, together with the resulting domino effect, environments will be created where all people and society can live and work in prosperity and health.

In order to prevent or minimize the risks and dangers that may occur in the working environment, the worker, employer and the state must fulfill their duties and the necessary legal regulations must be established by the legislators. The state and the employer should carry out the necessary inspections in the working environment, motivate, and guide the employees to fulfill their duties. Occupational health and safety methods and practices should be kept at the highest level and due care should be taken for healthier and higher quality working conditions.

### **Purpose and Importance of Occupational Health and Safety**

Occupational health and safety has become important due to the risks and dangers that workers are exposed to, especially due to the developments experienced after the industrial revolution and the rapid changes experienced today, due to the increase in mechanization and heavy chemical use in the working environment. Occupational accidents and occupational diseases also increase with the increase in the negative conditions that employees are exposed to in the workplace-working environment. Physical risks, psychological and social problems and financial losses are experienced due to occupational accidents and occupational diseases. In order to prevent these, legislators, supervisors, employers and employees should pay more attention to occupational health and safety practices.

The main purpose of occupational health and safety practices is to eliminate occupational accidents and occupational diseases that employees are exposed to (Baybora, 2014: 40). To provide a healthy and safe working environment by protecting the employees against possible negativities in the workplace, eliminating or minimizing the risks and threats in the working environment and protecting the physical and mental integrity of employees by taking precautions against possible occupational accidents and occupational diseases is the most basic purpose of occupational health and safety practices (Takaoglu, Kaya and İri, 20118: 2). Occupational health

and safety practices that attach importance to the health and safety of employees also positively affect the family and social lives of employees. The safety perception created by the creation of a healthy working environment with occupational health and safety practices makes the employee happy and this situation spreads to the family and society (Yıldırım, 2010: 7).

The second main purpose of occupational health and safety is to ensure production efficiency (Ayçiçek, 2019: 11). The unsafe working environment in businesses that do not have occupational health and safety practices reduces production performance, efficiency and quality trend levels due to the risks and dangers it contains. Taking safety measures in the workplace environment causes the employee's psychology to be positively affected by the formation of a sense of trust in the employee, thus increasing the production efficiency (Eroğlu, 2015: 4).

Another purpose of occupational health and safety practices is to ensure operational safety. Operational safety can be achieved by selecting and positioning the machinery, equipment, tools, equipment, etc. in the workplace in accordance with occupational health and safety, and raising awareness of the personnel by providing training on the use of the relevant elements (Tirakioğulları, 2019: 11). Ensuring business safety will contribute to the reduction of possible work accidents and occupational diseases in the workplace, and will prevent the material and moral losses of the business arising from the negative working environment.

Government and businesses should attach importance to occupational health and safety practices, which have a significant social and economic impact on society (Yılbaşı, 2017:10). Acting with the awareness of risks and dangers in enterprises, realizing occupational health and safety practices, it can prevent work accidents and occupational diseases in businesses, deaths and injuries that may occur because of possible negativities, and prevent personal psychological problems, family troubles and social problems. This is the familial and social dimension created by work accidents and occupational diseases (Çelenk Kaya, 2020: 63).

Work accidents and occupational diseases that may occur in the workplace also have a financial dimension to the employer. Since good occupational health and safety practices eliminate possible negative effects, it will prevent cost elements such as labor losses, material and moral compensations that the enterprise has to endure. In addition, occupational health and safety practices can be an image indicator for the enterprise and create a sense of belonging to the enterprise on the employees. As a result, while good occupational health and safety practices prevent the costs of the problems

to be experienced, the employees' doing business with a sense of belonging contributes to the competitive advantage by increasing production and efficiency and reducing the costs of the enterprises.

## Safety Culture

The concept of safety culture was used for the first time in the Summary Report of the Post-Accident Evaluation Meeting made by the Organization for Economic Cooperation and Development (OECD) after the Chernobyl accident that occurred in 1986 (Yazıcı, 2018: 24). In the report, organizational mistakes and negligence of the working personnel are mentioned in the occurrence of the accident (Çelik, 2018: 5).

Safety culture is a set of values, unwritten organizational rules, attitudes, responsibilities and socio-technical practices related to the elimination or minimization of risks and hazards that affect all relevant stakeholders, from employees to customers (Turner, Pidgeon, Blockley ve Toft, 1989: 8).

According to 2020 SGK data, 384262 work accidents have occurred in Turkey. As a result of the work accident, 1231 employees lost their lives and occupational diseases were detected in 908 employees. It is also known that there are many occupational diseases in Turkey, but these diseases are not recorded because their relationship with the profession cannot be established. Occupational accidents and diseases in developing countries cause economic losses of approximately 4% of GDP, according to ILO data. It is important to detect situations that cause occupational accidents and occupational diseases that cause such great economic loss and socio-psychological effects, to take necessary precautions to prevent them from occurring, and to create healthy and safe work environments (Tozkoparan and Taşoğlu, 2011: 183).

There are many reasons for work accidents and occupational diseases in Turkey, from legislation to practice. The first way to prevent work accidents and occupational diseases is to ensure that employers and employees act diligently with deterrent laws and regulations, based on the state's legislative authority. Then, it is the implementation of preventive measures regarding the causes that may cause work accidents and occupational diseases in the workplace 98% of work accidents and occupational diseases are caused by humans. The fact that people and human behaviors are so important in occupational health and safety has revealed the safety culture.

As the safety culture increases, the probability of occupational accidents and diseases decreases. Because, in the report created after the Chernobyl



accident, it is seen that the measures taken in the work environment and machinery, equipment, etc. alone are not sufficient for occupational accidents and occupational diseases. The Chernobyl accident has shown that the biggest reason for the occurrence of occupational accidents is the negative attitudes and behaviors of employees towards occupational safety. No matter how many precautions are taken regarding occupational safety, it can be said that unless there is a positive safety culture in the personnel, it will not be successful and accidents are inevitable.

## **Occupational Health and Safety in Schools**

In Maslow's hierarchy of needs, security, which is one of the basic needs, comes after the physical needs of individuals (Erden & Akman, 1998). Security is one of the factors that affect people's satisfaction with their lives and their success and efficiency in life (Turhan & Turan, 2012). For this reason, people cannot be expected to have a healthy education life if their safety in education and training is not ensured (Işık, 2004). In order to create a healthy and safe environment in schools, the state should act together with parents, students, school management and teachers.

In order to ensure the safety of students, teachers and visitors in education life, the school administration should ensure the safety of students and staff in the face of situations that may cause negative events in the building.

According to the Occupational Health and Safety Communiqué (2012), educational institutions are in the "less dangerous" group in terms of occupational health and safety. Vocational and technical education institutions are excluded from this group. Vocational Education Center, Vocational, and Technical Anatolian High Schools are in the "dangerous" group. Considering the danger dimensions of schools, the importance given to occupational health and safety practices should be increased.

It is important to raise awareness at school age in order to create a culture of occupational health and safety and to increase the perception of work accidents and occupational diseases. With the applied trainings in the Vocational Education Center and Vocational and Technical Anatolian High Schools that provide vocational education, awareness of work accidents and occupational diseases should be created in the students and practical courses on occupational health and safety should be given to them. 88% of accidents are caused by dangerous behaviors and 10% are caused by dangerous environments. Accidents can be minimized with the occupational health and safety culture to be created with the training given in schools. An individual who has completed education and training will have information about the devices and equipment used in his/her

profession. When he/she starts his/her business life, he/she knows that physical, chemical, biological, ergonomic and psychosocial risk factors have an effect on his/her working life and has the feeling of taking necessary precautions in case of any negativity. As a result of these measures, work accidents and occupational diseases can be reduced to a minimum (Çelik, 2015: 27).

## Material and Method

The research is a descriptive and cross-sectional study carried out to evaluate the occupational safety perceptions of the students enrolled in the Vocational and Technical Anatolian High School in Gümüşhane in Turkey in the 2018-2019 academic year.

The universe of the research consists of all students in Gümüşhane Vocational and Technical Anatolian High School during the period of the study. During this period, 249 students, 58 of whom are 1st grade, 65 2nd grade, 40 3rd grade and 86 4th grade, were enrolled in Gümüşhane Vocational and Technical Anatolian High School. It was planned to include all registered students who were not selected as a sample in the study. 215 students who were willing to participate in the study and filled out the questionnaires were recruited.

For the research, data were collected by questionnaire method and after the data were organized with Excell program, they were analyzed with SPSS 21. The survey consists of 26 questions in total. The first part of the questionnaire is aimed at determining the characteristics of the students and measuring whether they attend OHS lectures or conferences, seminars, etc. The second part of the questionnaire was prepared on a 5-point Likert scale in order to measure perceptions, attitudes and evaluations about occupational health and safety.

Questionnaire questions used for the study conducted to measure students' perceptions of occupational health and safety were inspired by the study conducted by Özgüler et al. in 2016 (Özgüler, Kaya, Kağızmanlı, Altuğ, 2016: 84). Korkutan (2018), in his factor analysis on occupational health and safety perception levels in his study, handled the survey questions in four factors, and in our study, the survey questions were built on these four factors (Korkutan, 2018: 61). The perceptions measured by the factors are as follows;

- First factor: The perception of knowing the OHS rules in applied courses.

- Second factor: The perception of knowing the risks that may be encountered in working life.
- Third factor: Perception of knowing the impact of OHS on working life.
- The fourth factor: It measures the perception of knowing the OHS Law.

In our research, hypotheses to measure the perception of occupational safety were put forward and these were evaluated under four different sub-factors. These hypotheses are whether there is a significant difference in the perception of occupational safety of students studying in different fields (H1), whether there is a significant difference in the perceptions of occupational safety of students studying in different classes (H2), It aims to reveal whether there is a significant difference in the perception of occupational safety of students who take and do not take occupational health and safety courses (H3), and whether there is a significant difference in the perception of occupational safety of students who attend and do not attend OHS information meetings, seminars, etc. (H4). The dependent variables used in the analysis are given in the table below.

## **Research Hypothesis and Variables**

The research consists of four main titles and each title was evaluated under four sub-factors.

H<sub>1A</sub>: There is a significant difference in the perception of knowing the OHS rules in applied courses according to the fields.

H<sub>1B</sub>: There is a significant difference in the perception of knowing the risks that may be encountered in working life according to the fields.

H<sub>1C</sub>: There is a significant difference according to the fields in the perception of knowing the effect of OHS on working life.

H<sub>1D</sub>: There is a significant difference in the perception of knowing the OHS Law according to the fields.

H<sub>2A</sub>: There is a significant difference in the perception of knowing the OHS rules in applied courses compared to classes.

H<sub>2B</sub>: There is a significant difference according to classes in the perception of knowing the risks that may be encountered in working life.

H<sub>2C</sub>: There is a significant difference according to classes in the perception of knowing the effect of OHS on working life.

H<sub>2D</sub>: There is a significant difference according to classes in the perception of knowing the OHS Law.

H<sub>3A</sub>: There is a significant difference in the perception of knowing the OHS rules in applied courses between students who take OHS courses and those who do not.

H<sub>3B</sub>: There is a significant difference in the perception of knowing the risks that may be encountered in working life between the students who take OHS courses and those who do not.

H<sub>3C</sub>: There is a significant difference in the perception of knowing the effect of OHS on working life between students who take OHS courses and those who do not.

H<sub>3D</sub>: There is a significant difference in the perception of knowing the OHS Law between the students who take the OHS course and the students who do not.

H<sub>4A</sub>: There is a significant difference in the perception of knowing the OHS rules in applied courses, according to their participation in OHS information, meetings, seminars, etc.

H<sub>4B</sub>: There is a significant difference in the perception of knowing the risks that may be encountered in working life, according to their participation in OHS information, meetings, seminars, etc.

H<sub>4C</sub>: There is a significant difference in the perception of knowing the impact of OHS on working life, according to their participation in OHS information, meetings, seminars, etc.

H<sub>4D</sub>: In the perception of knowing the OHS Law, OHS information, meetings, seminars, etc. There is a significant difference in terms of participation in activities.

The dependent variables used in the study are given below.

Table 1: Dependent Variables

Dependent Variables	
First Factor	In our vocational courses, we are regularly warned by teachers about occupational safety.
	I believe that our teachers who teach Laboratory (Workshop-Workshop) lessons show the necessary sensitivity about Occupational Health and Safety.
	Warning signs about Occupational Safety are sufficient in our laboratories (Workshop-Workshop).
	There are written plates describing the use and working principle of the devices in our laboratory (Workshop-Workshop).
	We use personal protective equipment in our work in our laboratory (Workshop-Workshop).
	We use personal protective equipment in our work in our laboratory (Workshop-Workshop).
	We use personal protective equipment in our work in our laboratory (Workshop-Workshop).
Second Factor	I know what are the occupational accidents that occur in our profession and that our colleagues are exposed to.
	If I encounter an accident at the workplace where I will work, I know what my legal rights are.
	I know the legal rights we have in case of an occupational disease that we may encounter in our working life in the future.
	I know what occupational diseases are.
	I am aware of the dangers and risks associated with our profession.
	I have knowledge about eliminating the dangers and risks related to my profession.
Third Factor	As a student, I show the necessary sensitivity to occupational safety rules.
	A staff member should receive Occupational Health and Safety training before being hired.
	I think that Occupational Health and Safety will have an impact on our working life.
	It increases the efficiency and quality of the work if the Occupational Health and Safety rules are followed.
Fourth Factor	I have information about the Occupational Health and Safety Law No. 6331.
	I was previously informed about Occupational Health and Safety.
	Occupational health and safety issues are adequately covered in our courses.
	I have at least one relative (relative, friend, co-friend, etc.) who had a work accident or occupational disease in health institutions before.

