

# MULTIDISCIPLINARY PERSPECTIVES IN EDUCATIONAL AND SOCIAL SCIENCES III

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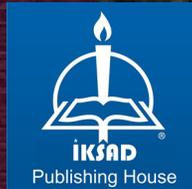
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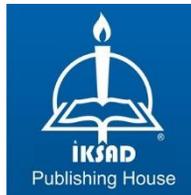
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## **CONTENTS**

### **PREFACE**

*Prof. Dr. Mustafa KAHYAOĞLU*.....1

### **CHAPTER 1**

#### **ARBITERS OF PANDEMIC RHETORIC: THE COVID-19 PANDEMIC AND THE CASE OF TURKEY**

*Assoc. Prof. Dr. Tolga ÇELİK*

*Prof. Dr. Huriye TOKER*.....3

### **CHAPTER 2**

#### **USE OF FRESH AND DRY SPICES IN THE CUISINE: THE CASE OF SİVAS**

*Hilal DER*

*Assoc. Dr. Meral YILMAZ* .....25

### **CHAPTER 3**

#### **THE MERMAID AND THE MINOTAUR AS SYMBOLS OF FEMININITY AND MASCULINITY CAROL SHIELD'S NOVELS THE REPUBLIC OF LOVE AND LARRY'S PARTY**

*Prof. Dr. Cristina NICOLAESCU* .....73

### **CHAPTER 4**

#### **THE NECESSITY OF MULTICULTURALISM FOR ADULT EDUCATION IN THE CONTEXT OF TURKEY**

*Lect. Dr. Kadriye DİMİCİ* .....83

## **CHAPTER 5**

### **TRAVEL TO THE PAST IN ENTOMOLOGY IN INDIA**

*Assoc. Prof. Dr. Meena YADAV,*

*Assoc. Prof. Dr. Hakan BOZDOĞAN,*

*Assoc. Prof. Dr. Ahmad PERVEZ.....105*

## **CHAPTER 6**

### **A COMPARATIVE SOGIOLOGICAL REVIEW: MARX, WEBER AND HABERMAS ON MODERNITY AND POSTMODERNITY**

*Assoc. Prof. Dr. İbrahim MAZMAN*

*Lect. Dr. İbrahim Hakan GÖVER .....121*

## **CHAPTER 7**

### **DECENTRALIZED OR CENTRALIZED FINANCING OF PUBLIC SCHOOLS: WELFARE, INEQUALITY, AND SEGREGATION**

*Assoc. Prof. Kuzey YILMAZ*

*Assoc. Prof. Muharrem YEŞİLIRMAK .....145*

## **CHAPTER 8**

### **LEGAL RESPONSE TOWARDS PETS IN INDIA**

*Assist. Prof. Bhumika SHARMA*

*Muskan AGNIHOTRI .....159*

## **CHAPTER 9**

### **THE EFFECT OF EXPANDING GREEN CARD HEALTH INSURANCE ON THE LABOR SUPPLY OF INDIVIDUALS**

*Assoc. Prof. Abdullah TİRGİL*

*Res. Assist. Ümit ACAR .....183*

## **CHAPTER 10**

### **MISCONCEPTIONS OF UNIVERSITY STUDENTS REGARDING THE CONCEPT OF EXERCISE**

*Assoc. Prof. Mergül ÇOLAK*

*Lec. Dr. Anıl TÜRKELİ*

*İlayda Nur ÖZELGÜL .....207*



## **PREFACE**

Scientific knowledge is information obtained through scientific research carried out in a certain systematic way. The fact that it is based on scientific methods ensures that this information is universal and accepted as correct unless proven otherwise. As in most sciences, scientific information in the field of social and educational sciences is obtained by using scientific methods. Therefore, scientific publication of studies obtained by scientific methods is very important for scientists working in these fields. The book named "Social and Educational Sciences-3" has been published, based on the idea of sharing and universalizing knowledge with its original structure of social and educational sciences. This book consists of 10 chapters.

In the first chapter "The referees of pandemic rhetoric: the covid-19 pandemic and the example of Turkey", the tweets of 5 members of the Science Board of the Ministry of Health during the Covid-19 period were examined. The impact of these tweets on public health was evaluated.

In the second chapter "Use of Fresh and Dry Spices in the Cuisine: The Case of Sivas", the local cuisine culture of the new generation and the spices used in the Sivas region are introduced. In the third chapter "The Mermaid and the Minotaur as Symbols of Femininity and Masculinity Carol Shield's Novels the Republic of Love And Larry's Party" looks at gender relations in the Carol Shields novels The Republic of Love and Larry's Party from the symbolic perspective of mythological attributes femininity and masculinity manifest in love and marriage. In the fourth chapter "The Necessity of Multiculturalism for Adult Education in the Context of Turkey", the relationship between adult education and multiculturalism has been examined. In addition, some suggestions were presented to educators and decision makers about adult education given to individuals from different cultures in Turkey. In the fifth chapter section "Travel to the Past in Entomology in India", the situation of insects in India from past to present is explained. In the sixth chapter, three German thinkers were compared in terms of their thoughts on modernity and postmodernity. Due to witnessing different stages of modernism and having different social and economic backgrounds, each of these German thinkers adopted different viewpoints and made different contributions or critics on the issue. In the seventh chapter, central and decentralized financial resources of public schools are evaluated in the context of welfare, inequality and discrimination. In the eighth chapter, the rights of pets in India and the legal regulations are presented. In the ninth chapter, the expansion of the green card health insurance assistance package

for the poor in Turkey and its effect on employment are examined. In the tenth chapter, university students' prior knowledge and misconceptions about the concept of exercise were examined. It has been tried to include current issues as much as possible in this book, which has emerged as a result of the long and intense efforts of the lecturers and researchers working in different universities in Turkey and the world.

We would like to thank all the researchers who contributed to the preparation of the book named " Social and Educational Sciences-3". Moreover, We would also like to thank the ISPEC publishing, which played a major role in the publication of the book.

Prof.Dr. Mustafa KAHYAOĞLU

2022

## CHAPTER 1

### ARBITERS OF PANDEMIC RHETORIC: THE COVID-19 PANDEMIC AND THE CASE OF TURKEY

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## INTRODUCTION

A pandemic refers to an epidemic that has spread over a wide geographical area to affect many people. The 2019 outbreak of a novel coronavirus, namely 2019-nCoV, is not the first such example, it is regarded as “the first pandemic of the 21st century” (Figuie 2014, 475). Within four months of the first announcement of the outbreak, on December 9, 2019, there were 1.3 million confirmed cases and 80,000 deaths, representing nearly 3.4% of reported COVID-19 cases. In the first three weeks of April, cases doubled to reach 15 million cases, and nearly 629,000 deaths by July 2020 (WHO, 2020). Given the global spread of this outbreak, there is a need for knowledge about its social dynamics and related public health responses within a risk communication framework. Besides the traditional media, changing trends in communication patterns and the expansion of social media pose both new challenges and possibilities in risk communication for infectious disease prevention.

Today, risk communication has entered a new phase based on the perspective of building risk communication around dialogue with the public especially with interested and concerned stakeholders. The situation is complicated by varying levels of epistemic and institutional trust in different nations and by the ways in which trust is negotiated in a fragmented media landscape, rife with false rumors and potential echo chambers. Yet, although trust is the central issue in risk communication during pandemics, the literature has still not defined exactly what trust means and how it can be operationalized. There is a consistent finding of decreased public trust in government, political institutions, and the media in all advanced industrialized democracies, including Turkey. For example, according to the 2018 Eurobarometer, 39 % of EU citizens show little or no confidence in the media while only one in five have high confidence (Zarfass *et al.*, 2018). Similarly only 29.9 % of Turkish people trust journalists, nearly same level as trust for ordinary citizens, at 28.4%. Only influencers and bloggers have higher trust levels, at 44.1%. According to the barometer, journalists are the least trusted group, ranked 19th out of 22 countries (Zerfass *et al.*, 2019). This lack of trust is an important obstacle to risk communication during a pandemic response.

Besides the lack of trust in the Turkish media, risk communication actions are not strategically designed according to differentiated risks, target groups, public needs, traditional and social media alternatives. Instead, they have been mostly handled as crisis communication and applied proactively in written form via the Turkish Ministry of Health’s web site as information

about warnings and rules. Furthermore, previous research shows that the most important problems regarding risk and health communication during disasters, epidemics, and pandemics are moderate institutional trust and low media trust, and the lack of bi-directional communication with official institutions (Sunbul *et al.*, 2015).

Given this background and the perspective of risk communication, this study focuses on two novel actions that the Turkish government took regarding COVID-19 outbreak communication: giving a central position to its scientific advisory board and the Turkish Ministry of Health's increased use of social media, specifically Twitter, to provide daily updates during the government's pandemic response. These innovative risk communication actions help explain the ministry's successful response to the COVID-19 outbreak. Many recent surveys have shown that Health Minister Fahrettin Koca and the scientific advisory board members have been the most trusted actors during the outbreak.<sup>3</sup> The board members became the new agenda setters by giving scientific advice to the ministry, informing the public via traditional and social media, and creating necessary awareness about the outbreak response. The active use of Twitter by the ministry and Koca to provide outbreak information is a new development for the Turkish public sphere. Twitter became a new medium with an increasing posts (Table 1) and a real-time information source regarding COVID-19.

To understand the rhetoric of risk communication related to these innovative pandemic responses, this study investigates the most active Twitter accounts of five scientific board members (4 board members and Health Minister Koca) using Witte's (1992) extended parallel process model (EPPM). This addresses the impact of message content and provides a useful theoretical model to assess media messages in a public health emergency. The model has previously been applied by Goodall *et al.* (2012) to investigate media coverage related to the H1N1 virus while Dudo *et al.* (2007) expanded the model to analyze avian flu coverage in the US to assess the quality of risk information in media coverage. Whereas these studies investigated electronic and traditional media outlets, the present study expands the investigation to the social media posts of scientific board members, who have been Turkey's

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<sup>3</sup> According to various recent surveys, 75 % of the public trust the ministry of health and the minister, making them the most trusted actors in the pandemic while the second most trusted group is the scientific advisory board members (CNNTürk, 2020; MediaCat, 2020).

dominant news source and main agenda setters during the COVID-19 outbreak. Given this development, it is necessary to assess the quality of risk-related information that they provide so as to understand public perceptions of risk related to COVID-19 in Turkey and the public's high level of trust in these actors.

## **RISK COMMUNICATION DURING PUBLIC EMERGENCIES**

After vaccines, effective, transparent, real-time information sharing during pandemics is considered the most important tool (Barry, 2009:324). However, according to the risk communication researchers, recent crises in health and other fields show the difficulty of disseminating instructions successfully due to uncertainty and incomplete data (Sellnow-Richmond *et al.*, 2018:136). "Risk communication in practice shows itself to be a much more complex, muddled, and disorderly process in which agents seldom have control over the communicative agenda" (Löfstedt, 2010). Trust is the main component in this process.

However, trust in the media has decreased worldwide in the last 50 years (Zerfass *et al.*, 2018), although media coverage, ranging from newspapers to television and social media, still "serves as a primary source of risk information for the public during periods of crisis and instability" (Fung *et al.*, 2011). The framing of public health crises (Schultz *et al.*, 2012; Roche and Muskavitch, 2003) plays a significant role in the evolution of a crisis, attribution of its meaning, and the public's response to it (Witte, 1992). The level of uncertainty shapes public risk perception (Gesser-Edelsburg and Shir-Raz, 2015), which influences the "public's inflation or attenuation of the risk" (Covello and Sandman, 2001; Dudo *et al.*, 2007, Saxon *et al.*, 2019). In this framework, "the individual context and interpersonal relationships also play a major role in message interpretation" (Leiss and Powell, 2004). For example, "recent research on newspaper coverage of swine flu, avian flu, and West Nile virus have found that information from a trusted source that is evidence-based with its context presented and framed in a measured, appropriate way, helps the public effectively assess risk" (Dudo *et al.*, 2007; Roche and Muskavitch, 2003; Schultz *et al.*, 2012; Saxon *et al.*, 2019). In line with this logic, information from Turkey's scientific advisory board members and its Health Ministry were trusted and dominated the public agenda through the media in Turkey.

## RISK COMMUNICATION AND OUTBREAKS IN TURKEY

Health communication emerged in Turkey's academic literature in 1988 while there were nearly 200 academic theses on the topic by 2016 (Ayaz and Ayaz, 2017). As health communication research has grown slowly, risk communication is a rarely investigated field. However, widespread debates regarding earthquakes in Turkey, particularly after the 1999 Marmara earthquake, were milestones in raising awareness due to inadequate coordination and interrupted communication during the disaster (Genç, 2008). The few articles dealing with risk communication in health crises in Turkey (e.g. Çınarlı, 2005; Çelik *et al.*, 2016) reveal that they are both managed by the Ministry of Health based on WHO's directions and suggestions. The ministry uses a reactive instead of proactive communication strategy (Çınarlı, 2005:66) by announcing information mostly in written form via the ministry's website.

Recently, the rapid flow of information, the ability to act independently from the bureaucracy, increasing numbers of smartphone users receiving frequent updates have made social media an effective means of communication in disasters. Social media usage has become nearly universal in Turkey and markedly changed the national culture in just a few years. According to the Digital 2019 Report from Hootsuite and We are Social (2019), Turkey's mobile telephone use has reached 76 million out of 82 million people (93% of the population), internet use 59 million (72%), and active social media users 52 million (63%). The report states that Turkey is one of the 30 most socially engaged nations. Social media is also highly effective for health communication in Turkey in that the majority of the population receives health-related information from the mass media instead of health experts (SASAM Report, 2015: 29).

**Table 1:** Turkish Ministry of Health's Increasing Twitter Posts during the COVID19 Outbreak

Date	Count
<b>January</b>	168
<b>February</b>	152
<b>March</b>	227
<b>April</b>	219
<b>May</b>	229

## **PREVIOUS OUTBREAKS IN TURKEY**

Since Turkey has been experienced many earthquakes and natural disasters, the most common subject within this framework is crisis rather than risk communication. Although Turkey was the first European country where avian influenza deaths were detected, it has had relatively little experience with outbreaks until COVID 19. No Ebola, SARS, or MERS cases were detected in Turkey whereas four people died from avian influenza (H5N1) in 2006, 627 people died because of Swine flu (H1N1) in 2009, and 469 people died because of CCHF in 2002-2015 (Sunbul *et al.*, 2015). The Ministry of Health is the main actor during all health crises in Turkey. It engages in various crisis management efforts, such as establishing affiliations with international influenza monitoring entities, forming a scientific consultation board. It prepared a National Influenza Pandemic Preparedness Plan in 2005 and established the avian influenza strategic communication activity team between 2003 and 2005. The Ministry of Health was again the main actor in CCHF in 2003, when its advisory board determined case definitions and prepared patient charts for disease notification. In 2010, a national electronic database was created to record patients.

## **COVID-19 OUTBREAK IN TURKEY**

The Covid-19 pandemic was mentioned publicly for the first time on 3 February 2020 during a hospital visit by Fahrettin Koca, when he announced that all tests performed on Turkish citizens evacuated from China were negative. The disease was confirmed to have reached Turkey on 11 March 2020 with travellers from Europe while the first death due to COVID-19 occurred on 17 March 2020. By 1 April 2020, it was confirmed that COVID-19 had spread throughout Turkey before peaking on 14 April 2020 (Euronews, 2020). According to Ministry of Health statistics, Covid-19 cases in Turkey reached nearly 160,000 with 4,369 deaths and 120,000 recoveries in April. On 18 April 2020, the number of positive COVID-19 test results surpassed those of Iran, making it the highest in the Middle East. As shown in Table 2, Turkey's confirmed cases also surpassed China's on 20 April 2020 (Reuters, 2020). Despite the rapid increase of cases in March and a tenfold jump in April to make Turkey the seventh worst affected country, the public healthcare system was not overburdened and the preliminary case-fatality rate remained lower (37 per 1 million people) than many European countries. This was mainly attributed to the Turkey's relatively young population and the many available intensive care units. Thus, the health system seems to have

coped well while, according to the government, many hospitals are not working beyond their capacity and only 60 percent of intensive care unit beds are in use.

**Table 2:** COVID-19 Rates (as of 30 April 2020)

Country	Total Cases	Total Deaths	Deaths/1M Population	Tests/1M Population
<b>USA</b>	1,064,572	61,669	186	18,549
<b>Spain</b>	236,899	24,275	519	30,253
<b>Italy</b>	203,591	27,682	458	31,063
<b>France</b>	166,420	24,087	369	7,103
<b>Germany</b>	161,539	6,467	77	30,400
<b>UK</b>	165,221	26,097	384	12,058
<b>Turkey</b>	117,589	3,081	37	11,157

Source: <https://www.worldometers.info>

As seen from its low case fatality rate in Table 2, Turkey responded very effectively to the pandemic. However, every step in implementing essential measures to fight the pandemic created controversy between the government and opposition parties due to the country’s highly polarized political climate (Aydın Düzgit and Keyman, 2020). The deep cleavage caused by this polarization also meant that trust in the government also varied significantly while the fight against the pandemic become a symbolic arena for political battles.

Recognizing that timing is crucial during a pandemic, Turkey was among the first European countries to stop flights to and from China on February 3, and also introduced social distancing measures around mid-March, earlier than many Western countries. Large events and gatherings were suspended, schools were closed nationwide, and nonessential shops, venues, and public services halted their activities. Borders were closed except for returning residents and citizens. Eventually, travel between the country’s 31 big cities was also banned. However, production was never halted while the lockdown targeted only certain age groups (ages over 65 and under 20). The most careless decision could be allowing 21,000 citizens to travel to Mecca instead of banning umra travel. Because only the last 5,000 pilgrims were quarantined, the others contaminated their “surroundings since custom dictates that they receive visitors, well-wishers and others at home to accept congratulations for having done the pilgrimage” (Balta and Özel, 2020).

As stated earlier, from the perspective of risk communication, the Ministry of Health’s response against COVID-19 included two novel actions

by foregrounding its scientific advisory board and sharing information via social media, specifically Twitter. The first success was establishing a coronavirus scientific advisory board early in the pandemic, on 9 January 2020. For the first time, board members engaged publicly with mass media visibility in scientific and popular health communication. Initially with 26 members, the board eventually included 38 specialists in health with experience of disease outbreaks. Their work contributed to precisely defining cases, and developing guides and treatment algorithms. The board published and updated guidelines for medical treatment and measures to be followed by the public. The board served two important goals: it both advised the ministry regarding measures and also educate the citizens with information through social media accounts and participated in TV programs nearly every day. The board issued general recommendations for the government and public, including closing land borders with specific countries, establishing hospitals exclusively for Covid-19 patients, postponing trips by Turkish citizens to other countries, enforcing a 14-day quarantine for people coming back from other countries, promoting remote education, and etc.

## **METHODOLOGY AND DATA GATHERING**

Risks can differ regarding the magnitude of what is at stake, level of personal control over the risk, level of consensus about risk levels, equality in distribution of costs and benefits, and level of dread related to the risk (Freudenburg 1988). According to risk communication scholars, the need for “quality information” increases when reporting on risks associated with high emotional stress because this generates mental noise that can prevent receivers from processing risk information rationally (Covello et al., 2001). These hypotheses have been applied to media coverage in various disease outbreaks and other health crises to assess quality risk information through measures of risk-magnitude information and risk-comparison information for a successful risk communication (Roche and Muskavitch, 2003; Friedman *et al.*, 1987; Dudo *et al.*, 2007; Saxon *et al.*, 2019). Similarly, this study proposes that the increased media visibility of Turkey’s scientific advisory board members and heavy use of Twitter for sharing information was accepted as “quality information” (Roche and Muskavitch, 2003; Dudo *et al.*, 2007) by the Turkish public. This in turn increased public trust in the government’s pandemic response.

The Ministry of Health Coronavirus Scientific Committee is an advisory board established on 10 January 2020, consisting of faculty members

from various universities specialized in their field to combat Covid-19. The board has met every day in the Ministry of Health building since January to evaluate the course of the pandemic and present its conclusions and recommendations to the Ministry of Health. The board also informs citizens accurately about Covid-19 through social media, television, and newspapers. To examine the social media communication of the scientific board members, five active Twitter accounts were selected as the sample of the study. These included Minister of Health Fahrettin Koca as the chairman and the four most active board members' Twitter accounts. These board members are also the most active information sources in the traditional media and other platforms.

Twitter allows a maximum of 3,200 tweets to be withdrawn from user accounts open to the public through its API (Application Programming Interface). APIs are a “talking” method of computer programs that can request and provide information (Twitter, 2020). Those who want to access data through APIs must be registered with an intermediary application. In this study, the Workbench Data application developed by the University of California Journalism School within the scope of the project in 2019 was preferred (Columbia Journalism School, 2020). Tweets were selected from 11 March 2020, when the ministry declared Turkey's first Covid-19 case, to May 22 2020. Since the number of tweets sent by different board members varied, a maximum of 100 tweets about Covid-19 were included per account. In total, 431 tweets from the accounts linked to the API were analyzed from Fahrettin Koca (100), Serap Şimşek Yavuz (100), Alpaz Azap (61), Ateş Kara (70), and Tevfik Özlü (100). Attachments, links, videos, and other posts were also analyzed.

Following the methodology of Dudo *et al.*, (2007) and Witte (1992), we assumed that uncertainty makes people less confident in their knowledge of a situation and their ability to respond to it. Thus, we predicted the following: (1) more quantitative than qualitative information about the risk issue's magnitude; (2) more specific information regarding measures to increase self-efficacy to avoid the risk (Roche and Muskavitch, 2003); (3) comparisons with other countries and situations similar to the current risk (Friedman *et al.*, 1987; Roche and Muskavitch, 2003); (4) more distribution of thematic than episodic content (Iyengar, 1991) to synthesize events and provide the audience with useful background knowledge about the issue (Nitz and West, 2004).

Like Dudo *et al.*, 2007 and Saxon *et al.*, 2019, we identified four key measures to assess the quality of risk information in the experts' tweets: self-

efficacy information, risk-magnitude information, risk-comparison information, and content framing. We categorized the variables into three main fields: (1) self-efficacy information (symptoms of Covid-19 and information about personal protection measures); (2) personal risk contextualization (qualitative information, quantitative information, and risk comparison); (3) framing (thematic and episodic). Since we analyzed the expert coverage of Covid-19 with Saxon et al.'s (2019) variable categorization, we excluded Dudo et al.'s fourth measure, sensationalism.

The three research variables were as follows:

(1) **Self-Efficacy information**, defined as the degree of control over a situation and more efficient processing of risk-related information. It identifies the symptoms of the disease and gives examples of personal protection measures (Dudo *et al.*, 2007).

(2) **Personal risk contextualization information** is another indicator of risk-related Covid-19 information. It includes tweets that qualitatively or quantitatively describe the hazards associated with Covid-19. We also included information comparing the disease outbreak in Turkey with other countries or previous outbreaks (e.g. having fewer fatalities than European countries or the 1918 Spanish flu).

(3) **Evaluation of the framing** to understand which thematic or episodic frames were more salient in the tweets. Tweets that provided information, mentioned other countries, or made comparisons were coded thematically whereas tweets about individual events or cases were coded episodically.