Table 2: Independent variables

Independent 1	Department
Independent 2	Class
Independent 3	Do you take occupational health and safety classes?
Independent 4	Have you attended information meetings (Seminar, Conference, Panel, Course, Symposium, etc.) on Occupational Health and Safety given by experts before?

## Reliability Analysis

In scientific studies, reliability analysis is applied to evaluate the reliability analysis of the scale. This analysis shows the ability to measure the reliability of scientific studies or to measure the tested data in a stable and consistent way. The safer the scale or test is, the more reliable the results will be (Coşkun et al., 2015). The reliability of the study was measured with the Cronbach Alpha coefficient. This measurement result is given in the table below.

*Table 3: Reliability Analysis*

Variables	Cronbach Alpha Values
First Factor	0.787
Second Factor	0.792
Third Factor	0.787
Fourth Factor	0.894

According to the results of the reliability analysis, the first factor (Cronbach Alpha: 0.787) was reliable, the second factor (Cronbach Alpha: 0.792) was reliable, the third factor (Cronbach Alpha: 0.787) was reliable, and the fourth factor (Cronbach Alpha: 0.894) had a very reliable value. The total reliability value of these four factors was determined as 0.862.

## Ethical Aspect of Research

In order to carry out the research, necessary permissions were obtained from Gümüşhane Provincial Directorate of National Education on 26.02.2019.

## Findings and Discussion

Gümüşhane Vocational and Technical Anatolian High School started to provide education in 1946 as an Art Institute. The school has 21 classrooms, 10 workshops/workshops, 1 science laboratory, 2 technology classrooms and 61 personnel work. There are six programs in the school. These programs are; information technologies (1st Group), electrical and electronic technologies (2nd Group), machine technologies (3rd Group), metal technologies (4th Group), furniture and interior design (5th Group), installation technologies (6th Group). Group) and air-conditioning area (Group 7). Every field is active and has students.

The main statistical findings of the survey conducted with the students of Gümüşhane Vocational and Technical Anatolian High School;

Table 4: Descriptive Statistics

Department	Frequency	Rate (%)
1. Group	27	12.6
2. Group	56	26.0
3. Group	27	12.6
4. Group	7	3.3
5. Group	30	14.0
6. Group	20	9.3
7. Group	48	22.2
Sınıf	Frequency	Rate (%)
1. Class	48	22.3
2. Class	60	27.9
3. Class	37	17.2
4. Class	70	32.6
Do you take occupational health and safety classes?	Frequency	Rate (%)
Yes	70	32.5
No	145	67.5
Have you attended the occupational health and safety information meetings?	Frequency	Rate (%)
Yes	155	72.1
No	60	27.9

Of the 215 students at Gümüşhane Vocational and Technical Anatolian High School, 26% were Electrical and Electronic Technologies, 14% Furniture and Interior Design, 12.6% Information Technologies, 12.6% Machinery Technologies, 9.3% Installation Technologies, and Air Conditioning, 3.3% are in the field of Metal Technologies and 22.2% have no field.

Table 5: Knowing OHS Rules in Practical Lessons The Variable of Perception According to Fields ANOVA Test

	N	Mean	SS	f	P	Intra-Group Frequency
1.Group	27	17.2222	6.35085	5.789	,000	1<3,1<6
2.Group	56	20.7679	7.08389			
3.Group	27	26.7407	3.15732			
4.Group	7	23.5714	5.09435			
5.Group	30	19.9333	7.92174			
6.Group	20	23.3500	6.59565			
7.Group	48	21.0625	6.13121			
	215	21.3535	6.86285			

As a class, 2.3% are in the 1st grade, 27.9% are in the 2nd grade, 17.2% are in the 3rd grade, and 32.6% are in the 4th grade. It was found that

72.1% of the students at the school attended the occupational health and safety information meetings and 27.9% did not. It was found that 32.5% of the participants took the occupational health and safety course and 67.5% did not take the course.

There is a significant difference in the perception of knowing the OHS rules in applied courses according to the fields of Gümüşhane Vocational and Technical Anatolian High School students (H1A: Accepted). As a result of the in-group comparison made to determine this difference, the perception levels of the 1st group got less average points than the 3rd and 6th groups. That is, the perception of knowing the OHS rules in applied courses was higher in the 3rd and 6th groups. The average of the perception of knowing the OHS rules in applied courses was observed mostly in the 3rd group.

*Table 6: The Variable of Perception of Knowing the Risks That May Be Encountered in Working Life by Fields ANOVA Test*

	N	Mean	SS	f	p	Intra-Group Frequency
1.Group	27	18.4815	5.65257	4.130	.001	1<3
2.Group	56	19.1250	5.66348			
3.Group	27	24.5185	3.72487			
4.Group	7	20.2857	5.87975			
5.Group	30	19.5000	7.46832			
6.Group	20	23.2000	6.65385			
7.Group	48	19.6667	5.73282			
	215	20.3116	6.12186			

There is a significant difference in the perception of knowing the risks that may be encountered in working life according to the fields of Gümüşhane Vocational and Technical Anatolian High School students (H1B: Accepted). As a result of the in-group comparison made to determine this difference, the perception levels of knowing the risks that may be encountered in the working life of the 1st group got a lower average score than the 3rd group. In other words, the perception of knowing the risks that may be encountered in working life was higher in the 3rd group. When compared to other groups, the perception of knowing the risks that may be encountered in working life has the highest average in the 3rd group.



Table 7: The Variable of Perception of Knowing the Effect of OHS on Working Life by Fields ANOVA Test

	N	Mean	SS	f	P	Intra-Group Frequency
1.Group	27	13.2222	5.58386	3.421	.003	1<3
2.Group	56	14.9821	5.27943			
3.Group	27	18.3333	2.00000			
4.Group	7	16.0000	5.00000			
5.Group	30	13.6333	5.62313			
6.Group	20	16.3000	4.20651			
7.Group	48	15.1458	4.54289			
	215	15,1860	4.97496			

There is a significant difference in the perception of knowing the effect of OHS on working life according to the fields of Gümüşhane Vocational and Technical Anatolian High School students (H1C: Accepted). As a result of the in-group comparison made to determine this difference, the perception levels of knowing the effect of OHS on working life of the 1st group got a lower average score than the 3rd group. In other words, the perception of knowing the effect of OHS on working life was higher in the 3rd group. When compared to other groups, the perception of knowing the effect of OHS on working life was highest in the 3rd group.

Table 8: The Variable of Perception of Knowing the OHS Law by Fields ANOVA Test

	N	Mean	SS	f	P	Intra-Group Frequency
1.Group	27	11.6296	3.05272	3.684	.002	1<3
2.Group	56	11.6429	3.37061			
3.Group	27	14.6667	3.23443			
4.Group	7	12.1429	2.67261			
5.Group	30	11.9333	3.85901			
6.Group	20	13.4500	4.14824			
7.Group	48	11.1667	3.69205			
	215	12.1395	3.05272			

There is a significant difference in the perception of knowing the OHS Law according to the fields of Gümüşhane Vocational and Technical Anatolian High School students (H1D: Accepted). As a result of the in-group comparison made to determine this difference, the perception levels of knowing the OHS Law of the 1st group got a lower average score than the 3rd group. In other words, the perception of knowing the OHS Law was higher in the 3rd group.

*Table 9: ANOVA Test of the Perception of Knowing the OHS Rules in Practical Lessons by Grades*

	N	Mean	SS	f	P
1.Class	48	21.0625	6.13121	1.765	.155
2.Class	60	21.8167	5.86426		
3.Class	37	19.2162	8.34711		
4.Class	70	22.2857	7.15084		
	215	21.3535	6.86285		

There is no significant difference in the variable of knowing the OHS rules in applied courses according to the grades of Gümüşhane Vocational and Technical Anatolian High School students (H2A: Red).

*Table 10: ANOVA Test on the Variable of Perception of Knowing the Risks That May Be Encountered in Working Life by Class*

	N	Mean	SS	f	P	Intra-Group Frequency
1. Class	48	19.6667	5.73282	2.857	.038	3<4
2. Class	60	20.4500	5.86118			
3. Class	37	18.2703	6.57288			
4. Class	70	21.7143	6.11518			
	215	20.3116	6.12186			

There is a significant difference in the perception of knowing the risks that may be encountered in working life according to the grades of Gümüşhane Vocational and Technical Anatolian High School students (H2B: Accepted). As a result of the comparison between the classes to determine this difference, the perception levels of knowing the risks of the 3rd class got a lower average score than the 4th class. In other words, it has been determined that the fourth class has a high perception of knowing the risks that may be encountered in working life.

*Table 11: ANOVA Test on the Variable of Perception of Knowing the Effect of OHS on Working Life by Class*

	N	Mean	SS	f	P
1. Class	48	15.1458	4.54289	1.829	.143
2. Class	60	14.8500	4.27775		
3. Class	37	13.9189	5.58957		
4. Class	70	16.1714	5.36757		
	215	15.1860	4.97496		

There is no significant difference in the perception of knowing the effect of OHS on working life according to the grades of Gümüşhane Vocational and Technical Anatolian High School students (H2C: Red).

Table 12: ANOVA Test on the Variable of Perception of Knowing the OHS Law by Class

	N	Mean	SS	f	p	Intra-Group Frequency
1. Class	48	11.1667	3.69205	4.089	.008	1<4, 3<4
2. Class	60	12.1500	3.91358			
3. Class	37	11.2973	3.71831			
4. Class	70	13.2429	3.08543			
	215	12.1395	3.65307			

There is a significant difference in the perception of knowing the OHS Law according to the grades of Gümüşhane Vocational and Technical Anatolian High School students (H2D: Accepted). As a result of the comparison between the classes to determine this difference, the perception levels of knowing the OHS Law of the 1st class got less average points than the 3rd and 4th classes. In other words, the perception of knowing the OHS Law was realized more in the 3rd and 4th grades. It has been determined that the average of the 4th grade is the highest in the perception of knowing the OHS Law.

Table 13: Comparison of Whether You Have Taken OHS Courses on the Perception of Knowing OHS Rules in Applied Courses

	Do you take classes on OHS?	N	Mean	SS	df	t	P
Perception of knowing the OHS rules in applied courses	Yes	70	22.2857	7.15084	213	1.387	.167
	No	145	20.9034	6.69818			

There is no significant difference in the perception of knowing the OHS rules in applied courses of Gümüşhane Vocational and Technical Anatolian High School students who take the occupational health and safety course (H3A: Red).

Table 14: Comparison of Whether You Have Taken OHS Courses on the Perception of Knowing the Risks That May Be Encountered in Working Life

	Do you take classes on OHS?	N	Mean	SS	df	t	P
Perception of knowing the risks that may be encountered in working life	Yes	70	21.7143	6.11518	213	2.359	.019
	No	145	19.6345	6.02980			

There is a significant difference in the perception of knowing the risks that may be encountered in the working life of Gümüşhane Vocational and

Technical Anatolian High School students who take the occupational health and safety course (H3B: Accepted). This difference resulted in favor of the students who took the occupational health and safety course. In other words, the awareness in the perception of knowing the risks that may be encountered in the lives of the students who took the occupational health and safety course was realized more.

*Table 15: Comparison of Whether You Have Taken OHS Courses on the Perception of Knowing the Effect of OHS on Working Life*

	Do you take classes on OHS?	N	Mean	SS	df	t	P
Perception of knowing the impact of OHS on working life	Yes	70	19.7286	5.99739	213	2.113	.036
	No	145	17.9793	5.53585			

There is a significant difference in the perception of knowing the effect of OHS on working life of Gümüşhane Vocational and Technical Anatolian High School students who take the occupational health and safety course (H3C: Accepted). This difference resulted in favor of those who took the occupational health and safety course. In other words, the awareness of knowing the effect of OHS on working life was realized more in the students who took the occupational health and safety course.

*Table 16: Comparison of Whether You Have Taken OHS Courses on the Perception of Knowing the OHS Law*

	Do you take classes on OHS?	N	Mean	SS	df	t	P
Perception of knowing the OHS Law	Yes	70	13.2429	3.08543	213	3.140	.001
	No	145	11.6069	3.79381			

There is a significant difference in the perception of knowing the OHS Law of Gümüşhane Vocational and Technical Anatolian High School students who take the occupational health and safety course (H3D: Accepted). This difference resulted in favor of the students who took the occupational health and safety course. In other words, the awareness level of the students who took the occupational health and safety course was higher in the perception of knowing the OHS Law.

Table 17: Perception of Knowing OHS Rules in Practical Lessons Comparison of Attending or Not Attending OHS Information Meetings

Have you attended OHS information meetings?		N	Mean	SS	df	t	P
Perception of knowing the OHS rules in applied courses	Yes	155	21.7806	6.75669	213	11.1471	.143
	No	145	20.2500	7.06777			

There is no significant difference in the perception of knowing the OHS rules in applied courses of Gümüşhane Vocational and Technical Anatolian High School students who attended occupational health and safety information meeting (seminar, symposium, etc.) (H4A: Red).