## **RELIABILITY TESTING AND CODING**

A codebook was produced to identify the visible, objectively measurable components of the tweets, based on methods recommended by Davis *et al.*, (2009). A total of 431 tweets related to Covid-19 of the 5 scientific board members were included to the research. These 5 members were the most active ones among the 38 members who had become “expert sources” for both the traditional and social media in Turkey. Video and other additional visual materials attached to the tweets were also analyzed as textual material and classified using Excel worksheets for each board member to code under the three variables. Two independent encoders with backgrounds in public health and communication were trained to apply the coding schema prior to the study. Cohens Kappa test was performed for reliability analysis of

coders. A systematic random sample of 20 tweets from each board member was then used to create the sample for the intercoder reliability analysis (Hocking *et al.*, 2003). Once the 70 tweets had been coded, the coding sheets were evaluated, and intercoder reliability measured with the Kappa statistic to determine consistency between raters. This yielded an acceptable score on all measures ( $\kappa = 0.79$ ;  $p < 0.001$ ), 95% CI (0.504, 0.848) (Landis and Koch, 1977). After coding 70 tweets, the coders Skyped to review the coding sheets and discuss any areas of divergence, before agreeing on final coding decisions.

## FINDINGS

A total of 431 tweets were analyzed to assess the quality of Covid-19-related risk information that 5 scientific board members of Turkey’s Ministry of Health shared via social media. Like Dudo *et al.* (2007) and Saxon *et al.* (2019), three key measures were identified: self-efficacy information, personal risk contextualization, and framing of content.

### Self-Efficacy Information

Self-efficacy information was defined as identifying the risk degree by assessing risk related information coded as two variables: information regarding **the symptoms of the disease** (e.g. coughing, the 14-day incubation period) and information on personal **protection behaviors** (e.g. social distancing, hand hygiene) (Dudo *et al.*, 2007). High levels of self-efficacy correspond to a feeling of control over a situation and are associated with more efficient processing of risk-related information. Conversely, low levels of self-efficacy correspond to helplessness and panic, which can interfere with processing risk-related information. The board members did not give much information about symptoms in their tweets ( $n = 338$ ) but mostly shared information about personal protection measures ( $n = 280$ ) (Table 3). Only one member mentioned symptoms ( $n = 2$ ). Analysis of links to their tweets showed that they preferred to mention symptoms in the television programs they attended rather than in their tweets directly. The symptoms that they agreed on were shortness of breath, high fever, and dry cough. Examples of tweets in this category include “For suspected COVID-19 disease, or for information on how we can act in the presence of your fever and cough, call 184”.

The main finding is that the board members particularly emphasized methods of personal protection from Covid-19 ( $n = 280$ ; 65% of all tweets). Every warning about personal protection measures included the social

distance rule while many tweets mentioned the importance of wearing masks, hygiene measures, and disinfection. They tried to explain the necessity of avoiding crowded environments and the presence of symptom-free disease carriers. Examples of such tweets include “According to our information, Covid-19 is not transmitted by mosquitoes or houseflies, but by small drops that we release from our mouth and nose while talking, coughing, sneezing. In addition, virus-contaminated surfaces can be smeared with our hands after touching”. Many other tweets explained the importance of correct cleaning of contact parts of shopping trolleys after every use in supermarkets.

**Table 3:** Frequency and percentage distributions of tweets

	Self-Efficacy Information		Personal Risk Contextualization			Framing of Content	
	<i>Symptoms of Covid-19</i>	<i>Personal protection measures</i>	<i>QQualitative</i>	<i>QQuantitative</i>	<i>Comparative</i>	<i>Thematic</i>	<i>Episodic</i>
<i>Not mentioned in the text</i>	338	151	105	316	241	113	280
<i>Mentioned in the text</i>	92	280	326	114	190	318	151
<i>Percentage not mentioned in text</i>	0.78	0.35	0.24	0.73	0.56	0.26	0.65
<i>Percentage mentioned in text</i>	0.21	0.65	0.76	0.26	0.44	0.74	0.35

### Personal Risk Contextualization

The second set of variables, **personal risk contextualization information**, refers to information about the risks. It includes tweets where the hazards associated with Covid-19 are described qualitatively or quantitatively, directly or by comparison. These tweets contextualize the disease by informing followers about the risks and their magnitude, measured with objective data. Content was evaluated as either **qualitative data** (e.g. Very dangerous disease) and/or **quantitative data** (e.g. 1,000 people were infected) (Dudo *et al.*, 2007; Saxon *et al.*, 2019). As Table 3 shows, qualitative information was preferred over quantitative data. In line with

previous research, the scientific board members included both qualitative (n = 326) and quantitative data (n = 114), although preferring qualitative risk information: “Covid is a disease that kills at a higher rate than the flu”; “If no action is taken, COVID-19 is a very contagious disease, we should take it very seriously and do whatever we can to prevent it”; “Look at the chart carefully!! The rate of transmission within a week is clearly visible”. These examples show that there are many tweets about the severity of the epidemic while providing high quality information for the society to understand the severity of the disease and comply with personal protection measures.

The tweets which quantified the risks included numbers and percentages about illness and death due to Covid-19. The following examples clearly show tweets trying to warn about the severity of the illness: “1 person can infect 625 people”; “43% of healthcare workers in some regions in Italy had COVID, incredible numbers !!!”; “Our new case numbers 1,614 yesterday; Yesterday 1,832; 2,253 today”. Supported by numerical data and exclamation marks, these tweets clearly try to draw attention to the dangers of the disease. In most of his tweets, Health Minister Koca’s warnings also emphasized the importance of personal protection measures supported by quantitative data. He repeatedly tweeted about the decreasing number of patients needing respiratory support while explaining why the number of Covid-19 patients was increasing: “Today, the number of deaths is 55. Let’s not forget that the price of impotence is heavy”; “Our number of patients in intensive care has fallen under 1,000 the first time”; “Our number of healed patients has exceeded 100,000. Our total number of tests is about 1.5 million. Our main strength against the virus: Mask + 1.5 Meters Social Distance. The risk is most in crowded environments. Let’s stay away”. Notably, Koca used sincere language as if talking with a family member or a friend.

Beside qualitative and quantitative risk information regarding Covid-19, 190 tweets were coded as risk comparisons. **Risk comparison information** refers to information comparing the disease in Turkey with other countries or previous outbreaks (e.g. Have less fatalities than European countries, 1918 Spanish flu etc.). There were many comparisons with other European countries and the USA, especially regarding pandemic management, and Turkey’s fewer cases than other European countries. The tweets mostly included comparative information, such as “Clear evidence of how much this virus can spread in crowded and closed environments and with close contact: 61 people singing for 2.5 hours in the same choir in the USA 51 of them (87%) infected with the virus, two people lost their lives”; “Turkey

will be able to control this epidemic. A strong health infrastructure, we know that work with dedication and experienced health professionals”. Koca particularly used country comparisons to underline Turkey’s achievement, especially compared to European countries, whereas the scientific board members less exaggeratedly emphasized Turkey’s achievements to overcome the Covid-19, making fewer comparisons with other countries.

### **Framing of Content**

Framing of content helps understand whether thematic or episodic frames were more prominent in the tweets. Previous findings indicate that episodic frames are more prevalent in media coverage (Iyengar, 1991; Nitz and West, 2004). In contrast, as we predicted, board members tweeted Covid-19 content primarily within thematic frames to provide information for the public. The thematic content enabled the formation of informed risk judgments. As is clear from Table 3, tweets with episodic frames were characterized by distinct language that mostly focused on emotional appeal. More tweets had thematically framed content (n = 318). than episodic (n = 151). Examples of episodic tweets include “More than 40 people who attended the church service in Germany were ‘corona’”; “37 people visiting the town in Diyarbakır were coronavirus infected”.

### **CONCLUSION**

To assess the quality of risk information regarding Covid-19 in Turkey, this study sampled 431 tweets by five scientific board members of the Ministry of Health. These were analyzed using Witte’s extended parallel process model (EPPM), which addresses the impact of message content to assess media messages in a public health emergency. As in previous research, three key measures were identified in the Turkish content: self-efficacy information, personal risk contextualization, framing of content.

In line with risk communication scholars’ statements on the importance of “quality information” in risk communication, we concluded that Turkey’s scientific board members have played an important role in Turkey during the Covid-19 outbreak through the high quality information they provide. Like previous research, our study indicates that quality risk information through measures of risk-magnitude information and risk-comparison information for successful risk communication are essential. This needs to be applied through experts in the field, such as the scientific board in Turkey. Due to the increased visibility of board members in the media and

their heavy use of Twitter for real-time information sharing meant that Turkey's public accepted their announcements as "quality information", which strengthened trust in the government's pandemic response.

Like Sencer and Millar (2006), we found that using small representative advisory groups to inform and advise ministers, encouraging transparency, an open culture and an educated understanding of the situation, communicating effectively, creating channels both up and down the chain of command and laterally to policy makers were all important for effectively managing the outbreak.

While board members shared both quantitative and qualitative information about the risk issue's magnitude, in contrast to previous research, we found that qualitative information was given more salience than quantitative. Nevertheless, the Turkish public trusted such information and responded positively with a high level of trust. Like other research, we found that more specific information regarding the measures to increase self-efficacy to reduce risk in Turkey's pandemic information exchange. Moreover, as other studies have shown, board members referred to other countries and similar situations to serve as a comparison (Friedman *et al.*, 1987; Roche and Muskavitch, 2003). This really had a positive effect on pandemic perceptions in Turkey. Finally, the scientific board members mostly preferred to distribute solid thematic rather than episodic content (Iyengar, 1991). This synthesized events and provided useful background knowledge about the issue (Nitz and West, 2004), which again strengthened the public's trust.

Our study answers two important questions regarding the future of risk communication studies in Turkey and similar countries. First, Twitter is an important and the most active platform for real-time information exchange of pandemic information. Second, the experts have been the most visible media sources during the outbreak in Turkey. They should therefore be investigated more closely as intermedia agenda-setting suggests. They provided both scientific information and advice to the Ministry of Health while providing information via traditional and social media channels to inform the public and raise awareness nearly every day in every channel in Turkey. They helped to create a popular version of Covid-19 discourse, which has served as a mechanism for pandemic management and control in Turkey.

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## CHAPTER 2

### USE OF FRESH AND DRY SPICES IN THE CUISINE: THE CASE OF SİVAS

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The data was presented as an oral presentation at International Pepper and Spices Conference has been done on April 26, 2022 in Tobasco, Mexico.



## INTRODUCTION

Plants, which are necessary for a sustainable planet and life, have been the source of food and oxygen for human beings since ancient times. From the first day of life, human beings have observed the environment (natural flora and fauna) in which they live and they have learned to use plants for different purposes (food, clothing, medicine, etc.) over time. The use of plants for nutritional purposes by communities was sometimes by trying and sometimes by observing the animals around them. Thus, they tried to understand whether the plants were poisonous or not. People have also discovered that plants used for food can be a source of healing diseases. In addition to, the discovered plants have been cultured for obtained more efficient and quality products (Akdemir, 2014). In the following processes, people have developed various methods stored the foods for long time without spoiling. In this direction, it has been developed various methods (such as jam and tomato paste making, pickles and brine, sun drying and smoking) preventing spoilage of foods. For this purpose, spice mixtures with antimicrobial and antioxidant effects have been used. In the following periods, spices have been defined as natural food additives that people have used to increase the aroma and flavor of their dishes and to give them a scent. Besides to, spices have been also started to use in fields such as medicine, paint, fuel, incense, decoration, flavor and aroma, tea, toothpaste, soap, confectionery, perfume, cosmetics. The spices have gained value by increasing usage areas. During this period, it has been determined that the spices which are originated from Tropical Asian, are traded and, spices have spread to many countries of the world with the a route defined as the "Spice Road" (Ayyıldız and Sarper, 2019: p.364). While the herbs and spices used by people were limited to their own regions in previous years, people have accessed the herbs and spices in different and distant countries by development of production techniques and trade, easier. As a result, every country with endemic plants and spices has gained income by marketing their products to other countries (Keykubat, 2018).

Today, there has not enough information about many of the spices that have been used to heal diseases throughout history (Bozkurt, 2019: p.66). According to the study of Demirçivi and Altaş, the use of spices for food preservation has been limited today due to the application of various chemical food preservation techniques. However, recently, the increase in the risk of

cancer development, the suspicious approaches to GMO (genetically modified organism) products, hormones, synthetic preservatives, and the idea of expanding the flavor and product variety have increased the use of spices again (Demirçivi and Altaş, 2016: p.89). In addition, the risk of forgetting the spices, which is one of the cultural riches and unique to that region, has become inevitable with the changing of the diets together with the developing world and economic conditions. In this context, it is thought that presenting the data obtained by researching the medicinal herbs and spices produced and used in the region, region and province throughout the country, in scientific studies will be effective in reminding the forgotten spices and at the same time, it will help to reveal the potential in the region.

Considering its geopolitical position, climate, large area, plant diversity and agricultural potential, Turkey is among the top countries in the herb and spice trade. Turkey is a very rich country in terms of floristic with 1251 genera belonging to 174 families and more than 12.000 species. While 234 of these plants are cultivated plants of foreign origin, the remaining species show natural distribution in Turkey (Ayyıldız and Sarper, 2019: p.364). About 1000 species of these plants are used for medicine and spice (Anonymous-42, 2022). Turkey, which is an important supplier country of thyme, laurel, cumin, caper, tea, poppy seeds and alkaloids, exports medicinal aromatic plants to about 100 countries in the World (Ayyıldız and Sarper, 2019: p.364).

Sivas is one of the cities that attract attention in Turkey in terms of endemic plant richness. Being on the Silk Road and the King's Road passing near Sivas and hosting various cultures and civilizations have been factors in the formation of a rich culinary culture. In addition to these factors, the rich diversity of fauna and flora also contributes to the development of the local cuisine. Plant diversity is a motivating factor in promoting the local cuisine. As a result of the literature research conducted within the scope of this study, it has been determined that there is no current study directly related to spices and Sivas cuisine culture. In order to eliminate this deficiency in the literature, in this study, the spices used in Sivas cuisine and their use in dishes were examined. Thus, we tried to define the place of spice in the local cuisine identity and to emphasize the recognition of Sivas local cuisine, by emphasizing the spice-flavor relationship. This study consists of six main sessions. We explained the concept of spice and its history, classification and

usage areas of spices in the first part. To used of spices in Turkish cuisine were told in the second part. The literature review was done in the third part. In addition regional cuisines were told and specific characteristics of Sivas cuisine were defined in this part. The purpose of the research, the method of the research was explained in the fourth part. The findings of the study were shown in the fifth part. In the finally part, the results and suggestions were explained.

## **1. CONCEPTUAL FRAMEWORK**

### **1.1. Spice Concept**

Spice is a word of Arabic origin, and is plural form of the spring word that its mean is smell (Yerasimos, 2014:p.51). Spice is called as weed in Turkish, as *bhārat*’ in Hindi (Ayyıldız and Sarper, 2019: p.363; Arslan, 2015; Demirçivi and Altaş, 2016: p.88). According to the definition in the Turkish Language Association (2018), spices are substances (including cinnamon, clove, ginger, black pepper, etc.) defined as spring, that they are used to give a pleasant smell and taste to foods and beverages. (Demirçivi and Altaş, 2016: p.89).

According to the Turkish Food Codex Spices Communiqué (Communiqué No: 2013/12), spices are natural products or mixture products and, they used as color, taste, smell and flavoring for foods. In addition spices are obtained by as whole or crumbling and/or grinding of parts of various plants such as seeds, buds, seeds, fruits, flowers, bark, roots, stems, rhizomes, tubers, leaves, stems and onions, etc.(Ogan et al., 2019: p.227).

Until now, the concepts of spice and medicinal and aromatic plants are confused with each other. According to Narsimhan (2009: p.121), although ancient civilizations defined all medicinal aromatic plants and spices as herbs, but a clear distinction has been made between herbs and spices, recently (Ayyıldız and Sarper, 2019: p.364). The leaves or green stems of edible plants such as parsley, mint, thyme, basil, dill are called herbs and, their parts of the herbs are used to flavor the food despite to they are not the main ingredient of the dishes. These are also called culinary herbs (Arslan, 2015; Anonymous-2, 2009). Spices like culinary herbs, are likewise used in dishes, salads, teas, beverages, sauces, etc. They are not considered foods; however they are significantly effective in changing aroma and flavor of food when they used as a little amount. Unlike aromatic herbs, they are added at the beginning of the cooking process (Arslan, 2015; Ayyıldız and Sarper,

2019: p.364.367). In addition, spices and aromatic plants have an important place in eating habits because they do not contain calories. Spices contain less fat and carbohydrates than aromatic herbs. Both groups contain some specific minor food (mineral and vitamin) groups. For example, basil and cloves are rich in calcium and potassium. To use the small amounts of this food in dishes or nutrition are sufficient for taking of minerals or vitamins (Anonymous-2, 2009).

Nowadays, medicinal and aromatic plants are used together as medicine at treatment or prevent of diseases and sustainable healthy life (Omtrak, 2018). In this context, plants with therapeutic active substances are called medicinal plants, and plants rich in essential or ethereal oils are called aromatic plants (Omtrak, 2018). According to this definition, plants can be evaluated both as medicinal and aromatic plants and as valuable spice products. In other words, the concept of spice also includes medicinal and aromatic plants (Baydar, 2019: p.165). In some studies, some herbs such as curry and coriander can be classified as aromatic herbs and spices. The fresh leaves of coriander are defined as aromatic herb, while its seeds are defined as spice (Demirçivi and Altaş, 2016: p.92).

Turkey is one of the countries ranking first in the world in terms of spices. Spices such as chili pepper, black pepper, thyme, cumin and mint are frequently used in Turkey. The plants accepted as spices in Turkey are listed in Table 1 (Table1 has been prepared with reference to the Turkish Food Codex Spices Communiqué published in the Official Gazette dated 10.04.2013 and numbered 28614) (Anonymous-26, 2020; Demirçivi and Altaş, 2016: p.92).

**Table 1:** Herbs Called As Spices According to Turkish Food Codex Spices Communiqué

Spice Name	Spice Name	Spice Name
Sage Tea	Coconut	Mint
Anise	Coconut-Besbase	Flaked Red Pepper
Juniper	Isot	Basil
Safflower	Cardamom	Fennel
White Pepper-Black Pepper	Black Pepper	Saffron
Rosemary-Kusdili	Clove	Sahlep
Cedvar	Kebab	Garlic
Pine Nuts	Thyme	Sater
Fenugreek-Buyot	Red Pepper	Onion

Black Cumin	Red Peppercorns	Sumac
Hyssop	Cumin	Sesame
Leave Of Daphne	Coriander	Cinnamon
Dill	Currants	Tarragon
Basil	Mahleb	Vanilla
Caraway	Parsley	Allspice/Pimento
Mustard	Melissa-Oldgrass	Ginger
Poppy Seeds	Marjoram	Turmeric
Galangal	Licorice Root	

**Source:** (Turkish Food Codex Spices Communiqué (Communiqué No: 2013/12), 2013; Demirçivi and Altaş, 2016: p.92)

In addition, the many spices mixtures are identified by a name of a single spice. Curry is one of those spice mixes. Other spice mixes and their ingredients are listed in Table 2 (Demirçivi and Altaş, 2016: p.93).

**Table 2:** Spice Mixtures

Name	Content
Chinese Five Spice	It consists of cloves, cinnamon, ginger, anise and star anise.
Dukkah	It consists of sesame seeds, cumin seeds, roasted hazelnuts or chickpeas, coriander, sea salt and black peppercorns.
English Mixed Spice	It consists of cinnamon, cloves, nutmeg, ginger and allspice.
Garam Masala	It consists of white pepper and black pepper, cloves, paprika, cumin seeds, cinnamon, star anise, coriander and nutmeg.
Harissa	It consists of dried chili pepper, garlic, sea salt, caraway cumin and olive oil.
Curry Powder	Curry leaf powder consists of coriander, turmeric, cumin, fennel, ginger, garlic, cinnamon, cloves, mustard powder, green cardamom, black cardamom, nutmeg and paprika.
Za'atar	It consists of sesame seeds, wild thyme and sumac.

**Source:** (Demirçivi and Altaş, 2016: p.93).

The salt is an another controversial subject in spice concept. Vinegar, lemon, salt and sugar were considered spices in the middle Ages, while those except salt came out of the spice class. On the other hand, salt as a spice is still defined by many people. According to Kızıldemir (2014: p. 199), salt was

used as a spice during the reign of Fatih Sultan Mehmet. However, salt is a mineral and is not derived from plants like other spices (Gürsoy, 2012: p. 17; Sherman and Billing, 1999: p. 453).

Aromatic plants and spices are used for different purposes (wellness, coloring or fragrance) besides adding flavor to the dishes (Anonymous-2, 2009).

In addition,

- Spices allow the cooks to compete for a certain taste.
- Spices allow people from close cultures to share the same table.
- Spices can be a symbol of people from different cultures accepting each other as they are with their taste choices.
- Spices produce drug-like effects. For example, salt added to a dishes has a blood pressure-raising effect, while cinnamon, ginger, rosemary, etc. It has a blood pressure lowering effect. As another example, in a dishes with black pepper and turmeric, the piperine substance in black pepper increases the mixing of the curcumin (anticarcinogen) substance in turmeric into the blood (Anonymous-26, 2020).

In addition, spices give dishes a cultural identity. In other words, if the food made from the same materials is enriched with a spice specific to the region, it assumes a local identity. For those living in that region, these tastes learned at a young age become the desired tastes that are missed in the future. The use of spices has a cultural place in social life, such as tradition and continues, by being transferred from generation to generation (Anonymous-26, 2020).

## **1.2. History of Spices**

The spice, which was discovered by primitive people in 5000 BC, has attracted the attention of people throughout history. In the early years, spices were used to prevent deterioration of meat and meat products and to mask unpleasant odors. Later, the spice was expressed as healing herb and used for healing diseases (ointment, etc.), embalming (various spices, especially mint), religious rituals (incense), fragrance (perfume), magic, etc. It has also been used in other areas and has reached the present day by taking its place in almost all country kitchens (Soner et al., 2002: p.39; Anonymous-7, 2014; Tayar, 2012).

There are 77 herbals, animals and mineral drugs and more than 800 prescriptions in the Ebers Papyrus, which is estimated to have been written in 1550 BC (Keykubat, 2018). It is thought that approximately 250 herbal drugs were used in the Mesopotamian civilization, approximately 600 in the Ancient Greek period, and approximately 4000 in the Arab-Moroccan civilization period (Keykubat, 2018). In ancient Greek civilization, physicians such as Hippocrates and Theophrastus used spices to make medicine (Anonymous-7, 2014).

In 400 BC, Hippocrates made more than 400 medicines consisting of mixtures of spices and herbs (Yıldırım, 2015). It is accepted that the spice was first used in the Far East, and all civilizations from the past to the present benefited from the richness of the spice. Spice trade was one of the most important elements in ancient and medieval times. In addition, spice is mentioned in many holy books as both a healing and a source of power (Tayar, 2012). In Islamic civilizations, scholars such as Dineveri, Bir'uni, İbn Sina, İbn Baytar, Davud el-Antaki made important studies in the field of medicine between 800-1100 AD. Seljuk's period also gave importance to this issue. In the Ottoman period, great progress was made with the use of spices in the field of medicine, and the variety of spices used in the dishes increased gradually (Anonymous-7, 2014). With the conquest of Egypt in the 16th century, only 18 spice types were used in the palace in 1489, while it was seen that over 500 spice types were used in 1573 (Bingöl, 2012).