Table 18: Perception of Knowing the Risks That May Be Encountered in Working Life Comparison of Attending or Not Attending OHS Information Meetings

Have you attended OHS information meetings?		N	Mean	SS	df	t	P
Perception of knowing the risks that may be encountered in working life	Yes	155	20.5226	6.14261	213	1.811	.418
	No	145	19.7667	6.08518			

There is no significant difference in the perception of knowing the risks that may be encountered in the working life of the Gümüşhane Vocational and Technical Anatolian High School students who attended the occupational health and safety information meeting (seminar, symposium, etc.) (H4B: Red).

Table 19: Perception of Knowing the Impact of OHS on Working Life Comparison of Attending or Not Attending OHS Information Meetings

Have you attended OHS information meetings?		N	Mean	SS	df	t	P
Perception of knowing the impact of OHS on working life	Yes	155	15.2968	4.84992	213	1.524	.601
	No	145	14.9000	5.31611			

There is no significant difference in the perception of knowing the effect of OHS on working life of Gümüşhane Vocational and Technical Anatolian High School students who attended occupational health and safety information meetings (seminars, symposiums, etc.) (H4C: Red).

*Table 20: Perception of Knowing the OHS Law and Comparing Whether They Attended OHS Information Meetings or not*

Have you attended OHS information meetings?		N	Ortalama	SS	df	t	P
OHS Law's perception of knowing	Evet	155	12.5161	3,64203	213	12.,458	.015*
	Hayır	145	11.1667	3,52794			

There is a significant difference in the perception of knowing the OHS Law of Gümüşhane Vocational and Technical Anatolian High School students who attended occupational health and safety information meetings (seminars, symposiums, etc.) (H4D: Accepted). This difference resulted in favor of the students who attended the occupational health and safety information meetings. In other words, the awareness level of the students who attended the occupational health and safety meetings was higher in the perception of knowing the OHS Law.

After graduation, some of the students who study at Vocational and Technical Anatolian High Schools in Turkey participate in working life by being employed in the country and abroad, and some of them enter working life as engineers or technicians by completing higher education. Before starting working life, a perception of occupational safety should be created during the education period. The perception that will be created in the education life of the students will have a positive effect on their working life. These effects contribute to the economies of countries, human health and the prestige of the country. In this study, we have students studying at Gümüşhane Vocational and Technical Anatolian High School in Turkey.

In the study conducted with the students studying in the field of Industrial Relations and Labor Economics of the Faculty of Economics and Administrative Sciences to evaluate the perception of occupational safety of the students, the level of difference in the perception of occupational safety of the students who took and did not take the OHS course was investigated. As a result of the research, it was determined that there was no difference in the perception levels of the students who took the OHS course and those who did not (Topgöl and Alan, 2017: 596). In our study, while there was no significant relationship in the analysis of Gümüşhane Vocational and Technical Anatolian High School students' perception of knowing the OHS rules in applied courses, in the analysis of whether they took OHS lessons or not, a significant difference was found in the perception of knowing the risks that may be encountered in the working life of the students who took the occupational health and safety course. Likewise, a significant difference was found in the perception of knowing the effect of occupational health and safety on working life and the

perception of knowing the OHS Law of the students who took the course. Our study shows different results from the studies mentioned in this aspect.

In the study titled "Importance of OHS Education in Vocational Schools", the importance of occupational health and safety was tried to be explained and it was concluded that occupational health and safety courses should be given to students during the education period before starting working life (Sarıkaya, Güllü and Seyman 2009: 332). Again, in the study carried out to measure the knowledge levels and attitudes of Çanakkale Onsekiz Mart University students on occupational health and safety, it was concluded that students should be taught occupational health and safety courses as a compulsory course (Aygün, 2017: 40). In a different study, students' approaches to occupational health and safety were examined, and it was concluded that their awareness level would increase with the occupational health and safety course (Aksoy and Çevik 2013: 51). In the study named "Occupational health and safety perspective of Anatolian high school and vocational technical Anatolian high school students", a significant difference was determined between the occupational health and safety training status of the participants and their occupational safety culture levels (Kara and Ensari Özyay 2021:2472). The results obtained from these studies and our study show similar results, and it was concluded that the occupational safety culture levels of the participants who took the occupational health and safety course were higher.

In the research titled "Occupational Health and Safety Education Competence of Engineering Faculty Students", it was revealed that most of the students thought that occupational health and safety was important to their working life and stated that they should be trained in occupational health and safety (Özgüler, Kaya, Kağızmanlı, & Altuğ, 2016). : 85). In our study, a significant difference was found between the students who took the course and those who did not, in the perception of knowing the risks that may be encountered in the working life of the students and the perception of knowing the impact of OHS on working life. No significant difference was found in the perception of knowing the risks that may be encountered and knowing the effect of OHS on working life. In the study, in which the level of preparedness of Sinop University Vocational School and Boyabat Vocational School students against work accidents and occupational diseases that may be encountered in working life was tried to be determined, it was concluded that the students are aware of many of the dangers and risks that may cause work accidents and occupational diseases in their professional fields (Uslu, Karaçuha, & Cabar, 2018: 147).

## Conclusion and Recommendations

The number of work accidents and occupational diseases is increasing day by day in the world. The increase in these figures has the effect of humans, machines and the environment. It is very important to create a perception of occupational health and safety in order to minimize occupational accidents and occupational diseases.

School environments, where students of the same age group and adolescents have to do everything together in the same environment, are environments where more attention should be paid to all matters related to health and safety. These concepts are much more important in Vocational and Technical Education Institutions, which is a rehearsal of their working life. Because young people studying in vocational and technical education institutions are introduced to production, albeit at a low level, and students carry out their first production in these schools. In vocational and technical high schools, there are many occupational accidents caused by the carelessness and unconsciousness of individuals or unhealthy and unsafe environments. For this reason, students should be prepared for working life by gaining occupational health and safety awareness during the education period.

In this study, in which the perception of occupational safety of Gümüşhane Vocational and Technical Anatolian High School students was evaluated, each of the questions directed to the students to measure the perception of occupational safety was evaluated by scoring. In the evaluation, it was concluded that the students' perceptions of occupational safety were at a good level. When the distribution of the scoring according to the sub-factors is examined, it is seen that the perception of knowing the effect of occupational health and safety on working life, which is one of the sub-factors, is at the highest level.

In the study; When the occupational safety perceptions of the Gümüşhane Vocational and Technical Anatolian High School students are evaluated, it is seen that the students in the field of Machine Technology have the highest average when the occupational safety perception levels of the students are examined. It is seen that the fourth grade students have the highest average score in the perception of occupational safety among the classes. It is seen that the average of the occupational safety perception of the students who take the occupational health and safety course is at a higher level. In addition, symposiums, conferences, etc. related to occupational health and safety. It was concluded that the average of the occupational safety perceptions of the students participating in the activities was higher.



In line with the results obtained from the research, the following suggestions can be made;

- Occupational health and safety lessons should be given at every stage, starting from primary school to working life,
- Workshops should be arranged in a way to ensure the safety of students, especially in places where practical training is intense, such as vocational and technical high schools,
- Students should be provided with personal protective equipment for practice lessons and they should be informed about how to use them,
- Students should be informed about the risks that may cause work accidents and occupational diseases that they may encounter in their working life,
- Information, meetings, seminars, etc. for occupational health and safety. The number of activities should be increased and their content should be enriched and made more efficient,
- Risk assessment should be carried out in accordance with the Regulation on Occupational Health and Safety Risk Assessment in schools, and arrangements should be made to eliminate or minimize the identified risks.

## References

- Aksoy, S. and Çevik, B., (2013). Bazı Önlisans Programlarında Eğitim Gören Öğrencilerin İş Güvenliği Konusuna Yaklaşımlarının Belirlenmesi (Gümüşova Meslek Yüksekokulu Örneği). *Electronic Journal of Vocational Colleges*, Vol 3, No 3, pp.57-53.
- Ayçiçek, A. R. (2019). Üniversite Öğrencilerinin İş Sağlığı ve Güvenliği İle İlgili Bilgi Düzeylerinin Değerlendirilmesi. İstanbul Bilim Üniversitesi, Sağlık Bilimleri Enstitüsü, Hemşirelik Anabilim Dalı, (Yüksek Lisans Tezi), İstanbul.
- Aygün, S. (2017). İş Güvenliği Uzmanı Olabilecekler İçin İş Güvenliğinin Anlamı. Çanakkale Onsekiz Mart Üniversitesi, Fen Bilimleri Enstitüsü, İş Güvenliği Anabilim Dalı, (Yüksek Lisans Tezi), Çanakkale.
- Baybora, D. (2014). *İş Sağlığı ve Güvenliği*. Eskişehir: Anadolu Üniversitesi.

- Ceylan, H. (2012). 'Türkiye'deki İş Sağlığı ve Güvenliği Eğitimi Sorunlar ve Çözüm Önerileri. *Ejovoc (Electronic Journal of Vocational Colleges)*, Vol 2, No 2, pp.94-104.
- Çelenk Kaya, E. (2020). İş Kazalarının Toplum Üzerindeki Etkileri, İş Kazaları ve İSG'de Temel Önlemler. Erzurum: Atatürk Üniversitesi Açıköğretim Fakültesi Yayını, Çelebi, N. (Ed.) içinde (ss.59-92.).
- Çelik, A. (2015). İş Sağlığı ve Güvenliği Rehberi. [http://ahmetli.meb.gov.tr/meb\\_iys\\_dosyalar/2016\\_01/13031223\\_iss\\_agligiveguvenligi.pdf](http://ahmetli.meb.gov.tr/meb_iys_dosyalar/2016_01/13031223_iss_agligiveguvenligi.pdf), (16.10.2019).
- Çelik, H. (2018). Rize İli Devlet Hastanesinde Çalışan Sağlık Personelinin İş Sağlığı Güvenliği Kültürünün Araştırılması. Avrasya Üniversitesi, Sağlık Bilimleri Enstitüsü, İş Sağlığı ve Güvenliği Anabilim Dalı, (Yüksek Lisans Tezi), Trabzon.
- Eroğlu, E. (2015). Bir Organize Sanayi Bölgesinde Plastik Mamül Üretimi Yapan İşletmelerde İş Sağlığı ve Güvenliği Sorunları. Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, İş Sağlığı ve Güvenliği Anabilim Dalı, (Yüksek Lisans Tezi), Kocaeli.
- Kara, H. E. and Ensari Özyay, M. (2021). Anadolu Lisesi ve Mesleki Teknik Anadolu Lisesi Öğrencilerinin İş Sağlığı ve Güvenliği Bakış Açısı. *Journal of Social and Humanities Sciences Research*, Vol 8, Iss. 75, pp.2470-2477.
- Korkutan, M. (2018). Sağlık Bilimleri Fakültesi Öğrencilerinin İş Güvenliği Algılarının Değerlendirilmesi: Fırat Üniversitesi Örneği. Fırat Üniversitesi, Sosyal Bilimler Enstitüsü, Sağlık Yönetimi Anabilim Dalı, (Yüksek Lisans Tezi), Elâzığ.
- Özgüler, A., Kaya, K., Kağızmanlı, B. and Altuğ, M., (2016). Mühendislik Fakültesi Öğrencilerinin İş Sağlığı ve Güvenliği Eğitimi Yeterliliği. *Eğitim ve Öğretim Araştırmaları Dergisi*, Cilt 5, Sayı 10, ss.75-86.
- Saraç, Ç. K. (2016). İş Sağlığı ve Güvenliği Kültür Algısının İş Tatmini İle İlişkinin İncelenmesi. Nişantaşı Üniversitesi, Sosyal Bilimler Enstitüsü, İşletme Yönetimi Anabilim Dalı, (Yüksek Lisans Tezi), İstanbul.
- Sarıkaya, M., Güllü, A. and Seyman, M. N., (2009). Meslek Yüksek Okullarında İş Sağlığı ve Güvenliği Eğitimi Verilmesinin Önemi (Kırıkkale Meslek Yüksek Okulu Örneği). *Tübat Bilim Dergisi*, Cilt 2, Sayı 3.
- Takaoğlu, Z. B., Kaya, E. Ç. and İri, N. İ. Ö. (2018). İş Güvenliği Uzmanlarının Yaşadığı Sorunlar. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, Cilt 7, Sayı 2, ss.1-9.

- Tirakioğulları, Ö. (2019). Meslek Yüksekokulu Öğrencilerinin İş Sağlığı ve Güvenliği Açısından Güvenlik Kültürlerinin İncelenmesi. Düzce Üniversitesi, Sosyal Bilimler Enstitüsü, Toplam Kalite Yönetimi Anabilim Dalı, (Yüksek Lisans Tezi), Düzce.
- TMMO, (2018). Makina Mühendisleri Oda Raporu, İşçi Sağlığı ve İş Güvenliği. Ankara.
- TMMO, (2020). Makina Mühendisleri Oda Raporu, İşçi Sağlığı ve İş Güvenliği. Ankara.
- Topgöl, S. and Alan, Ç. (2017). Öğrencilerin İş Güvenliği ve İş Güvenliği Eğitimi Algısının Değerlendirilmesi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 22, Sayı 2, ss.587-598.
- Tozkoparan, G. and Taşoğlu, J. (2011). İş Sağlığı ve Güvenliği Uygulamaları ile İlgili İş Görenlerin Tutumlarını Belirlemeye Yönelik Bir Araştırma. *Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 30, Sayı 1, ss.181-209.
- Turner, B. A., Pidgeon, N., Blockley, D. and Toft, B., (1989). Safety Culture: Its Importance in Future Risk Management, In Position Paper for The Second World Bank Workshop on Safety Control and Risk Management. Karlstad, Sweden, pp.6-9.
- Türüdü, N. O. (2019). Öğretmenlerin İş Güvenliği Kültürü İle Okula Yönelik Tutumları Arasındaki İlişki., İstanbul Sebahattin Zaim Üniversitesi, Sosyal Bilimler Enstitüsü, Eğitim Bilimleri Anabilim Dalı, (Yüksek Lisans Tezi), İstanbul.
- Uslu, A., Karaçuha, M. E. and Cabar, H. D., (2018). Meslek Yüksekokulu Öğrencilerinin İş Sağlığı ve İş Güvenliği Konusuna Yaklaşımlarının Değerlendirilmesi: Sinop Örneği. *Sinop Üniversitesi Sosyal Bilimler Dergisi*, Cilt 2, Sayı 2, ss.127-148.
- Üngüren, E. and Koç, T. S. (2015). İş Sağlığı ve Güvenliği Uygulamaları Performans Değerlendirme Ölçeği: Geçerlik ve Güvenirlik Çalışması. *SGD-Sosyal Güvenlik Dergisi*, Cilt 5, Sayı 2, ss.124-144.
- Yılbaş, M. (2017). İş Sağlığı ve Güvenliği Eğitimi Alanların Farkındalık Düzeylerinin İş Kazaları ve Meslek Hastalıkları Yönünden İncelenmesi. İzmir Katip Çelebi Üniversitesi, Fen Bilimleri Enstitüsü, İş Sağlığı ve Güvenliği Anabilim Dalı (Yüksek Lisans Tezi), İzmir.
- Yıldırım, E. (2010). İşçi Sağlığı ve İş Güvenliğinde Eğitimin Rolü ve İşgören İşçi Sağlığı ve İş Güvenliği Konusundaki Bilinç Düzeylerini Ölçmeye

Yönelik Bir Araştırma. İstanbul Üniversitesi, Sosyal Bilimler  
Enstitüsü, İşletme Anabilim Dalı, (Yüksek Lisans Tezi), İstanbul.



# 10

## The Importance of Renewable Energy for Sustainable Development: Research on Turkey

Pınar Koç (Gümüşhane University)  
ORCID ID: 0000-0002-7843-1228  
pinartotun@gumushane.edu.tr

### Abstract

*The aim of this study, covering the period of 2000-2019, is to investigate the causality relationships between carbon emissions and GDP per capita by using Fourier Toda Yamamoto causality test. The results of the study indicate that there is bilateral causality between renewable energy production and carbon emissions. Carbon emissions were used as a proxy for sustainable development. Also, there is unilateral causality from GDP per capita to carbon emissions. In this context, it is concluded that changes in production structure and increases in renewable energy production are a leading indicator for future periods. In addition, increases in renewable energy production are important for economic growth dynamics.*

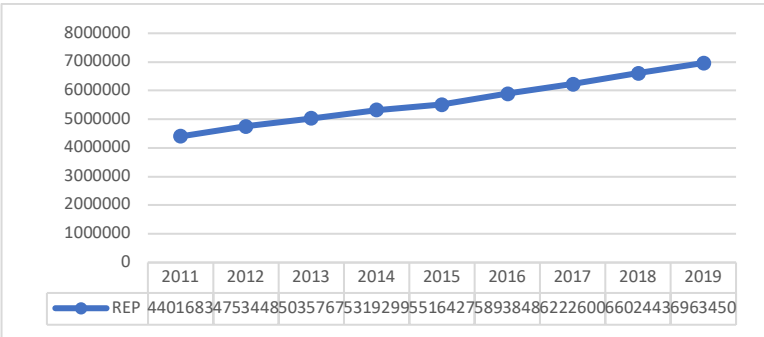
*Keywords: GDP Per Capita, Renewable Energy Production, Sustainable Development*

### Introduction

Scientific and technological developments in the 18th and 19th centuries led to increase in global production by accelerating industrialization and globalization dynamics. This increase in global production also grown energy demand. This increase in the use of fossil fuels resulting from non-renewable energy consumption is the main reason for the environmental degradation that occurred in the 1990s. The severity of environmental degradation caused by non-renewable energy consumption led to come up the concept of sustainable economic development. UN The World Commission on Environment and Development (1987) defined the term of sustainable development as meeting the current needs of people without affecting the amount and form of resources that can meet the needs of future generations. Renewable energy sources help to preserve the environment by decreasing carbon emissions. In this context, they are of considerable significance in sustainable development. WFC (2016) considered the benefits of

renewable energy belonging to three categories as environmental, economic, and political drives. Renewable energy reduces pollution and improves public health. In addition, it provides carbon dioxide emissions reductions, job creation and economic development. Because of these benefits increased renewable energy investments worldwide. Figure 1 illustrates total renewable energy production in the world between 2011 and 2019. Renewable energy production increased over % 100 during the period of 2011-2019. With an increase 5.4 % compared to 2018, production of total energy worldwide reached 6.963.450 GWh in 2019.

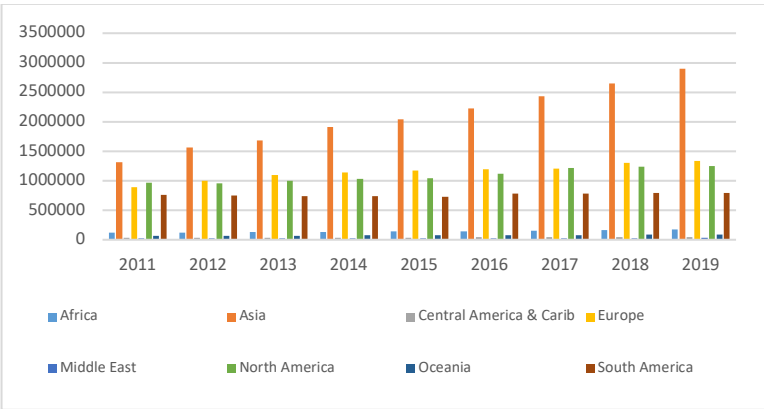
Figure 1: Total Renewable Energy Production Worldwide (GWh).



Source: IRENA

Figure 2 illustrates changes in the total renewable energy production by region for period of 2010-2019. Asia, Europe, and North America were regions where the highest renewable energy production while The Middle East were the regions where the lowest renewable energy production.

Figure 2: Total Renewable Energy Production by Region



Source: IRENA

Table 1 illustrates the renewable energy share of electricity production. According to Table 1, renewable energy share of electricity production is 26 %. Renewable energy share of electricity production increased steadily during the period of 2011-2019.

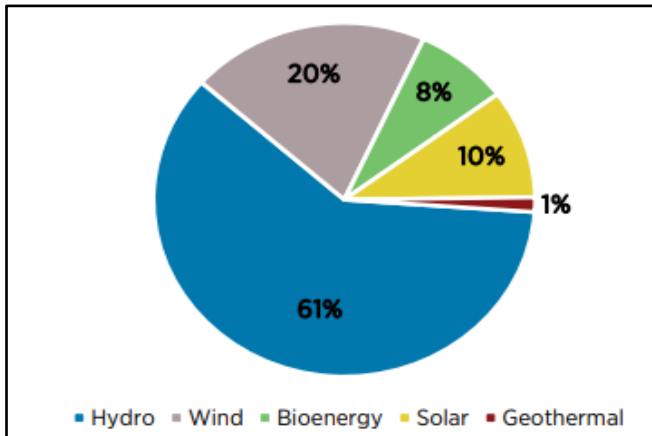
*Table 1: Renewable energy share of electricity production (%GWh)*

	2011	2012	2013	2014	2015	2016	2017	2018	2019
World	19.9	20.9	21.5	22.3	22.8	23.7	24.3	24.9	26.0

*Source: IRENA*

According to IRENA (2021) Statistics, in 2019, the total amount of electricity generated from renewables was 6963 TWh. Hydropower accounted for about 61 % of total renewable energy generation. Wind power accounts for about 21 % of total renewable energy generation.

*Figure 3: Renewable Electricity Generation by Energy Sources*



*Source: IRENA.*

There are studies on the development of renewable energy resources and the creation of a sustainable development model in Turkey as in the rest of the world. Early studies on environmental policies began with the establishment of the prime minister's environmental organization and accelerated with the acceptance of Turkey as an the EU member state (Çepik, 2015:38). In this context, EU integrated environmental compliance strategy was accepted by the ministry of environment of forestry in 2006. The main purpose of EU integrated environmental compliance strategy is to create a healthy and livable environment in Turkey by taking into account the economic and social conditions and



Turkey's national environmental legislation is harmonized with the EU environmental acquis and to implement it (Republic of Turkey Ministry of Environment, Urbanization and Climate Change, 2006). In this context, in order to reduce environmental problems, sub-objectives were also determined. The second EU integrated environmental compliance strategy was accepted by the ministry of environment of forestry examines the extent to which the sustainable development goals have been achieved in the harmonization process (Republic of Turkey Ministry of Environment, Urbanization and Climate Change, 2016). Table 2 indicates that the share of total environmental protection expenditures in GDP. According to, the share of total environmental protection expenditures in GDP is 0.43 %.

*Table 2: The share of total environmental protection expenditures in GDP*

2007	2008	2009	2010	2011	2012	2013
0.43	0.41	0.50	0.45	0.44	0.43	0.43

*Source: Republic of Turkey Ministry of Environment, Urbanization and Climate Change*

Renewable energy production has also increased in Turkey within the framework of EU harmonization legislation (Presidency of The Republic of Turkey Presidency of Strategy and Budget, 2019:99). Table 3 illustrates total renewable energy production in Turkey for the period of 2011-2019. Table 3 shows that total renewable energy production increased steadily during the period of 2011-2019.

*Table 3: Total Renewable Energy Production in Turkey (GWh)*

2011	2012	2013	2014	2015	2016	2017	2018	2019
58110	65234	69249	52632	83661	90248	87239	97771	132264

*Source: Author created by using IRENA (2021) statistics*

Table 4 gives total renewable energy production by energy sources in Turkey. Hydropower is the most produced renewable energy source.

*Table 4: Total Renewable Energy Production by Energy Sources in Turkey (GWh)*

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Hydropower	52339	57865	59420	40645	67146	67231	58218	59938	88823
Wind Energy	4724	5861	7558	8520	11652	15517	17904	19949	21731
Solar Energy	10	17	29	20	197	1046	2892	7803	9253
Bio Energy	343	592	879	1083	1241	1635	2096	2650	3506
Other	694	899	1363	2364	3425	4819	6129	7431	8951

*Source: Author created by using IRENA (2021) statistics.*

Hydropower is the energy source with the highest share in total renewable energy production. However, this share has decreased over time. Wind and Solar energy are two sources of energy that continue to dominate growth in renewable generation.

*Table 5: The Share of Total Renewable Energy Production by Energy Sources in Total Renewable Energy Production in Turkey (GWh %)*

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Hydropower	90.07	88.70	85.81	77.22	80.26	74.50	66.73	61.30	67.16
Wind Energy	8.13	8.98	10.91	16.19	13.93	17.19	20.52	20.40	16.43
Solar Energy	0.02	0.03	0.04	0.04	0.24	1.16	3.32	7.98	7.00
Bio Energy	0.59	0.91	1.27	2.06	1.48	1.81	2.40	2.71	2.65
Other	1.19	1.38	1.97	4.49	4.09	5.34	7.03	7.60	6.77

*Source: Author created by using IRENA (2021) statistics.*

In this study, covering the period of 2000-2019, we investigated the causality relationships between renewable energy production, environmental degradation and GDP per capita. Analysis of the causality relationships between renewable energy production, environmental degradation and GDP per capita indicates whether changes in renewable energy production can be used as a proxy for sustainable development targets.

## Literature Review

The first study examining the relationships between economic growth and environmental degradation was done by Kuznets (1955, 1963). There is a relationship in the form of an inverted U between environmental degradation and GDP per capita. This relationship is named as “Environmental Kuznets Curve” in the literature. There has been a number

of studies examining the relationship between economic growth and environmental degradation in the literature. Stern et al. (1996), Kahuthu (2006), Everett et al. (2010), Wang et al. (2013), Hassan et al. (2015), Charfeddine (2017), Destek and Sarkodie (2019), Özcan et al. (2020), Chakravarty and Mandal (2020), Ahmad et al. (2021), Ongan et al. (2021) are some of the studies investigating the relationship between economic growth and environmental degradation. The results obtained from the studies vary from country to country.

There have been also studies examining the relationship between economic growth and environmental degradation for Turkey. Saatçi and Dumrul (2011) analyzed whether Environmental Kuznets Curve is valid or not using cointegration test of structural breaks for Turkish economics. The results confirmed that Environmental Kuznets Curve is valid for Turkish Economics. But, long terms coefficients change over time.

Artan et al. (2015) examined the relationship between the effects of economic growth and trade openness on environmental pollution. The results show that there is an inverted U-shape relationship between economic growth and environmental pollution.

Erdoğan et al. (2015) analyzed the validity of the Environmental Kuznets Curve in Turkey. According to obtained the study, the Environmental Kuznets Curve doesn't validate in the long term for Turkey.