In the 17th century, the fact that some spices were given along with basic foodstuffs such as sugar, salt, meat as salary shares of the sultan and high-ranking officers showed how important spices were in the Ottoman cuisine (Akkor, 2018).

Since there was no spice variety equivalent to the spices found in the Asian continent in Europe in the past, spices, which are among the products of high commercial value, were taken from China and India to the Middle East, which was the center of spice trade, by caravans and ships, and from there to Istanbul and then to Europe via the "Spice Road" (Tayar, 2012; Birer, 1986: s.47).

Spices have become symbols of status and power over time. At the beginning of the 11th century, black pepper, which was as valuable and as gold, replaced money (Tayar, 2012). As a result of the Crusades in the 12th

century, the number of spice types known in Europe increased and reached 288 at the beginning of the 14th century (Bingöl, 2012).

Spices became even more valuable in Europe as a result of Marco Polo's expeditions to the Far East in the 13th century (Yıldırım, 2015).

Portuguese explorer Bartolommeo Dias discovered the Cape (Anonymous-32, 2020). The Genoese Christopher Columbus, who was assigned to find an alternative way to Indian trade, discovered America while trying to reach the Spice Islands in 1492 (Yıldırım, 2015).

With the geographical discoveries, the monopoly of Venice was broken, and the historical Spice Road lost its importance. The opening of new roads caused the Ottoman Empire to lose its superiority in the spice trade and paved the way for the Europeans to gain the upper hand (Tayar, 2012; Anonymous-32, 2020).

Discoveries that took place as a result of the passion for spicy cooking in Europe triggered the Renaissance and Reformations (Tayar, 2012). The struggles for spice until today have shown that the spice that dominates the seas has dominated the continents (Dinçer, 2007).

### **1.3. Classification of Spices**

In the 18th century, when there was no distinction between herbs and spices, Carolus Linnaeus (1707-1778) systematically classified nearly 8 thousand plant species. This classification is provided to find related plant species through the known plant species (Akdemir, 2014).

Spices can be classified botanically according to their families, morphologically used plant parts, origin (tropical, subtropical, temperate climate spices) or continents of origin (Asia, Africa, Europe, etc.) (Ayyıldız and Sarper, 2019: p.363; Arslan, 2015). Baydar (2009) classified the plants according to their usage areas (Table 3).

According to some studies, spices are classified as primary/main spices (black pepper, red pepper, cardamom, ginger, turmeric) and secondary/minor spices (anise seed, cumin, coriander, dill seed, fennel, and fenugreek, saffron, and vanilla) according to their intensity of use (Demirçivi and Altaş, 2016: p. 91; Paksoy, 2016: p.7).

Spices are obtained from different parts of plants. According to Akgül (1993, p.13), spices are classified into 10 main groups according to the parts used; leaf part (sage, rosemary, bay, thyme, mint), root part (angelica, wild celery, horseradish), bark part (cinnamon), fruit part (anise, dill, black pepper,

cumin, fennel, sumac, allspice), rhizome part (ginger, turmeric), stem part (angelica), seed part (black cumin, fenugreek, mustard, poppy, nutmeg, sesame, mahaleb), flower part (bud clove, bud caper, saffron), bulb part (garlic, onion), tuber part (sahlep) (Demirçivi and Altaş, 2016: p.92).

Spices in the Ottoman Empire were classified according to their taste and smell as sour (lemon, vinegar, sumac), bitter (black pepper, red pepper, garlic, onion, fenugreek, clove) and fragrant (mint, thyme, cinnamon, vanilla, anise, ginger, parsley, rosemary, basil) (Soner et al., 2002: p. 41).

**Table 3:** Classification of Plants According to Their Uses

<b>Intended Uses</b>	<b>Usage areas</b>	<b>Plants</b>
Medicinal (Medicine) plants	Plants that carry active (bioactive) substances such as alkaloids, terpenoids or phenolic substances that have pharmacological activity in one, several or all of their organs such as leaves, flowers, roots, bulbs, tubers, bark, seeds and fruits, and are therefore used as medicine.	Poppy, gentian, echinacea, centaury foxglove, ginseng, ginkgo, valerian, yew, mary thistle, aloe vera etc.
Aromatic (Scented, Itri) plants	Plants from which essential oil (ether essential oil or essential oil) is obtained from one, several or all of their organs such as leaves, flowers, roots, onions, rhizomes, tubers, bark, seeds and fruits.	Sage, anise, rosemary, laurel/bay leaf, basil, cumin, coriander, melissa, mint, chamomile, fennel, thyme etc.
Perfume&Cosmetic plants	Fragrant aromatic plants whose essential oils are used to make perfumes.	Oil rose, lavender, jasmine, lily, sage musk, chamomile, iris, patchouli, vetiver, ylang-ylang etc.
Spice plants	Plants that are added to foods to give taste, smell and flavor by grinding one, some or all of their organs such as leaves, flowers, roots, onions, rhizomes, tubers, bark, seeds and fruits after they are dried.	Thyme, sage, laurel, dill, cumin, fenugreek, black cumin, mustard, sumac, clove, ginger, turmeric, cinnamon, allspice, vanilla, black pepper, paprika, saffron etc.
Paint plants	Plants where one, some or all of their organs such as leaves, flowers, roots, onions, rhizomes, tubers, bark, seeds and fruits are used as a source of dyestuffs.	Root dye, indigo, dyer's weed, elderberry, dyer's chamomile, buckthorn, Dyer's Alkanet, caper spurge, mullein, etc.

Pleasure plants	Plants used because of their stimulating and soothing substances such as nicotine, morphine, cannabinol, cocaine, theobromine, caffeine and thebaine.	Tobacco, poppy, hemp, coca, cola, coffee, tea, cocoa etc.
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**Source:** (Baydar, 2009: p.27-33).

#### 1.4. Usage Areas of Spices

Since the first day humans learned to cook with fire, mankind has been using spices (Tayar, 2012). Spices, which were used for the first time in history for the purpose of protecting food, over time as a medicine to give flavor and aroma to the dishes to cure diseases and as tea in the kitchen as paint, fuel, incense, candy, toothpaste, soap, cream, perfume in the industry as ornamental and garden plants, etc. used in the fields.

With the increase in usage areas, spices have also gained importance. With the technological developments in the last century, active substances in spices have been discovered. Thus, new commercial products emerged with the use of essences found in spices. Basil, which is one of the herbs and spices used among the people in the periods when technology was not that advanced, was used as a cold, cough and fly repellent. Cornflower has been used in diabetes, rheumatism and headaches, bowel cancer. Marjoram has been used in leprosy and juniper in chest diseases. Hyssop is used in hoarseness (Soner et al., 2002: p.40; Anonymous-18, 2018; Anonymous-19, 2018).

According to the studies of Duke (1994) and Johns (1990), it has been concluded that garlic, ginger, cinnamon and red pepper have been used for centuries in many diseases such as dysentery, kidney stones, arthritis and high blood pressure (Demirçivi and Altaş, 2016: p. 89).

The use of spices as medicine has found a place within the borders of the country as well as in the world. Before technological developments, there are many spice-based drugs known and applied among the people in the Central Anatolia region. For example, a few tablespoons of unsalted butter, a coffee spoon of black pepper and a head of peeled garlic are cooked and mixed and the mixture is applied warm to the aching areas, a pinch of anise and chamomile flowers are kept in a glass of hot water for 15 minutes and filtered against colds, a pinch of chamomile is used against colds, Boiling mint and thyme in water, straining and drinking a few glasses a day against loss of appetite, a handful of sweet almonds, a tablespoon of ginger and anise,

a coffee spoon of black pepper and cinnamon, pounded into a paste with the addition of a cup of honey, and eating one teaspoon each morning and evening as a gas remover, a pinch each. Fenugreek, anise and mustard powder are boiled in water with 4-5 dried figs, strained and drunk in a cup in the morning on an empty stomach, drinking a coffee spoon of black pepper and cinnamon mixed in a glass of hot water against bronchitis are some of the ways of using spices among the people (Soner et al., 2002: p. 42).

Hot red pepper contains vitamin C and accelerates metabolism. The scent of rosemary relaxes and relieves stress. Black cumin has anti-carcinogenic properties. Cardamom increases appetite and relieves stomach ailments. Thyme has antimicrobial properties and regulates digestion and balances blood pressure. Cumin relieves gas and prevents stomach bloating. Curry increases body resistance and has antioxidant properties. Mint helps to breathe easily. Peppermint is used for colds. It also relieves nausea by acting on the stomach. Sumac increases fat breakdown and reduces salt usage. Cinnamon accelerates metabolism, regulates blood sugar and helps to increase body resistance. Vanilla helps the secretion of happiness hormone. Vanilla also has calming properties. Turmeric is beneficial for the liver and protects against cancer. Spices are still used today as they were in the past (Anonymous-1, 2007).

### **1.5. Use of Spices in Turkish Cuisine**

Turkish cuisine, which is the heir of the Ottoman cuisine, which is one of the few cuisines of the World (Chinese cuisine, Italian cuisine, French cuisine, Mexican cuisine), was formed over centuries from the nomadic cuisine culture in the Central Asian past until it came to Anatolia and developed by being influenced by the geography it is in. Cultural exchanges were made with the Middle Eastern, Balkan, Iranian and Arabic cuisines. The Seljuk and Ottoman periods also contributed to the enrichment of Turkish cuisine (Üçer, 2017: p. 267).

While saffron, cumin and sesame spices were used in Seljuk cuisine, the most indispensable spice of Ottoman cuisine was black pepper added to almost all meat dishes.

According to Bilgin (2004: p. 221) and Samancı (2016: p.74), spices and herbs were used in Ottoman cuisine in general, mainly in pastes, in dishes, in area which has been defined as halvahane, products, and in ovens.

Sesame, anise, black cumin, gum and cumin spices were given to the ovens (Ayyıldız and Sarper, 2019: p.370).

Spices in Ottoman cuisine as well as in Turkish cuisine are parsley and mint in soups. Spices in meat dishes are black pepper, cumin, and red pepper. Spices in desserts are rose water, cloves and cinnamon. The spices in the stuffing are allspice and pine nuts (Şavkay, 2007: p. 50-293; Demirgül, 2018: p.113-120).

In Ottoman times, bay leaves were used in fish kebabs, sometimes mint and tarragon were used in pickles, and sometimes fennel was used. Sater (zahter), whose taste is close to thyme, is used to give flavor to sausages and offal dishes and to prevent them from spoiling quickly. Mustard seeds were crushed with vinegar to a paste-like consistency and spread on the mutton. In the absence of tomatoes, vinegar, citrus juice, verjuice, verjuice juice, fresh green plum, sumac and nardeng were used to add sourness to dishes and salads (Anonymous-3, 2010).

After the conquest of Egypt, new spices entered the palace cuisine (Közleme, 2012: p.140). Although the palate has improved with the increase in the variety of spices, spices have been used sparingly, without suppressing the taste of the food, emphasizing the flavor of the main ingredients. Many sherbets made with these spices are divided into summer and winter. Syrups made with natural brewing and boiling methods are consumed fresh (Ceyhun Sezgin and Durmaz, 2019: p. 1506). Other spices frequently used in Ottoman cuisine include darifülfül, ginger, turmeric, cloves, cardamom, cew-i turkey (coconut), gum, musk and amber. There are few recipes using dill, tarragon, coriander and basil (Ayyıldız and Sarper, 2019: p. 370).