Albayrak and Gökçe (2015) is an another study that analyze the validity of the "Environmental Kuznets Curve Hypothesis" for the period of 1975-2010 in Turkey. According to the results of this study, there is an inverted U-shape relationship between economic growth and environmental pollution. Therefore, Environmental Kuznets Curve Hypothesis does validate in the long term for Turkey.

Çetintaş et al. (2016) investigated the relationships between environmental degradation, energy consumption and economic growth in Turkey. The results show that energy consumption, economic growth and urbanization rate have a positive on environmental degradation in the long term. But, economic growth and urbanization rates do not affect environmental degradation in the short term.

Destek (2018) investigated the validity of the Environmental Kuznets Curve based on STIRPAT model for Turkey. According to the results of the study, the Environmental Kuznets Curve is valid for Turkey both in the long term and short term.

Güney (2018) analyzed the validity of the Environmental Kuznets Curve including energy consumption, financial development and the share of industry sector in GDP. The findings of this study confirmed the validity of the Extended Environmental Kuznets Curve in the short and long term.

Güzel (2021) examined the relationships between carbon emissions, economic growth and energy consumption using ARDL cointegration tests. The results show that there is an N-shape relationship between carbon dioxide emissions and economic growth. Energy consumption has a positive impact on carbon dioxide emissions in the long term.

It is expected that renewable energy sources decrease environmental pollution by decreasing imposed carbon emissions. Jebli et al. (2019), Khan et al. (2019), Khane et al. (2020) and Ahmed et al. (2021) investigated the effects of the renewable energy source on environmental degradation.

The number of the studies examining renewable energy consumption and environmental degradation in Turkey is limited. Okumuş (2020) and Özpolat and Nakipoğlu Özsoy (2021) investigated the impact of renewable energy consumption on carbon dioxide emissions. The results confirmed that renewable energy consumption has a negative impact on carbon dioxide emissions. In this context, It can be concluded that the use of renewable energy sources plays an important role for sustainable development.

Structural breaks weren't taken into account in the studies examining relationship between renewable energy and environmental degradation. In this context, unlike other studies in this study, the causality relationship between carbon emissions, GDP per capita and renewable energy production was analyzed by using Fourier Toda Yamamoto causality test. Structural breaks in the Fourier Toda Yamamoto causality test is taken into account by including Fourier functions to Toda Yamamoto causality test equations.

## Methodology and Data Set

The purpose of this study is to analyze whether there is causality relationships between renewable energy production, national GDP and environmental degradation for the period of 2000-2019 in Turkey. Fourier Toda Yamamoto Causality Test was applied in this study. The variables used in this study and databases are given in Table 6. Carbon emissions and GDP per capita statistics were obtained from the OECD

database while renewable energy production statistics were obtained from the statistical database.

*Table 6: The description of the dataset*

Variables	Notation	Database	Measuring
Carbon Emissions	LNCE	OECD	Tonnes
National GDP	LNNGDP	OECD	Current PPP (USA \$)
Renewable Energy Production	LNREP	Statistica	Terawatt hours

Table 7 indicates descriptive statistics of the variables. Average total carbon emissions in Turkey for the period of 2000-2019 are 402808 tonnes. Average GDP per capita (PPP based) is 20986 US dollars and average renewable energy production in Turkey is 9.71 terawatt hours.

*Table 7: The descriptive statistics*

Variables	Mean	Std. Error	Max	Min
Carbon Emissions	402818	80951	524980	280503
National GDP	20968	4766	28411	14005
Renewable Energy Production	9.71	13.39	43.30	0.20

## Fourier Toda Yamamoto Causality Test

Granger (1969) and Toda-Yamamoto (1995) causality tests don't consider the effects of structural breaks on the variables. But, structural breaks may change the causality linkage between the variables. In this context, Enders and Jones (2016) and Nazlıoğlu et al. (2016) developed fourier causality tests by considering structural breaks through fourier functions. Fourier causality test developed by Enders and Jones (2016) is based on Granger causality test while Fourier causality test developed by Nazlıoğlu et al. (2016) is based on Toda Yamamoto causality test. In this study Fourier causality test was used. This test is formulated as follow;

$$y_t = a(t) + \beta_1 y_{t-1} + \dots + \beta_{p+d} y_{t-(p+d)} + \varepsilon_t \quad (1)$$

$a(t)$  denotes any structural breaks in  $y_t$ . Structural breaks are defined by fourier functions.

$$a(t) = \alpha_0 + \gamma_1 \sin\left(\frac{2\pi kt}{T}\right) + \gamma_2 \cos\left(\frac{2\pi kt}{T}\right) \quad (2)$$

where,  $\pi = 3.1416$ ,  $k$ ,  $t$  and  $T$  represent the number of optimum frequency, trend, the sample size respectively.

The null hypothesis is the same as testing the null hypothesis of Granger non-causality and the hypothesis can be tested using the Wald statistics. The rejection of the null hypothesis shows that there is a causality relationship between variables.

## Estimation Results

The stationary of the series must be tested to apply causality tests. Therefore, firstly, the stationary of the series was tested using Fourier unit root test developed by Enders and Lee (2012) and Dickey-Fuller (ADF) unit root tests. For the FADF test statistics can be valid, F statistic, which examines the statistical significance of trigonometric terms included in the unit root equation, must be significant (Enders and Lee, 2012). If the F statistic isn't statistically significant, ADF test statistics can be used to test the stationarity of the variables (Bozoklu et al., 2020). Table 8 illustrates the results of FADF and ADF unit root tests.

*Table 8: The results of FADF and ADF Unit Root Test*

Variable	Fourier ADF			Level		Difference	
	FADF	F Stat	k	ADF	Prob	ADF	Prob
LNCE	-0.721	2.91	2	-0.643	0.8381	-4.107	0.0060
LNGDP	1.007	3.28	2	-0.273	0.9122	-4.308	0.0040
LNREP	-0.294	0.79	1	-1.814	0.3606	-4.930	0.0015

F critical values are 10.35, 7.58 and 6.35 for 1 %, 5 % and 10 % significance level respectively. The critical values were obtained from (Enders and Lee, 2012: 197).

FADF test statistics aren't valid because of F statistics are statistically insignificant. Therefore, ADF test statistics were used to test the stationary of the series. All series are stationary. Table 9 shows the results of Fourier Toda Yamamoto Test.

*Table 9: The Results of Fourier Toda Yamamoto Test*

H <sub>0</sub>	k	p	F Stat	Asymptotic p value
LNREP doesn't Granger cause LNCE	1	2	3.522	0.0605***
LNCE doesn't Granger cause LNREP	1	2	3.269	0.0706***
LNGDP doesn't Granger cause LNCE	1	2	15.073	0.0001*
LNCE doesn't Granger cause LNGDP	1	2	1.697	0.1926
LNGDP doesn't Granger cause LNREP	1	2	5.122	0.0236**
LNREP doesn't Granger cause LNGDP	1	2	2.706	0.0999***

\*, \*\* and \*\*\* represents 1 %, 5 % and 10 % significance level.

Table 8 indicates that there is bilateral causality between renewable energy production and carbon emissions. GDP Per capita Granger causes carbon emissions. There is bilateral causality between renewable energy production and GDP per capita.

## Conclusion

Increases in the environmental degradations stemmed from development policies based on industrialization provided the development of sustainable development policies. In this context, the use of renewable energy sources instead of non-renewable energy sources plays an important role in the decrease of carbon emissions. Therefore, renewable energy investments worldwide increased. Renewable energy production increased over % 100 during the period of 2011-2019. Renewable energy share of electricity production varies between 20 % and 26 during period of 2000-2019. Hydropower accounted for about 61 % of total renewable energy generation. Wind power accounts for about 21 % of total renewable energy generation. Asia, Europe and North America were regions where the highest renewable energy production while the Middle East were regions where the lowest renewable energy production. Especially in the framework EU harmonization policies, renewable energy source investments increased in Turkey.

In this context, the share of total environmental protection expenditures in GDP is by 0.43 % in Turkey and total renewable energy production increased steadily during the period of 2011-2019. Hydropower is the energy source with the highest share in total renewable energy production. The proportion has decreased over time. Wind and solar energy are two sources of energy that continue to dominate growth in renewable generation. This study investigates whether increases in renewable energy productions can be used as an instrument for sustainable development targets. The results of the study indicate that there is bilateral causality between renewable energy production and carbon emissions. GDP per capita Granger causes carbon emissions. There is bilateral causality between renewable energy production and GDP per capita. In this context, it can be concluded that increases in renewable energy productions can be used as a tool for sustainable development targets.

Existing studies prove that renewable energy production is indispensable for sustainable development. But, In order to ensure optimum efficiency from renewable energy sources, energy potential and possible effects of climate changes on renewable energy production should also be taken into account.

## References

- Ahmad, M., Jiang, P., Murshed, M., Shehzad, K., Akram, R., Cui, L and Khan, Z. (2021). Modelling The Dynamic Linkages between Eco-innovation, Urbanization, Economic Growth, and Ecological Footprints for G7 Countries. Does financial globalization matter?. *Sustainable Cities and Society*, No 70, 102881.
- Albayrak, E. N. and Gökçe, A. (2015). Ekonomik Büyüme ve Çevresel Kirlilik İlişkisi: Çevresel Kuznets Eğrisi ve Türkiye Örneği. *Social Sciences Research Journal*, Vol 4, No 2, pp.279-301.
- Artan, S., Hayaloğlu, P. and Seyhan, B. (2015). Çevre Kirliliği, Dışa Açıklık ve Ekonomik Büyüme İlişkisi. *Yönetim ve Ekonomi Araştırmaları Dergisi*, Cilt 13, Sayı 1, ss.308-325.
- Bozoklu, Ş., Yılcı, V. and Görüş, M. Ş. (2020). Persistence in Per Capita Energy Consumption: A Fractional Integration Approach with a Fourier Function. *Energy Economics*, No 91, 104926.
- Chakravarty, D. and Mandal, S. K. (2020). Is Economic Growth A Cause or Cure for Environmental Degradation? Empirical Evidences from Selected Developing Economies. *Environmental and Sustainability Indicators*, No 7, 100045.
- Charfeddine, L. (2017). The Impact of Energy Consumption and Economic Development on Ecological Footprint and CO2 Emissions: Evidence from A Markov Switching Equilibrium Correction Model. *Energy Economics*, No 65, pp.355-374.
- Çepik, B. (2015). Sürdürülebilir Kalkınma Çerçevesinde Türkiye’de Yenilenebilir Enerji Politikaları. Maltepe Üniversitesi Sosyal Bilimler Enstitüsü, (Basılmamış Doktora Tezi), İstanbul.
- Çetintaş, H., Bicil, İ. M. and Türköz, K. (2016). Türkiye’de CO<sub>2</sub> Salınımları, Enerji Tüketimi ve Ekonomik Büyüme İlişkisi. *Finans Politik & Ekonomik Yorumlar*, Cilt 53, Sayı 619, ss.57-67.
- Destek, M. (2018). Çevresel Kuznets Eğrisi Hipotezinin Türkiye İçin İncelenmesi: STIRPAT Modelinden Bulgular. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 19, Sayı 2, ss.268-283.
- Destek, M. A. and Sarkodie, S.A. (2019). Investigation of Environmental Kuznets Curve for Ecological Footprint: The Role of Energy and Financial Development. *Science of the Total Environment*, Vol 650, pp.2483-2489.