In the Republican Period, onions, garlic, tomato paste and spices are indispensable flavorings in dishes (Durak, 2019). Many types of spices are used in the preparation of dishes in Turkish cuisine. pices and their uses are presented in Table 4. (Anonymous-1, 2007; Anonymous-10, 2015).

Spices used in the kitchen not only add flavor to the dishes, but also contribute economically in terms of national and regional development (Anonymous-23, 2019).

Local cuisines that determine the regional identity and the elements used in these cuisines play an active role in the formation and development of Turkish culinary culture. The local cuisine identity is highlighted by the raw materials and spices used in the dishes.

**Table 4:** Some Types of Spices Used in Dishes Preparation

<b>In white meats</b>	Onion and garlic powders, thyme, rosemary, bay leaf, fresh ginger, curry, turmeric, pimento, coriander, parsley and black pepper are used (Anonymous, 2015).
<b>In red meats</b>	Fresh or dried thyme, onion and garlic powders, mustard seed, coriander seed, clove, bay leaf, cinnamon, turmeric, cumin, red pepper and black pepper varieties are used (Anonymous, 2015).
<b>In vegetable dishes</b>	Mint, black pepper, parsley, dill, chili pepper, turmeric, rosemary, garlic powder are used (Anonymous, 2015).
<b>In pastries</b>	Sesame, black cumin, rosemary, basil, parsley, dill, thyme, red pepper and black pepper are used (Anonymous, 2015).
<b>In salads</b>	The appetizing properties of spices show their effect. Fresh mint, fresh thyme and sumac add both health and flavor to salads (Anonymous, 2007).

## 2. LOCAL CUISINE

Turkish cuisine is a culinary feature that includes different food cultures on a regional basis. Culinary culture is one of the prominent elements of the region's cultural features. The difference in local food and products in nearby cities causes a rich culinary culture to emerge. In addition, the geographical structure of the region in shaping of the culinary culture, climate conditions, plant species, growing agricultural products and the diversity of regional dishes play an active role and allows the development of the concept of local cuisine (Çuhadar et al., 2018: p. 125; Aldıoğlu, 2022: p.39). The local cuisine best reflects and promotes the geography and historical background in which they are located. However, it is seen at the present time that this culinary culture is not at the value and place it deserves. In recent years, the concept of local food has come to the forefront and has become widely used, but not enough, and the characteristics of this concept have remained largely uncertain. The inadequacy of the point of view of the local people and food and beverage businesses, financial impossibilities and lack of promotion can be counted as the reasons for forgetting many local foods and beverages (Kaya, 2016; Şenol and Giritlioğlu, 2021: p.4). In the context of fixing these problems, research of local products and food, inventory removal, determination of knowledge levels of local people and visitors on local food

and work on the necessary demonstrations will be a supporting factor (Kaya, 2016). As a result of the literature research, it has been determined that there are studies on the dishes that make up the local cuisine (Açık and Çakıroğlu, 2018: p.3287; Şen et al., 2019: p.796; Tunceli Governorship, 2012: p. 7; Çuhadar et al., 2018; p.125; Çınar, 2019; Kurt and Badem, 2021: p.1079; Bulut Solak and Eken, 2021: p.371; Uslu and Kırmacı, 2021: p.275; İnci Bozkurt and Yaman, 2021: p.921; Üzülmez and Onur, 2021: p.1349; Ercan and Gülcan, 2021: p.47; Köşker and Özbey, 2021: p.471), on the specific herbs and spices of the region used (Oğan and Cömert, 2022: p.29; Kaytanlıoğlu, 2021: p.83; Aldıoğlu, 2022: p.39), their usage patterns and on the recognition of local dishes (Kaya, 2016; Şahin Perçin et al., 2019: p.548; Erbil, 2019: p.1; Adıgüzel, 2020: p.4; Nebioğlu, 2021: p.1031; Şimsek, 2021: p.173; Akbiyık and Badem, 2021: p.496 ; Şenol and Giritlioğlu, 2021; Arslan et al., 2021: p.261; Demircan et al., 2021; p.365).

## **2.1. Local Cuisine of Sivas**

Women who cook with the tradition of making eye decisions in the city center, districts and villages of Sivas have contributed to Sivas cuisine taking an important place in Turkish culinary culture (Açık and Çakıroğlu, 2018: p.3289). In addition, Sivas is one of the oldest settlements in Anatolia, and this historic past goes to the Hittites who are also prominent in agriculture; hosting to many civilizations (Phrygians, Hittites, Assyrians, Scythians, Lydians, Medes, Persians, Romans, Sassanids, Mongols, Danishmends, Ilkhanids etc.) until from the Anatolian Seljuk state to Ottoman empire periods (Anonymous-25, 2019; Anonymous-55, 2022); playing a key role in the establishment of the Republic of Turkey; Sivas and its surroundings are on the historical road route; the King's Road and Spice Road passing through here (Anonim-8, 2014); having an important geographical position with its cultural richness, climate diversity and values; being high biodiversity and endemism (35.8%) (Akpulat, 2018: p.25) play an important role in the enrichment of this culinary culture.

In the Sivas local cuisine; foods and dishes such as ağartı, kömbe, kuymak, tutmaç, umaç, oğmaç, uğut and kavut, breads such as sheet and tandoori, börek and katmer are made. In this cuisine, there are many types of dishes with local cuisine names in a wide range from soups to meats and pilafs, herbs and vegetables, pastries and desserts. Among these dishes, soups take the first place. among the types of soups that were also consumed for

breakfast in the past. Among the types of soups that were also consumed for breakfast in the past are buttermilk (ayran) soup, also known as yogurt soup, düğülcek soup, bread dishes (ekmek aşı) soup, bread crumbs (ekmek kırmısı) soup, soup with additives (katıklı soup), herle of roasting, also known as flour soup, cutting (kesme) soup (dough soup, leg soup and lakiche), madımak soup, herle of lentil (mercimek), turnip (şalgam) soup, tarhana (with split wheat), flour tarhana (urumeli), tutmaç, beetroot (pancar) soup, keş, dough soup with keş/peskütan, kelecoş soup and peskütan soup are included (Açık and Çakıroğlu, 2018: p.3290).



**Figure 1:** Dishes-Soups in Sivas Local Cuisine (Anonymous-12, 2016; Anonymous-14, 2017; Anonymous-16, 2017; Anonymous-28, 2020; Anonymous-35, 2021; Anonymous-43, 2022; Anonymous-49, 2022; Anonymous-56, 2022; Republic of Turkey Ministry of Culture and Tourism, 2013; Provincial Directorate of Culture and Tourism, 2013a; Şekerkadm, 2021; Soysal, 2022)

Vegetables and fruits are dried and stored so that they can be consumed in winter. In addition, ebegümeçi (mallow), evelik, çiriş (Allium ampeloprasum var. porrum), daydala, gelinparmağı (bride's finger), ısırgan (nettle), ışgın (lightgrass), kabalak, kangal, kasnı, kazan karası, kekik (thyme), kenger, anık, körmen, kuşkuş, livik/nivik, madımak, mor çiçek (purple flower), pürpürüm (purslane), sarmaşık (ivy), tekesakalı, telce, yarpuz (pennyroyal), yemlik (salsify) which are added to local dishes, are medicinal

wild plants. While some of these medicinal plants are used as vegetables in dishes, some of them are used as spices (Açık and Çakıroğlu, 2018: p.3290).



**Figure 2:** Wild Plants Used in Sivas Local Cuisine (Anonymous-15, 2017; Anonymous-22, 2019; Anonymous-24, 2019; Anonymous-29, 2020; Anonymous-38, 2021; Anonymous-45, 2022; Anonymous-47, 2022; Arslan, 2018; Atb, 2015; Ecevit, 2014; Ekmekcioğlu, 2022; Özkan, 2013; Selin, 2017; Sevtaprık, 2018; 40ibrahim, 2018)

Paste (marmalade, uruf), jam, even dessert and pickles are also made from highland and mountain fruits such as alıç (hawthorn-Crataegus oxyacantha), çördük (the oleaster-leaved pear/wild pear-Pyrus elaeagnifolia), karamuk (barberry-Berberis vulgaris), kuşburnu (rosehip-Rosa canina) (Açık and Çakıroğlu, 2018: p.3290).



**Figure 3:** Highland and Mountain Fruits Used in Sivas Local Cuisine (Anonymous-13, 2017; Anonymous-17, 2018; Anonymous-27, 2020; Yıldız, 2020).

Mutton is generally used in Sivas dishes. Beef and veal are used to make sausage and pastrami. Sac kebabı (diced meat fried on iron plate), Sivas kebab, kuzu sac (diced lamb fried on iron plate), çirli et (meat with apricot), pehli, Sivas tavası (the Sivas pan), soğanlı et (meat with onion), üzümleme (meat with grape), bulgurlu köfte/tadlama (meatballs with bulgur wheat), Sivas köftesi (Sivas meatballs) and mıhlama (frying with onions) are the meat dishes of Sivas cuisine (Zengin and Işkın, 2017: p.409).



**Figure 4:** Meat Dishes in Sivas Local Cuisine (Anonymous-4, 2010; Anonymous-5, 2010; Anonymous-11, 2016; Anonymous-33, 2021; Anonymous-37, 2021;

Anonymous-39, 2021; Anonymous-52, 2022; Anonymous-53, 2022; Anonymous-57, 2022; Provincial Directorate of Culture and Tourism, 2013b, 2013c)

Pilafs also have an important place in Sivas cuisine. Divriği's Alatlı/Alaflı pilaf (with alaf), bezirgân pilaf, gendime pilaf, göçmen (immigrant) pilaf, shirvan pilaf, pilafs with vegetables (evelik pilaf, bean pilaf, turnip pilaf, madımak pilaf), yumurta eriřtesi (egg noodle) pilaf, kavurma eriřtesi (fried noodle) pilaf and couscous pilaf and pilafs cooked in ceremonies (votive/qurban pilaf for example ziyaret pilaf, Çandır Baba pilaf, düğün/wedding pilaf, baca and leylek/chimney and stork pilaf) are the pilafs of Sivas cuisine (Açık and Çakırođlu, 2018: p.3290).



**Figure 5:** Pilafs in Sivas Local Cuisine (Anonymous-6, 2012; Anonymous-14, 2017; Anonymous-46, 2022; Anonymous-50, 2022; Anonymous-54, 2022; Cansun, 2021; Dilek, 2015; Ergin, 2022; Provincial Directorate of Culture and Tourism, 2013d; Mutaf, 2018; Özkaya, 2015; Tabur, 2020)

Flour trituration, boiled and pounded wheat (bulgur), eriřte (noodles), kadayif, couscous, bread, pastry, vegetable drying, braised meat, tomato paste are some of the winter food preparations at the end of harvest time. Foods prepared from dairy products are keř (cooked yogurt), peskütan (pescutane) and çökelek (cottage cheese).

In the summer time, buttermilk soup, beetroot soup, madimak, evelik, düğürcek aşı (düğürcek dishes) and in the winter time are tirhit, sibura, kelecoc, tarhana and pastries such as meat loaf, hingel, and grik are made.

Ash bun in the tandoor, fodla, kömbe (that is made with potatoes and cheese), kete, lavash and yufka (phyllo dough) are among the types of bread.

In addition, sac katmeri, cevizli börek (walnut pastry), köylü böreği (peasant pastry), sarağiburma dessert, Zara kelle (head) dessert, hurma (date) dessert, halva, çir (apricot) dessert and grape dessert are among the other foods (Üçer, 2017: p.144).