- Enders W. and Jones, P. (2016). Grain Prices, Oil Prices, and Multiple Smooth Breaks in a VAR. *Stud Nonlinear Dyn Econ*, Vol 20, Iss. 4, pp.399-419.
- Enders, W. and Lee, J. (2012). The Flexible Fourier Form and Dickey–Fuller Type Unit Root Tests. *Economic Letters*, 117-196-199.
- Erdoğan, İ., Türköz, K. and Görüş, M. Ş. (2015). Çevresel Kuznets Eğrisi Hipotezinin Geçerliliği. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, Cilt 44, ss.113-123.
- Everett, T., Ishwaran, M., Ansaloni, G.P. and Rubin, A. (2010). Economic Growth and The Environment. [https://mpra.ub.uni-muenchen.de/23585/1/MPra\\_paper\\_23585.pdf](https://mpra.ub.uni-muenchen.de/23585/1/MPra_paper_23585.pdf) (accessed 05.07.2021).
- Everett, T., Ishwaran, M., Ansaloni, G.P. and Rubin, A. (2010). Economic Growth and The Environment. [https://mpra.ub.uni-muenchen.de/23585/1/MPra\\_paper\\_23585.pdf](https://mpra.ub.uni-muenchen.de/23585/1/MPra_paper_23585.pdf) (accessed 11.10.2021).
- Granger, C.W.J. (1969). Investigating Causal Relations by Economic Models and Cross-Spectral Methods, *Econometrica*, Vol 37, Iss. 3, pp.424-438.
- Güney, A. (2018). Genişletilmiş Kuznets Eğrisinin Türkiye için Yeniden Değerlendirilmesi. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Cilt 32, Sayı 3, ss.745-761.
- Güzel, F. (2021). Çevresel Kuznets Eğrisi Hipotezinin Türkiye Ekonomisinde Geçerliliğinin Ampirik Analizi. *Uluslararası İktisadi ve İdari İncelemeler Dergisi*, Sayı 30, ss.59-76.
- Hassan, S.A., Khalid, Z. and Shah, G. (2015). The Relationship Between Growth-Inequality-Poverty Triangle and Environmental Degradation: Unveiling The Reality. *Arab Economic and Business Journal*, Vol 10, pp.57-71.
- IRENA (2020). Renewable Energy Statistics 2020. Renewable Energy Statistics 2020 (irena.org).
- IRENA (2021). Renewable Energy Highlights (8 August 2021). Renewable\_energy\_highlights\_August\_2021 (1).pdf.
- IRENA (2021). Renewable Energy Statistics 2021. Renewable energy statistics 2021 (irena.org).
- Jebli, M. B., Youssef, S. B. and Apergis, N. (2019). The Dynamic Linkage Between Renewable Energy, Tourism, CO<sub>2</sub> Emissions, Economic

- Growth, Foreign Direct Investment, and Trade. *Latin American Economic Review*, No 28, <https://doi.org/10.1186/s40503-019-0063-7>.
- Kahuthu, A. (2006). Economic Growth and Environmental Degradation in a Global Context. *Environment, Development and Sustainability*, Iss. 8, pp.55-68.
- Khan, S. A. R., Yu, Z., Belhadi, A. and Mardani, A. (2020). Investing the effects of renewable energy on international trade and environmental quality. *Journal of Environmental Management*, Vol 272, 111089.
- Khan, S.A.R., Yu, Z., Kumar, A., Zavadskas, E. and Streimikiene, D. (2019). Measuring the impact of renewable energy, public health expenditure, logistics, and environmental performance on sustainable economic growth. *Sustainable Development*, pp.1-11.
- Kuznets, S. (1955). Economic Growth and Income Inequality. *The American Economic Review*, Vol 45, No 1, pp.1-28.
- Kuznets, S. (1963). Quantitative aspects of economic growth of nations: III, distribution of income by Size. *Economic Development and Cultural Change*, No 11, pp.1-80.
- Nazlıoğlu, S., Görmüş, N.A and Soytaş U. (2016). Oil Prices and Real Estate Investment Trusts (REITs): Gradual-Shift Causality and Volatility Transmission Analysis. *Energy Economics*, Vol 60, pp.168-175.
- Okumuş, I. (2020). Türkiye’de Yenilenebilir Enerji Tüketimi, Tarım ve CO2 Emisyonu İlişkisi. *Uluslararası Ekonomi ve Yenilik Dergisi*, Cilt 6, Sayı 1, ss.21-34.
- Ongan, S., Işık, C. and Ozdemir, D. (2021). Economic Growth and Environmental Degradation: Evidence from The US Case Environmental Kuznets Curve Hypothesis with Applications of The Decomposition. *Journal of Environmental Economics and Policy*, No 10, pp.14-21.
- Özcan, B., Tzeremes, P. G. and Tzeremes, N. G. (2020). Energy Consumption, Economic Growth and Environmental Degradation in OECD Countries. *Economic Modelling*, Vol 84, pp.203-213.
- Özpolat, A. and Nakipoğlu, Özsoy, F. (2021). Yenilenebilir Enerji Kaynakları Çevresel Bozulmayı Azaltıyor Mu? Türkiye Örneği. *Akademik Araştırmalar ve Çalışmalar Dergisi*, Cilt 13, Sayı 24, ss.49-60.
- Presidency of The Republic of Turkey Presidency of Strategy and Budget (2019). Sürdürülebilir Kalkınma Amaçları Değerlendirme Raporu.

Surdurulebilir-Kalkınma-Amaçları-Degerlendirme-  
Raporu\_13\_12\_2019-WEB.pdf (sbb.gov.tr).

Republic of Turkey Ministry of Environment, Urbanization and Climate Change  
(2006). AB Entegre Çevre Uyum Stratejisi (UÇES) (2007 - 2023).  
Microsoft Word - UCES\_TR.doc (ab.gov.tr).

Saatçi, M. and Dumrul, Y. (2011). Çevre Kirliliği ve Ekonomik Büyüme İlişkisi:  
Çevresel Kuznets Eğrisinin Türk Ekonomisi İçin Yapısal Kırılmalı Eş-  
Bütünleşme Yöntemiyle Tahmini. *Erciyes Üniversitesi İktisadi ve İdari  
Bilimler Fakültesi Dergisi*, Sayı 37, ss.65-86.

Stern, D.I., Common, M. S. and Barbier, E. B. (1996). Economic Growth and  
Environmental Degradation: The Environmental Kuznets Curve and  
Sustainable Development. *World Development*, Vol 24, Iss. 7,  
pp.1151-1160.

Toda, H. Y. and Yamamoto, T. (1995). Statistical Inferences in Vector  
Autoregressions with Possibly Integrated Processes. *Journal of  
Econometrics*, No 66, pp.225-250.

Wang, Y., Kang, L., Wu, X. and Xiao, Y. (2013). Estimating The Environmental  
Kuznets Curve for Ecological Footprint at The Global Level: A  
Spatial Econometric Approach. *Ecological Indicators*, Vol 34, pp.15-  
21.

WFC (2016). Renewable Energy and Sustainable Development Accounting for  
Impacts on the Path to 100% RE. Hamburg: World Future Council.

UN The World Commission on Environment and Development (1987). Report  
of the World Commission on Environment and Development: "Our  
Common Future"  
Our Common Future.

# 11

## Turkish Energy Policy and Energy Security

*Merve Suna Özel Özcan (Kırıkkale University)*

*ORCID ID: 0000-0001-9027-3990*

*mervesuna@yahoo.com*

*Cihan Öten (Kırıkkale University)*

*ORCID ID: 0000-0002-7399-7345*

*otencihan@gmail.com*

### ***Abstract***

*The issue of Energy Security first emerged with the establishment of the International Energy Agency. Although energy security has been a subject of attention since the First World War, its importance has been brought to the fore in the international arena with the outbreak of the Oil Crisis in 1973. In this respect, with the global crisis experienced in the face of the instability in the supply-demand balance in connection with the energy crisis in 1973, states focused on the secure continuity of energy. In the study, the importance of energy security for Turkey will be discussed and Turkey's energy policy will be analyzed. In this context, Turkey, due to its geopolitical and geostrategical conditions, cannot be equated with any other country. Although Turkey is an energy-dependent country, energy security should be recognized differently from any energy-dependent country because of its geography. So this study will focus on Turkey's energy policy in the context of energy security. In terms of energy security, Turkey's energy dependency and its situation as an energy route will be analyzed.*

*Keywords: Energy Security, Transit Security, Turkey*

### **Introduction**

The issue of Energy Security dates back to the First World War. It can be said that the British Prime Minister of the time, Winston Churchill, started an important process in world history with the decision of the British navy to use oil as well as coal. Because this step has led to the start of energy security discussions. The concept of Energy Security, which has been constantly expanding with different threats and risks since the First World War, has constantly brought new dimensions. In this context, there is an ambiguous definition of the concept of Energy Security. One of the main reasons for this ambiguity stems from the different conditions of each country. While some countries have rich

energy resources, some countries do not have these energy resources. For this reason, the energy definition of each country is seen and made in different dimensions. Turkey is one of these countries. Although Turkey is energy dependent, it is an important transit country due to its geographical location. For this reason, the definition of Energy Security for Turkey should not be the same as the definition of any energy dependent state.

From this point of view, it is also important that Turkey becomes an energy route with its geostrategic location and that it is used as a policy in the international arena. For this reason, it is important that Turkey is not only a consumer or buyer country, but also a country that delivers energy as an energy corridor in terms of energy security. In the study, it is emphasized that Turkey needs a new definition of Energy Security. In this direction, the questions to be answered within the scope of the study are:

1. How the conceptualization of energy security should be read?
2. What is Turkey's energy policy and role?
3. What is Turkey's energy security policy and alternatives?

In the first part of the study, the concept of Energy Security will be examined. In the second part, it will be stated that Turkey is an energy dependent country, energy will be defined in line with the literature and Turkey's energy policies will be examined in this direction. In the last part, a new definition of Energy Security will be made by emphasizing that Turkey has an advantageous geographical location. In the study, Turkey's geographical location, energy policy and its determinants will be emphasized. The existence and structure of alternatives to the policies that Turkey has followed in the process, especially in terms of energy dependency, will also be discussed.

## **Energy Security**

Energy security is a crucial political field against cyclical developments in the international arena. In this respect, energy security determines the supply-demand relationship at the point of energy transportation and transportation. In the transport of energy, countries aim to reach their destinations with a third country. From this point of view, while energy flow is provided through many energy routes and straits in the world, its security is one of the important areas that states focus on. As of the 21st century, there are many definitions of the concept of Energy Security. The main reason for the lack of a consensus on the definition is that the concept is an abstract concept, as Daniel Yergin states (Yergin, 2011: 284).

British Prime Minister Winston Churchill's decision to use oil together with coal in his navy in Energy Security is an important turning point (Yergin, 1991, pp. 151-152). The main reason why Churchill used oil instead of coal in the British navy was to become stronger than the German navies (Yergin, 2011: 204). However, Churchill is of course unaware that this step has opened a new topic of discussion in the international arena. Considering the fact that the USA was also in search of oil-oriented industrialization and new resources at that time, it is obvious that energy needs and energy discoveries in the system will begin to be equated with security. Especially in this period, with the fact that oil is the main ingredient in industrialization and related technological progress, it is also possible to carry energy security to the political arena.

The issue of energy security may not be seen as a direct threat area in the first phase of the 20th century. In this period, after the World War II, with the application of the bipolar system, the energy issue became an important part of the system. Because energy is an important raw material for industrialization and growth for both the eastern and western bloc. In terms of energy, the Middle East region emerged as the main region at that time.

The influence of great powers or multinational companies in the oil crises is clearly seen with the power of the nationalization crisis that emerged in Iran in 1950. The income level of the British oil company Anglo Iranian Oil Company while extracting oil in Iran has been quite high compared to the Iranian state. This situation caused Iran to start the attempt to nationalize oil. In this energy vortex created by the power of oil, the crises also affect the power balance and struggle of the actors in the region with cyclical eddies. It is also important that the USA played a role in the crisis experienced in 1973. In this period, in the 1973 Arab-Israeli war, the USA provided a significant amount of economic aid to Israel. Acting on this, OAPEC members increased the price of oil and used oil as a weapon against the USA. This 1973 oil crisis, in particular, proved the importance of oil, and even more broadly, of energy security to the world.

On the other hand, OPEC was established on September 16, 1960 by five oil producing countries (Saudi Arabia, Iran, Kuwait, Iraq and Venezuela) as an important international organization in the axis of crises and foreign interventions in the Middle East region. It was not given much importance by Western countries and it could not be predicted that it could have any effect on oil prices (Demir, 2008: 232). However, the developments in 1973 showed how wrong it was to underestimate OPEC. Again, the example of using oil as a foreign policy and pressure tool is seen when the Oil Exporting Arab Countries (OAPEC) started to reduce oil production.

Based on the Arab-Israeli problem, it has been decided that oil production will be reduced by 5% each month until Israel withdraws from the occupied territories (Öztürk and Saygın, 2017: 3).

After the 1973 crisis, and the oil embargo imposed by OPEC, and the countries of the region against the West, the concept of Energy Security became concrete with the International Energy Agency (IEA) was established on November 15, 1974. IEA was established to ensure the security of oil resources (Scott, 1974: 19-20). In addition, the IEA has four different founding objectives; i) Cooperation in order to save energy, develop alternative energy sources and thus reduce excessive dependence on oil, ii) Establishing an information system on the international oil market, iii) Rational management and use of world energy resources for the benefit of all countries, as well as a stable international energy trade. iv) Plan to prepare member states for the risk of major disruption in oil supply and to share available oil in an emergency (Scott, 1974: 2). With the establishment of the IEA, which we will evaluate in the context of energy security, possible instability in energy supply-demand situations has been tried to be prevented.

Energy security has three pillars: physical, economic and environmental sustainability. These three pillars give us the dimensions of energy security. These three basic energy security points point out the problems in the relations between the consumer and the producer and in the case of the involvement of 3rd parties in the process. Because in the event of a possible problem, this triple structure is disrupted and energy security is also at risk (Asia Pacific Energy Research Centre, 2007: 6-7). At the point of energy security, the policies implemented by the states on the axis of their own interests, the criteria determined by the country and the actor within the system come to the fore. As long as energy security has a broad dimension, it includes many actors and companies. In this respect, besides geography-dependent situations such as energy resources, geoeconomic and geopolitical power balances, there are other situations such as security threats and energy infrastructure systems. In this respect, the parties to energy security vary between importing countries, consumers, main producing countries, transit countries, international companies and policy makers (Çıtak and Pala, 2016: 87-88).

According to Willrich, energy exporting and importing countries should be evaluated separately when defining Energy Security. At this point, Willrich points out that the needs of producer and consumer countries are different. For example, while a country's development of nuclear energy is a necessity for that country, this may be a threat for another country (Willrich, 2003: 746). The first thing we need to specify is the consumer

dimension in terms of energy security. Although there is a dependency of producer countries in consumer countries, the dependency of consumer countries is indisputably obvious. For this reason, the definitions of consumer countries should be different. Miller emphasizes that Energy Security for consumer countries is not independent of the economy. At this point, according to Miller, Energy Security for a consumer country is to obtain energy resources at a socially acceptable cost (Miller, 1997: 122). Secondly, For exporting countries, Energy Security means that the energy source in its possession can be sold continuously and at the most affordable price for itself. In this respect, although producing countries have energy resources, they are dependent on consumer countries. However, while talking about this dependency, it is also important to prefer a producer country in terms of Energy Security and to attract the attention of consumer countries. It should be noted that the dependency level of the relationship between the consumer and the producer consists of using energy resources only as an export item (Willrich, 2003: 753). In other words, most of the producing countries (with the exception of Russia) only offer their oil and natural gas resources for sale and do not use them enough for the development of the industry.

On the other hand, the point of social acceptability, this means an energy supply that can be accepted by the public, especially in terms of cost, without harming the environment. However, although the consumer is a correct definition for a country, it remains incomplete. Accordingly, the APERC Energy Security can be define with 4A (*Availability, Accessibility, Acceptability, Affordability*). 4A has four different dimensions which have been environmental sustainability together with physical and economic security. First, Availability focuses on the availability of sufficient energy sources and the availability of renewable energy sources as well as oil and gas reserves in the world. In the second dimension, what is meant by Accessibility is the state of reaching enough energy sources in a healthy way. In particular, the importance of dynamics such as technological development, geographical factor and workforce is emphasized. Thirdly, Acceptability emphasizes environmental safety. Accordingly, environmental security should be given importance to ensure Energy Security. Finally, Affordability is a dimension where the economic aspect predominates. Being economically sufficient and having purchasing power are not the only issues. At the same time, it is important that the prices in the energy supply market are provided at the lowest possible price. (Asia Pacific Energy Research Centre, 2007). These four elements constitute the sub-units of the triple structure in energy security that we mentioned at the beginning. In addition to addressing security with these dimensions, the process has been changing in the face of many different factors since the beginning of the 20th century.



*Table 1: Example cases and Problems About Energy Security*

Actor and Crisis Levels	Cases
Global Crises	Crisis of 1973, Iran-Iraq War (1980-1988), Gulf War (1990-1991), etc.
Companies/International Actors	Exxon Mobile, Gazprom, etc.
Tools of Foreign Policy	Crises and Russia's stopping/reducing energy exports
Problem of Energy Storage	2020 China Example overbought limited storage
Different policies for different Energy needs	USA- Oil- EU-Natural gas
Instability in Energy Market Price	The energy-oriented nature and fragility of the Russian economy
Natural Disasters, natural events	Hurricanes Katrina and Rita etc.

*Source: Özel Özcan, 2020*

Since the second half of the 20th century, the control of oil resources seems to have played a central role in various wars such as the Iran-Iraq War (1980-1988), the Gulf War (1990-1991), as well as the 1973 Crisis. In this respect, especially in the post-Cold War period, the concept of energy security has started to come to the fore in the international arena. In this respect, although the liberalization paradigm started to dominate especially in energy markets since the 1990s, the presupposition that there is a natural balance between supply and demand creates more dependence on market forces in energy security. Also In this sense, energy security is faced with new crises as of the 2000s. Because not only the individual factor, but also the situations outside the control of the individual in the system affect the process directly and costly. One of these crises is the earthquake that took place in Japan in 2011 and the tsunami that occurred after it caused many people to die. In addition, it caused a complete collapse of the electrical system. The collapse of the electrical system is very important. Because although it is thought that it can be rebuilt, countries such as China and India still face chronic electricity problems (Yergin, 2011: 286).

## **Turkey's Energy Security and Energy Policies**

The first thing to be considered is that Turkey is a country that needs energy, just like in all developing countries. This is due to the increase in energy consumption in conjunction with economic growth (Kaya, 2012: 280). Turkey is 74% foreign-dependent in terms of energy resources. The two main energy sources that make up this dependency of Turkey are natural gas and oil. In this respect, Turkey is a consumer country in terms of fossil energy dependence. Turkey's dependence on natural gas is at a very high level. It ranks second after China among the countries most dependent on natural gas in the world (MFA, 2021). This is clearly seen

when looking at Table-2. Looking at the data of 2020, there is a huge difference between Turkey's production and consumption. The natural gas consumed by Turkey corresponds to approximately one hundred times the natural gas it produces. When the other years are examined, it is seen that the same situation is in question. In this direction, the most dependent source among Turkey's energy resources has been natural gas.

*Table 2: Datas of Turkey's Natural gas Consumption*

Year	Consumption	Production	Imported Quantity
2020	48.261,352 Milyon Sm <sup>3</sup>	441,27 Milyon Sm <sup>3</sup>	48.125,51 Milyon Sm <sup>3</sup>
2019	45.285,498 Milyon Sm <sup>3</sup>	473,87 Milyon Sm <sup>3</sup>	45.211,47 Milyon Sm <sup>3</sup>
2018	49.523,933 Milyon Sm <sup>3</sup>	428,17 Milyon Sm <sup>3</sup>	50.368,58 Milyon Sm <sup>3</sup>
2017	53.857,136 Milyon Sm <sup>3</sup>	354,15 Milyon Sm <sup>3</sup>	55.249,95 Milyon Sm <sup>3</sup>
2016	46.395,060 Milyon Sm <sup>3</sup>	367,28 Milyon Sm <sup>3</sup>	46.352,17 Milyon Sm <sup>3</sup>

*Source: EPDK, 2021*

It is observed that Turkey's dependence on oil, as well as natural gas, which is another fossil energy source, is at a significant level. As can be seen in Table-3, the amount of oil production is at a level that cannot meet the amount of consumption. Based on the data for 2020, this situation emerges clearly. In this respect, when Turkey's oil imports and production are compared, there is a significant difference between the two. When viewed in this direction, Turkey's oil dependency is also clearly revealed.

*Table 3: Datas of Turkey's Oil Consumption*

Year	Consumption	Production	Imported Quantity
2020	33.618.570,292 Ton	24.267.930,464 Ton	40.502.709,620 Ton
2019	39.632.927,010 Ton	27.596.425,350 Ton	44.822.756,254 Ton
2018	36.073.312,775 Ton	20.539.688,313 Ton	38.711.454,518 Ton
2017	37.778.249,655 Ton	22.674.807,359 Ton	42.653.420,593 Ton
2016	35.553.647,147 Ton	21.211.892,017 Ton	40.064.000,956 Ton

*Source: EPDK, 2021*

On the other hand, Turkey's Energy Security should be evaluated primarily through its energy dependence. Turkey's energy policies are mainly carried out by the Ministry of Energy and Natural Resources (Alodalı et. al, 2020: 4). In this direction, one of the main points of Turkey's policies has been to ensure energy supply diversity (MFA, 2021). Here, the energy supply diversity should be interpreted on the basis of both countries and energy resources. First of all, it is necessary to look at the country diversity in Turkey's energy imports. First of all, if we look at oil, Turkey imports oil from thirty-five different countries as of 2020 (EMRA, 2021: 7-8). As can be seen in Table-4, although the share of Iraq and Russia is quite high,

there is no dependency on a single country. This has been an indication of the country's diversity in oil supply.

*Table 4: Turkey Crude Oil Imports (2020)*

Country	Quantity	Ratio
Iraq	11.783.566,273 Ton	%29.09
Russia	8.579.385,833 Ton	%21.18
Kazakhstan	3.331.615,854 Ton	%8.23
Saudi Arabia	3.197.754,710 Ton	%7.90
Norway	2.841.396,494 Ton	%7.02
Other	10.769.071,456	%26.58

*Source: EPDK, 2021*

When Turkey's natural gas policies are examined, it is possible to say that natural gas supply diversity is provided. As can be seen in Table-5, although Russia and Azerbaijan constitute the majority of Turkey's natural gas supply, there is no dependency on a single country. At this point, it will be important to look at the dependencies of the European Union member states in order to prove that Turkey provides natural gas supply diversity. Energy dependence of EU members on Russia is 46.7% on average in the light of 2019 data (Eurostat, 2020). As of 2019, Turkey has a 33.61% dependency on Russian natural gas (EMRA, 2020: 10). These data show that when Turkey is compared with the member states of the European Union, natural gas has covered a significant distance in country diversity. Compared to some European Union member states, this difference becomes much more serious.

*Table 5: Turkey Crude Natural Gas Imports (2020)*

Country	Quantity	Ratio
Russia	16.166 Milyon Sm <sup>3</sup>	%33.59
Azerbaijan	11.548 Milyon Sm <sup>3</sup>	%24
Algeria	5.573 Milyon Sm <sup>3</sup>	%11.58
Iranian	5.231 Milyon Sm <sup>3</sup>	%11.06
Nigeria	1.358 Milyon Sm <sup>3</sup>	%2.82
Other	8.159 Milyon Sm <sup>3</sup>	%16.95

*Source: EPDK, 2021*

While Turkey carries out policies to ensure country diversity in fossil fuels in its energy policies, it also carries out policies to increase diversity in the context of energy resources. At this point, renewable energy sources come to the fore. Increasing the share of renewable energy sources in electricity generation has been the main target (MFA, 2021). One of the main reasons for the formation of such a target was to increase the energy diversity while minimizing the cost spent on energy (Product and Soylu, 2016: 35).

It is also important for Turkey to turn to renewable energy sources. This is important in terms of reducing dependency on fossil fuels. Within the scope of the National Energy Policy adopted in 2017, the use of domestic and renewable energy sources has become a priority (T.C. Dış İşleri Bakanlığı, npd). Costs are also an important item for Energy Security, thus affecting purchasing and accessibility. At this point, it is possible to say that Turkey is following a serious policy. When Table-6 is examined, this becomes clear. Turkey, which has produced almost zero energy production from wind as of 2006, has produced approximately 20 times more production as of 2019. The same is true for solar and biogas. It is seen that Turkey has achieved the diversity of supply in its energy policies both in the context of the country and in the context of energy resources.

*Table 6: Amount of Electricity Produced by Turkey from Renewable Energy Sources*

Renewable Energy Sources	2006	2017	2018	2019
Wind	127.0 GWH	17.904.0 GWH	19.949.0 GWH	21.780.0 GWH
Sun	10.0 GWH	2.889.0 GWH	7.800.0 GWH	9.578.0 GWH
Biogas	12.0 TJ	2.531.0 TJ	3.562.0 TJ	3.700.0 TJ

*Source: IEA, 2020*

It is seen that the total energy demand of Turkey has increased exponentially due to its increasing population and economic growth in recent years. This situation affects medium and long-term energy policies. In this point Turkey also focuses on domestic resources, especially renewable energy, as we mentioned in terms of energy supply security strategies. In this respect, besides fossil, nuclear technology also stands out. Lastly, the subject we should mention is nuclear energy within the scope of alternative energy power. Currently, two nuclear power plant projects are ongoing in Turkey (Özev, 2017). Turkey signed the Agreement on Cooperation with Russia on the Establishment and Operation of a Nuclear Power Plant in the Akkuyu Field on 12 May 2010. Thus, he stepped into the field of nuclear energy. The second nuclear power plant project is Sinop Nuclear Power Plant. This agreement was signed with Japan on May 3, 2013 (T.C. Enerji ve Tabii., npd).

## **Status of Turkey as an Energy Corridor**

Starting from energy security, energy geopolitics is important in terms of the geographical location of states. It can be said that this situation creates transition areas and countries that are dependent on each other for the transportation and transportation of energy from one place to another. These transition areas are also an important dimension of energy security. In particular, the transportation of energy provides the continuity of

commercial relations in terms of the existence of political economy. In this respect, profit and loss margins and how they will be shaped depending on the slightest change are calculated.

The energy corridor situation should be examined in the context of Turkey's geopolitical position in energy policy. A new dimension is required for Turkey's definition of Energy Security. The reason for this need is that due to Turkey's geopolitical position, it acts as a bridge between the Asian and European Continents. Therefore, Turkey cannot be the same as any energy dependent country depending on this geographical location. Countries with the world's largest proven oil and natural gas reserves form a crescent shape in the northeast of Turkey (Özev, 2017). The western part of Turkey is composed of European countries dependent on energy resources. Therefore, as can be seen in Map-1, Turkey is a complete transition zone.

*Map 1: Oil and Natural Gas Pipelines Passing Through Turkey*



*Source: BOTAŞ, 2020*

This important geographical feature of Turkey gives it the importance of being an energy corridor and transit route. There are nine natural gas and oil pipelines in Turkey (Map 1). Many of these are also planned for energy supply to Europe. These pipelines are (BOTAŞ, 2021):

- i. Turkey Greece Natural Gas Pipeline.
- ii. Baku-Tbilisi-Ceyhan Crude Oil Pipeline.
- iii. The Trans Anatolian Pipeline Project.

- iv. The Turkish Stream Project
- v. Russian Federation – Turkey Natural Gas Main Transmission Line
- vi. East Anatolian Natural Gas Main Transmission Line
- vii. Russia- Samsun – Ankara Natural Gas Transmission Line (Blue Stream)
- viii. Dörtyol Floating LNG Storage and Regasification Terminal (FSRU)
- ix. Azerbaijan – Turkey (Shah Deniz I) Natural Gas Pipeline

Among the pipeline projects that have been realized and are in operation, the Turkish Stream Project is important. Because the TurkStream Project is a project that bypasses Ukraine from the energy corridor position (Özel, 2015). In this context Before the Turkish Stream Project, the South Stream Project was originally planned to be built. The South Stream project was passing through Bulgaria and did not cover Turkey. But it could not be done due to various problems. So the Turkish Stream Project was designed to transport Russian natural gas to Europe and it was planned to pass through Turkey project, in fact, clearly reveals the importance of Turkey's transition region feature.