**Figure 6:** Pastries and Desserts in Sivas Local Cuisine (Anonymous-9, 2015; Anonymous-30, 2020; Anonymous-36, 2021; Anonymous-40, 2021; Anonymous-44, 2022; Anonymous-48, 2022; Anonymous-51, 2022; Republic of Turkey Ministry of Culture and Tourism, 2022; Bllrbia, 2022)

### 2.1.1. Literature Review

When we look at the literature on spices, there are studies that explain the difference between herbs and even spices that include salt and vinegar,

classify fresh and dry spices, provide information about the storage of spices and the medicinal uses of spices (Encyclopedia of Foods Part II, 2002: p.363; Collin, 2006; Ravindran, 2012; Embuscado, 2015: pp.251-280; El-Sayed and Youssef, 2019: p.1; Pişkin, 2019: p.10; Titman, 2019: p.271). In addition, studies that inform about different uses of herbs used as spices worldwide and on a regional basis (Seidemann, 2005: p.6,7), and various spices and traditionally used herbal folk medicines are also available in the literature (Soner et al., 2002: p. 39; Black, 2021: p.540).

Additionally, it has also been seen that there are various survey studies conducted to assess the recognition of spices among the public, the characteristics of spices and their purposes of use (Szűcs et al., 2017: p.1; Demirçivi and Altaş, 2016: p.107; Yaşar Fırat, et al., 2018: p.24).

Among the studies in which spices are evaluated individually, there is a study in which the origin, types, usage areas of star anise, its place and importance in China's five-spice mixture, and the way it was transported to Europe are mentioned (George, 2012); there is a study that provides information on the cultivation of the safflower plant with spice properties in Turkey (Şahin and Taşlıgil, 2016: p.51); there is a study in which cinnamon spice, which has a fragrant oil from the laurel family, is discussed and its place in the culinary culture of the Ottoman period (Güldemir and Işık, 2012: p.311); there is a study in which the production of sumac syrup, which is used extensively in the culinary culture of the Eastern Mediterranean region, the way it is used in local dishes and the effects of sumac on health (Aldıoğlu, 2022: p.39); there is a study in which fennel is defined and the areas where fennel is grown, its use in oriental medicine and its side effects, and different forms of use in health and cuisine areas (Saddiqi and Iqbal, 2011: p.461); there is a study in which clove (*Syzygium aromaticum*) is used as a food preservative and it is stated that it is one of the most valuable spices for many medicinal uses (Cortés-Rojas et al., 2014: p.90); there is a study examining the physical, chemical and microbiological properties of ice creams produced and stored by using essential oils obtained from coconut, lemon peel, clove and cinnamon in certain proportions (Macit et al., 2017: p.63); there are studies carried out in order to emphasize the value of saffron, to reveal its medicinal uses and to make its cultivation sustainable, and to explain the historical stages of saffron, its botanical and agricultural characteristics, and the necessity of conducting national and international studies to examine the

geographical indication quality (Melnik et al., 2010: p.1981; Mustu, 2021: p.300; Şahin, 2021: p.173).

In these literature studies, it has been determined that Turkey has an important place in terms of the number and variety of endemic plants in the world (Şenkul and Kaya, 2017: p.109; Bozkurt, 2019: p.67). In the local sense, Sivas is one of the cities that support this wealth and come to the forefront (Pürlü, 2017; Bozkurt and Akkemik, 2018: p.35,36). It has been seen that the plants grown in the regions in Turkey are used for different purposes by the local people. While some of these plants resulted in the emergence of dishes made from edible herbs that enrich the local cuisine (Karaca et al., 2015: p.28,36,37; Kurt and Badem, 2021: p.1079; Tıgılı Kaytanlıoğlu et al. 2021: p.83) ; Kocadağ et al., 2021: p.195), it has been determined that some of them were used for medical purposes (Savran et al., 2002: p.314; Gürlek, 2011: p.123; Şenkardeş, 2010: p.3,4; Orta Anatolian Development Agency, 2016: p.12; Bozkurt, 2019: p.67). It is also expressed that certain parts of some of these plants (root, stem, leaf, flower, seed) are used as spices to add flavor and aroma to regional and local dishes (Yıldız et al., 2018: p.14;).

### **3. PURPOSE OF THE STUDY**

As a result of the literature study, national studies found that Turkey has various studies related to different regional cuisines and spices, but there is no current study on the culture and spice of the Sivas cuisine. This study provides information about the Sivas culinary culture and regional dishes, and is aimed to examine the local spices used in the dishes. In this context, the relationship between spice and flavor is emphasized and the location and importance of the spice is defined in the regional cuisine identity and to increase the recognition of the Sivas regional culinary culture is planned.

### **4. THE METHOD OF THE STUDY**

Within the scope of this qualitative research, data were obtained by “document analysis”. Document analysis, formerly known as documentary observation, is an important data collection method based on the review of existing documents and records (Yıldız and Yılmaz, 2020).

In this context, open access and written secondary data sources (articles, book chapters, research articles, news, etc.) were used by using the keywords “Sivas, local cuisine, spices, edible herbs”.

## 5. FINDINGS

As a result of the document analysis, it has been determined that there are 9 studies in the literature that provide detailed information about Sivas local dishes and their contents.

Among these studies;

- In the study of Üçer (1990) titled “Traditional Culinary Culture in Sivas: Culinary Ethnography; Local Names, Idioms and Proverbs Related to Dishes” information were given about the general characteristics of Sivas cuisine and wild plants grown in Sivas and the dishes made from them.
- In Üçer’s (2017) book titled “Anamın Aşı Tandırın Başı”, information was given about Sivas cuisine and local dishes.
- In the study conducted by Pürlü (2017), edible natural plants in Sivas and its surroundings were examined.
- Üçer (2017) gave brief information about Sivas culinary culture in his work named “Güldeste-i Sivas II”.
- In the study of Açık and Çakıroğlu (2018), information was given about the sustainability of Sivas cuisine culture and local dishes.
- In the study of Zengin and Işkın (2018), Sivas local cuisine was evaluated in terms of gastronomic tourism.
- Divriği culinary culture was examined in the study carried out by the Municipality of Divriği.
- In the study of Öztürk and Arıkan (2018), Sivas local cuisine was examined within the scope of rural tourism.
- In the study conducted by the Sivas Governorship (2006), the cultural inventory of Sivas was taken and the dishes made in Sivas and its districts were examined.

### 5.1. The Use of Herbs and Spices in the Sivas Cuisine

The herbs and spices that grow wild in Sivas are used in many areas, as well as in the cuisine. The herbs and spices used are divided into two, which are used in beverages and dishes.

## 5.2. The Use of Herbs and Spices in Drinks and Dishes in Sivas

It is understood that 15,5% of the plant varieties in Turkey are found in Sivas. 57 of the 1058 taxa are the endemics only available in Sivas, 363 of which are the endemics available in Sivas and outside Sivas. As a result, Sivas has a total of 420, i.e. 27.9%, endemic plant taxa (ORAN, 2015: p.51).

In our country, the dishes made using wild plants are called “herb dishes”. Most of these plants have herbaceous properties. However, young, leafy and leafless sprouts of plants in the form of semi-shrub, bush or tree are also used in cooking (Tuzlaci, 2011, p.25).

Beverages made from herbs and spices in the regional cuisine are tea, syrup, sherbet, etc. forms are prepared.

Kuzukulağı (sorrel), karamuk (barberry), kuşburnu (rosehip), alıç (hawthorn), kekik (thyme), akgül (hite rose), civanperçemi (yarrow), çay otu (tea grass), ebegümeçi (mallow), gıgış, ışkın, kangal, kirtikli, narpuz (pennyroyal) etc. are plants used as a beverage (Anonymous-41, 2022).

Some of the herbs and spices used in food in Sivas are cooked (madımak, livik, telce, kabalak, sarmaşık, gelinparmağı, ısırğan, çiriş otu, ışgın, pezik/pazı, körmən, tekesakalı, ebegümeçi/kazan karası, evelik vb) and some of them are consumed raw (yemlik, kuşkuş, kasnı, ısırğan, dikenli kangal, kenger/ışgın, yağlıca/kara/yapışkan, semizotu/pürürüm, körmən/çayır soğanı/suvanak, kuzukulağı) (Anonymous-34, 2021).

Plants used as spices are classified as fresh or dried, some of them are aşotu/kişniş (achote/coriander-Coriandrum sativum), thyme, yarpuz/narpuz (pennyroyal-Mentha pulegium), körmən (Allium scorodoprasum L.), anik (Satureja hortensis L.) etc. (Pürlü, 2017) (Table 5).

In addition, “salt”, which has caused debates whether it is a spice or not since the Ottoman period, especially "Sivas flower salt", which contains nearly 80 minerals, has an important place in Sivas cuisine as a flavor and aroma (Anonymous-20, 2018).



**Figure 7:** Sivas Local Cuisine and Flower Salt (Source: <http://sivascicektuz.com>)

**Table 5:** Wild Plants Found in Sivas and Used as Spices in Dishes

Spices	Explanation	Source
  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>Aşotu</b></div>	<p>Coriander: The plant, which has white and pink flowers, resembles basil. Dried leaves and flowers are used as spice. It is used in yoghurt soup called “Bulamaşı” in İlbeyli region.</p>	<p>(Anonymous-21, 2019; Pürlü, 2017; Köhler, 1897)</p>
 <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>Anık</b></div>	<p>Summer savory: The plant, which is also called Anuh, is used as a spice such as basil and thyme, in soups, meat dishes and sausage making especially in the Divriği region. It is used to facilitate digestion, especially in game meats. It is wild spearmint. It can also be consumed raw.</p>	<p>(Üçer, 2006: p.402,480; Kurt, 2017)</p>

	<p>Thyme: The plant, which has many species in Sivas, is used in soups, stuffing and meat dishes.</p>	<p>(Pürlü, 2017; Üçer, 2006: p.165,580)</p>
<p style="text-align: center;"><b>Kekik</b></p>	<p>Körmen: It is a wild type of onion. It tastes like garlic and onions. The twigs are eaten raw. It is called suvanah in central villages. It is used in madımak soup in Imranli, pestikan soup, beet soup and madımak pilaf in Zara. It is used instead of onions, especially in Zara.</p>	<p>(Üçer, 2006: p.72, 129, 150, 167; Pürlü, 2017)</p>
	<p style="text-align: center;"><b>Körmen</b></p>	
	<p>Pennyroyal: It is a variety of mint and has white flowers. Dried flowers and leaves are used as spice. It is used in highland soups. Fresh leaves can be eaten raw, as well as the fresh stem and leaves can be consumed by adding cheese, eggs and salad.</p>	<p>(Üçer, 2006: p.167; Pürlü, 2017)</p>
<p style="text-align: center;"><b>Yarpuz</b></p>		

	<p>Purple flower: The plant, which has purple flowers, is used to give color to soups especially in yogurt and beet soups. The plant called milky flower is called “tremble mother-in-law” (titre kaynana) in Divriği region.</p>	<p>(Anonymous-31, 2020; Üçer, 2006: p.167; Uçar Sözmen, 2020)</p>
<p><b>Mor Çiçek</b></p>		

In addition to the spices used throughout the country (black pepper, red pepper, cumin, etc.) in the regional cuisine and in the dishes that make up the cuisine, plants originating from the region (körmen, anık, etc.) were also used as spices (See Table 6).