In addition to the oil and natural gas pipelines passing through Turkey, the Turkish Straits in particular reveal the energy transition region of Turkey. In this regard, it is seen that the amount of oil and natural gas passing through the Turkish Straits was last discussed in the EIA report in 2016. Accordingly, as of 2016, the amount of natural gas and oil passing through the Turkish Straits is 2.4 million barrel tons per day (EIA, 2017, p. 2). While Turkey is a transit center for pipelines, it also becomes an important transit center in maritime trade in the energy context, thanks to its Straits.

The transition region characteristic of Turkey creates the need for a redefinition of Energy Security. One of the aims of Turkey's energy policies is to contribute to regional and global Energy Security while being a regional trade center in energy (MFA, 2021). Of course, due to Turkey's transition zone nature, the goal of becoming a commercial center is an appropriate one. However, this is a missing approach for Turkey's Energy Security. Oil and natural gas pipelines passing through Turkey do not only contribute to Turkey's Energy Security. It also contributes to the Energy Security of both energy-dependent European countries and energy

producing countries. At this point, Turkey emerges as an important actor in ensuring Energy Security in the world.

## Conclusion

The historical past, in which the issue of energy security began to come to the fore in the international arena and global problems took place for more than a century, is almost more than a century. The concept of Energy Security has had to be constantly redefined due to many crises. Although there are many definitions, the common point of these definitions is the distinction between producer and consumer. In this context, the Energy Security of producer and consumer countries has been defined in different ways. The nature of the situation, opportunity and disaster related to energy resources creates a fragile reality not only for the consumer but also for the producers. In this respect, the example of Turkey should also be evaluated on the axis of real politics that includes differences. As Turkey's energy dependent, Energy Security is defined as sufficient resource supply and supply diversity. In this direction, Turkey's supply diversity has been provided in the context of both the country and energy resources. First of all, when viewed in the context of the country, Turkey is not dependent on a country for both natural gas and oil supply. For example, although the shares of Russia and Azerbaijan in natural gas are high, they were not dependent on a single country and alternatives were created.

In addition, due to its geographical location, Turkey is positioned as a transition zone in the middle of energy producing countries and energy dependent countries. This causes Turkey's definition of Energy Security to be handled in a different lane compared to other energy-dependent countries. Turkey's feature of being a transition region causes it to come to the fore in energy supply. Energy supply to energy-dependent European countries is made through Turkey. Turkey will also play a major role in supplying energy to energy-dependent European countries. For this reason, Turkey's Energy Security should be considered as "Transit Security" instead of a regional energy trade center.

## References

- Alodalı, M. B., Kocaoğlu, M. and Usta, S. (2020). Türkiye'nin Enerji Politikaları ve Bölgesel İşbirliği'nin Önemi. *Paradoks Ekonomi, Sosyoloji ve Politika Dergisi*, ss.1-10.
- Asia Pacific Energy Research Centre. (2007). *A quest for energy security in the 21st century : resources and constraints*. Tokyo: Inst. of Energy Economics.

- BOTAŞ (2020). *Doğalgaz ve Petrol Boru Hatları Haritası*. BOTAŞ:  
<https://www.botas.gov.tr/Sayfa/dogal-gaz-ve-petrol-boru-hatlari-haritasi/168> adresinden alındı.
- BOTAŞ (2021). *Tamamlanan Önemli Projelerimiz*. BOTAŞ:  
<https://www.botas.gov.tr/Sayfa/tamamlanan-onemli-projelerimiz/504> adresinden alındı.
- Çıtak, E. and Pala, P. B. (2016). Yenilenebilir Enerjinin Enerji Güvenliğine Etkisi. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, Cilt 3, Sayı 25, ss.79-102.
- Davutoğlu, A. (2012). *Stratejik Derinlik*. İstanbul: Küre Yayınları.
- Demir, İ. (2008). OPEC: Güçlü Bir Kartel?, *SDÜ Fen Edebiyat Fakültesi Sosyal Bilimler Dergisi*, ss.231-246.
- EİA. (2017). *World Oil Transit Chokepepoints*. Washington: U.S. Energy Information Administration.
- EPDK (2017). *Doğalgaz Piyasası 2016 Sektör Raporu*. Ankara: Enerji Piyasası Düzenleme Kurumu.
- EPDK (2020). *Doğalgaz Piyasası 2020 yılı Sektör Raporu*. Ankara: Enerji Piyasası Düzenleme Kurumu.
- EPDK (2021). *Doğalgaz Piyasası 2020 Sektör Raporu*. Ankara: Enerji Piyasası Düzenleme Kurumu.
- EPDK (2021). *Doğalgaz Piyasası Yıllık Sektör Rapor Listesi*. Enerji Piyasası Düzenleme Kurumu: <https://www.epdk.gov.tr/Detay/Icerik/3-0-94/yillik-sektor-raporu> adresinden alındı.
- EPDK (2021). *Petrol Piyasası 2020 Yılı Sektör Raporu*. Ankara: Enerji Piyasaları Düzenleme Kurumu.
- EPDK (2021). *Petrol Piyasası YıllıkSektör Raporu Listesi*. Petrol Piyasası Düzenleme Kurumu: <https://www.epdk.gov.tr/Detay/Icerik/3-0-107/yillik-sektor-raporu>
- Eurostat (2020). *From Where Do We Import Energy?* European Union:  
<https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>.
- Eurostat (2020). *Germany*. European Union:  
[https://ec.europa.eu/eurostat/cache/infographs/energy\\_trade/entrade.html?geo=DE&year=2019&language=EN&trade=imp&si=3000](https://ec.europa.eu/eurostat/cache/infographs/energy_trade/entrade.html?geo=DE&year=2019&language=EN&trade=imp&si=3000)



&filter=all&fuel=gas&unit=TJ\_GCV&defaultUnit=TJ\_GCV&detail=1&chart=a.

Eurostat (2020). *Poland*. European Union:

[https://ec.europa.eu/eurostat/cache/infographs/energy\\_trade/entrade.html?geo=PL&year=2019&language=EN&trade=imp&si=3000&filter=all&fuel=gas&unit=TJ\\_GCV&defaultUnit=TJ\\_GCV&detail=1&chart=pie](https://ec.europa.eu/eurostat/cache/infographs/energy_trade/entrade.html?geo=PL&year=2019&language=EN&trade=imp&si=3000&filter=all&fuel=gas&unit=TJ_GCV&defaultUnit=TJ_GCV&detail=1&chart=pie).

IEA (2020). *Renewables*. Uluslararası Enerji Ajansı: <https://www.iea.org/fuels-and-technologies/renewables>.

Kaya, İ. S. (2012). Uluslararası Enerji Politikalarına Bir Bakış: Türkiye Örneği. TBB Dergisi, No 102.

MFA (2021). *Türkiye'nin Uluslararası Enerji Stratejisi*. Türkiye Cumhuriyeti Dışişleri Bakanlığı: [https://www.mfa.gov.tr/turkiye\\_nin-enerji-stratejisi.tr.mfa](https://www.mfa.gov.tr/turkiye_nin-enerji-stratejisi.tr.mfa).

Miller, L. (1997). Energy, Security and Foreign Policy. *International Security*, ss.111-123.

Özel, M. S. (2015). Rus Dış Politikasında Ukrayna Krizi ve Türkiye'ye Etkileri. *IV. Türkiye Lisansüstü Çalışmaları Kongresi - Bildiriler Kitabı II* içinde (pp.73-88).

Özel Özcan, M. S. (2020). Enerji Kaynağı Mücadelesi ve Enerji Güvenliği. Emre Çıtak ve Sami Kiraz (Eds.), *Uluslararası Güvenlik: Gelenekselden Güncele Bir Gündem Analizi*, Ankara: Orion Yayınevi.

Özev, M. H. (2017). *Küresel Denklemden Türkiye'nin Enerji Güvenliği*. İstanbul: Setav Yayınları.

Öztürk, S. and Saygın, S. (2017). 1973 Petrol Krizinin Ekonomiye Etkileri ve Stagflasyon Olgusu. *Balkan Sosyal Bilimler Dergisi*, Cilt 6, Sayı 12, ss.1-12

Ruble, I. (2017). European Union Energy Supply Security: The Benefits of Natural Gas Imports from the East Mediterranean. *Energy Policy*, ss.341-353.

Scott, R. (1974). *Origins and Structure*. Paris: International Energy Agency.

Tarihi Olaylar (2019). *Dünyadaki En Önemli Boru Hattı Projeleri*. Tarihi Olaylar: <https://www.tarihiolaylar.com/galeriler/dunyadaki-en-onemli-boru-hatlari-260>.

- T.C. Dış İşleri Bakanlığı (npd). Türkiye'nin Uluslararası Enerji Stratejisi, [https://www.mfa.gov.tr/turkiye\\_nin-enerji-stratejisi.tr.mfa](https://www.mfa.gov.tr/turkiye_nin-enerji-stratejisi.tr.mfa).
- T.C. Enerji ve Tabii Kaynaklar Bakanlığı (npd). Nükleer Enerji, <https://enerji.gov.tr/nukleer-enerji-ve-uluslararasi-projeler-genel-mudurlugu-nukleer-enerji>.
- Ürün, E. and Soylu, E. (2016). Türkiye'nin Enerji Üretiminde Yenilenbilir Enerji Kaynakları Üzerine Bir Değerlendirme. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, ss.31-45.
- Willrich, M. (2003). International Energy Issues and Options. *Annual Review of Energy*, pp.743-772.
- Yergin, D. (1991). *Petrol: Para ve Güç Çatışmasının Epik Öyküsü*. İstanbul: Türkiye İş Bankası Yayınları.
- Yergin, D. (2006). Ensuring Security. *Foreign Affairs*, pp.69-82.
- Yergin, D. (2011). *The Quest: Energy, Security, and the Remaking of the Modern World*. New York: The Penguin Press.
- Yüksel, F. (2020, Nisan 3). *Türk Akım'dan Avrupa'ya İlk Çeyrekte 1.3 Milyar Metreküp Gaz Taşındı*. Anadolu Ajansı, <https://www.aa.com.tr/tr/ekonomi/turkakimdan-avrupaya-ilk-ceyrekte-1-3-milyar-metrekup-gaz-tasindi/1790690>.

# **TURKEY**

## **IN A CHANGING WORLD ORDER**

### **ECONOMICS, POLITICS AND FOREIGN POLICY**

---

In our age, great transformations are observed in the world in the context of scientific, cultural and field developments. These transformations reveal some changes in Turkey as well as in the rest of the world. Transformations in the intellectual field and society in Turkey, which stepped into the republic with a great revolution in 1923, have also affected recent developments as a great legacy. As a matter of fact, in this study, it is aimed to reveal a book consisting of interdisciplinary articles depending on the changing world order in Turkey. The sole purpose of this book is to create a work consisting of current theoretical and empirical articles on Turkey, especially on politics, economy and foreign policy. Turkey, both its geographical location and its political, economic and foreign policy situation as a European state, can offer some experience in terms of the course of the world. Addressing the articles mentioned in Turkey, which has a democratic regime and is articulated with capitalism, can contribute to academics and field researchers.

ÖMER UĞUR  
KADİR CANER DOĞAN

**TURKEY  
IN A CHANGING WORLD ORDER  
ECONOMICS, POLITICS AND FOREIGN POLICY**

**IJOPEC**

**PUBLICATION**

London [ijopec.co.uk](http://ijopec.co.uk) Istanbul

## TURKEY IN A CHANGING WORLD ORDER ECONOMICS, POLITICS AND FOREIGN POLICY

In our age, great transformations are observed in the world in the context of scientific, cultural and field developments. These transformations reveal some changes in Turkey as well as in the rest of the world. Transformations in the intellectual field and society in Turkey, which stepped into the republic with a great revolution in 1923, have also affected recent developments as a great legacy. As a matter of fact, in this study, it is aimed to reveal a book consisting of interdisciplinary articles depending on the changing world order in Turkey. The sole purpose of this book is to create a work consisting of current theoretical and empirical articles on Turkey, especially on politics, economy and foreign policy. Turkey, both its geographical location and its political, economic and foreign policy situation as a European state, can offer some experience in terms of the course of the world. Addressing the articles mentioned in Turkey, which has a democratic regime and is articulated with capitalism, can contribute to academics and field researchers.

**IJOPEC  
PUBLICATION**  
London [ijopez.co.uk](http://ijopez.co.uk) Istanbul



9 781913 809300

TURKEY  
IN A CHANGING WORLD ORDER  
ECONOMICS, POLITICS AND FOREIGN POLICY

ÖMER UĞUR  
KADİR CANER DOĞAN

**IJOPEC  
PUBLICATION**  
London [ijopez.co.uk](http://ijopez.co.uk) Istanbul

# TURKEY IN A CHANGING WORLD ORDER

ECONOMICS, POLITICS AND FOREIGN POLICY

ÖMER UĞUR  
KADİR CANER DOĞAN



**IJOPEC  
PUBLICATION**  
London [ijopez.co.uk](http://ijopez.co.uk) Istanbul