**Table 6:** Sivas Local Dishes and Spices

	<b>Dishes</b>	<b>Spices</b>	<b>Usage</b>
<b>Soups</b>	Düğün Aşı	Anık/anh/Summer savory (Şatureja hortensis), paprika/red pepper, black pepper, flower salt	Anık/Summer savory: It is the general name of plants such as mountain basil (Ziziphora), thyme (Thymus), Marjoram (Origanum) and Mint (Mentha), which are used to give smell and taste to dishes, and it is added to red pepper fried in oil and poured over soups.
	Ekşi Aşı	Anık/anh or basil, flower salt	It can also be made with lemon juice or lemon salt instead of dried fruit pulp and plum paste.
	Peskütan/Pestigan Aşı/Çorbası	Anık/anh, curried, red pepper, garlic	If the pescutaneous is salty, salt may not be added.
	Bulgurlu Ayrın Çorbası	Anık/anh, flower salt	Summer savory is sprinkled on the face of the soup.
	Pancar/Madımak Çorbası	Körmen, onion, fenugreek <sup>*3</sup> , chili flakes	Körmen (Allium rotundum L.) is a plant of the onion family, especially grown in Zara and its environs, with a taste resembling garlic and onions, leaves resembling leeks. Soup can be made with dried madımak in winter.

<sup>3</sup> \* Fenugreek; size (Trigonella phoneme it is made from the ripening fruits of the plant called graecum. Dried carob is turned into powder (Üçer, 2006).

<b>Vegetable dishes</b>	Kuru Salatalık Dolması	Sumac	Cucumbers, which are peeled and hollowed out, are dried in the sun, boiled and filled with a stuffing consisting of minced meat, onions, bulgur and spices in the winter.
	Kabak Kabağı Kavurması-Salatalık Kabağı Yemeğı	Onion, flower salt, parsley, dill (curry is used when there is no onion.)	It is a dishes that women used to dry cucumber skins to be thrifty.
	Evelik/Efelik Sarması	Onion, flower salt, basil, garlic, red pepper	It is consumed by pouring yoghurt with garlic on it.
	Kenger Yemeğı	flower salt, sugar	It is made by boiling with milk.
	Turşu Mihlaması	Onion, flower salt, other optional spices	It is made from pezik/twig pickle.
<b>Meat dishes</b>	Tavşan Dolması	Onion, basil, pomegranate/dry melon, flower salt	It is made from animals hunted in winter and served with pilaf.
	Sivas/Çarşı Köftesi	Flower salt	It is made from the meat of animals fed by eating natural thyme in the highlands. For this reason, it is known that meat is delicious (Pürlü, 2017). It is made with Sivas flower salt.
	Tavşan Kızartması	Tomato paste, thyme, mint, basil	The skinned rabbit is boiled after being left in the snow for 2 days.
	Sucuk	Cumin, black pepper, cayenne pepper, paprika, garlic, flower salt, sugar, cinnamon, cloves	The meat to be used for sausage should be medium fat. It can be filled in the intestines or wrapped in cloths.
	İçli/İşli/İri Köfte	Black pepper, red pepper, flower salt, basil, spring, parsley	It is one of the dishes made on special days. Potatoes and lentils are also made. Meat should not be used as it will harden the outside of the meatballs.
<b>Pilafs</b>	Alatlı/Alaflı Pilav (Divriğı Pilavı)	Onion, black pepper, spring, cloves, cinnamon	It has a history of 800 years and has reached the present day without any change. It is served with cinnamon clove grape compote.
	Madımak/Pancar Pilavı	Körmen, fenugreek*	Bacon can also be used instead of fenugreek.
	Acem Pilavı (Persian Pilaf)	Black pepper, flower salt, mint, cumin	It is made with fatty cubed mutton.
	Şirvan Pilavı	Black pepper, cinnamon, currants, pine nuts, flower salt, onion	Boiled chicken meat is placed on it. In addition, chicken broth is added to pilaf and cooked on low heat.
	İç (The interior)	Flower salt, red pepper, black pepper,	The interior, which is a type of salad unique to Divriğı, is also

		cumin** <sup>4</sup> green onion, basil, parsley, tomato paste	eaten with leaves.
Pastries	Hingel	Flower salt, garlic, paprika, black pepper	It can be eaten by pouring yoghurt with garlic on the triangular boiled dough. It can be made with cheese or potatoes.
	Çökelikli-Pancarlı-Ispanaklı	Green onion, flower salt, pepper, parsley	It can contain cottage cheese, madımak or spinach.
	İbikli (İmranlı)	Floral salt, onion, garlic, paprika	The dough, which is kneaded hard, is cut into squares, boiled and can be consumed with garlic yogurt.
	Tutmaç	Mint, flower salt, onion, paprika	It is made with thinly cut noodles and green lentils.
	Velibah	Onion, flower salt, paprika, black pepper	It is a potato pastry that is opened in the form of a circle.
Desserts	Kelle tatlısı (Zara)	Cinnamon, cloves, cumin, ginger, allspice	Because it is brought to the table as a whole, it gets its name from the head.
	Datlaş/Aşure/Tatlı Aş	Flower salt, black pepper, cloves, sugar	It is made by cooking fruits, grains, sugar and seven different spices.
	Sütlü Karakabak Tatlısı	Granulated sugar, flower salt, cinnamon	Zucchini, which are cut and washed, are cooked thoroughly by adding bulgur, a little water, grapes, sugar and some salt until they are mixed. Then, cold milk is added and it is continued to be cooked until it gets the consistency of pudding.
	Mor Çiçek Reçeli	Purple flower, sugar, lemon salt	Purple flowers are dried and mixed with mint and added to soup faces (especially yogurt soups).
	Besni Üzümlü Hurma Tatlısı	Cinnamon, ginger, black pepper, cumin	After the grapes are cooked, they are roasted in unsalted butter over low heat. Adding 1/3 of corn oil to the butter while roasting gives the grapes shine.

(Source: Üçer, 2006)

Based on the classification of local dishes prepared by Üçer in his book “My mother's food, the head of the tandoor”, five regional dishes from each group (see Table 6) were considered, and the spices used in these dishes were examined.

<sup>4</sup> \*\* Coriander is used in the marination of meats. It is also called cumin in different regions.

## 6. CONCLUSION AND RECOMMENDATIONS

As a result of the study, it was determined that among the examined (such as mint, red pepper, black pepper, cumin, sumac) dishes and beverages, besides the spices used throughout Turkey, the local and regional spices such as ařotu (achote), thyme, yarpuz (pennyroyal), krmen, anık, purple flower were used.

It is seen that local spices are used as sohariç\*\*\*<sup>5</sup> in soups and pilafs rather than pastries and desserts.

It has been seen that salt, especially Sivas flower salt, which has caused debates whether it is a spice or not since the Ottoman period, has a separate and important place in Sivas' local dishes.

In order to expand the study and to reach new data, survey studies can be conducted to investigate the food, herbs and spices that are not included in the literature by interviewing the local people.

Studies can be carried out for the new generation to recognize the local cuisine culture and the spices used in the region and to increase their awareness.

Herbarium laboratories can be established in order to preserve all the spices used in the region and unique to this cuisine, and to introduce them to the students studying in the field of food and beverage and to the public. In addition, as in Sivas, there are regions with high endemism rate in many regions of Turkey. This study we have done can set an example for other researchers in another provinces.

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<sup>5</sup> \*\*\* Soharic :

- 1) If water or broth is added after the soup ingredients are placed in the pot, it is "sohariç".
- 2) If a mixture of mint, oil, onion and red pepper is added to the cooked soup, it is "soharic".

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## CHAPTER 3

### THE MERMAID AND THE MINOTAUR AS SYMBOLS OF FEMININITY AND MASCULINITY CAROL SHIELD'S NOVELS *THE REPUBLIC OF LOVE* AND *LARRY'S PARTY*

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## **INTRODUCTION**

### **SYMBOLS OF FEMININITY AND MASCULINITY<sup>2</sup>**

Gender relations in the Carol Shields novels *The Republic of Love and Larry's Party* may be investigated critically from the symbolic perspective of mythological attributes that femininity and masculinity manifest in love and marriage. This approach is supported by a psychological insight into personal interactions from such positions of unequal power.

The American feminist Dorothy Dinnerstein was the first author who thought of the combination between the difficulty of gender conundrum with the changing possibility, which she called “sexual arrangements and human malaise”. She based her analysis on an allegory of the female and male principles expressed in the symbols of the mermaid and Minotaur. Mermaid, considered in line with the concept of femininity in other feminists such as Juliet Mitchell, Nancy Chodorow, Jane Flax, Jean Baker Miller and Adrienne Rich, is recognized as a valuable representation in contemporary feminist psychology. Nancy Chodorow, Jane Flax, Teresa Brennan, Hester Eisenstein, Marianne Hirsch, Mari Jo Buhle, Adrienne Harris, Louise Taylor and Jessica Benjamin share Dinnerstein’s account of femaleness and women's subjectivity concerning the development by interaction on the strenuous way to adulthood. The Minotaur, symbol of masculinity, is a violent creature, half-man and half-bull, who ate human flesh. One year, the hero Theseus volunteered as a victim, intending to kill the Minotaur and rescue Athens from its terrible fate. With the help of Ariadne, the king’s daughter who had fallen in love with him, he succeeded. (Philip 56)

#### **1. THE MERMAID AND THE MINOTAUR**

The Mermaid and the Minotaur are mythical images of half-beast and half-human creatures, expressing the internally changing nature of people and the “sexual arrangements” underpinning the division between male and female individuals through different forms of interdependence. Chodorow is concerned with the maternal role by female care of infants - like in all creatures - though she considers that men should be more involved in the parental responsibility.

The image of the mermaids recall the role of women to give birth, connecting the watery medium to the fetus living in a fluid, a “realm” specific

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to them, they are seductive and lure men, while the image of the Minotaur reminds us of power, aggressiveness, and insatiability of masculinity:

*The treacherous mermaid, seductive and impenetrable female representative of the dark and magic underwater world from which our life comes and in which we cannot live, lures voyagers to their doom. The fearsome minotaur, gigantic and eternally infantile offspring of a mother's unnatural lust, male representative of mindless, greedy power, insatiably devours live human flesh (Dinnerstein 4).*

The relationship between men and women is always troubled because lust makes them be only semi-human. The way in which they interact is the guiding thread out of the life labyrinth. Theseus being set free by Ariadne from the Minotaur's cave may be read as a search for a new and better way for men and women's connection. All Shields's characters that seduce men and whose life is centered on love may be thought as mermaids, or at least for certain stages of their growing. They use seduction on men with their attractiveness in order to make sure they have not lost their femininity, beauty and charm.

Fay McLeod in Shields's *The Republic of Love* (1992) is concerned with anything available about mermaids and she even writes on this subject in her attempt to gather her thoughts and give the best account of how she understands femininity. This is a result of several attempts to connect to men in a way that the relationship is durable, but for no apparent reason, it breaks every time, escaping the "arrangements" that seemed solid and promising. At the same time, the mermaids are unfulfilled desires embodied in enigmatic water creatures, forever desired and never possessed. There is a picture of a mermaid on the cover of Fay's book called *Mermaids of the Inner Mind*:

*In one of her hands is a comb, representing love and entanglement. The other hand, which is uplifted (waiving or perhaps beckoning), symbolizes a deep longing for completion, the wish for rapturous union, a hunger for the food of love (Shields RL 310).*

Fay seems to decide to turn her attention to her own self and to the meaning of love. This is a psychological quest complicated by her encounter with Tom Avery, though she has doubts if this is a serious matter or just foolishness. We can notice that sometimes love is coldly looked at and not taken seriously in the community where they live.

In her essay, Faye Hammill draws a parallel between this novel and popular romance first as a continuation in terms of structures and reaffirmation of the subject matter, the author “adding a dimension of sophisticated intellectual analysis to the traditional focus on emotional and sexual experiences” (Hammill, *The Republic* 62). The novel is a mixture of genres, with obvious elements of a fairytale: Tom Avery has twenty-seven mothers and just like in *The Little Mermaid*, Fay finds her “prince” and it is love at first sight, a romantic one. Romance and fairy tale have an unexpected realist background of the contemporary society in which they live and work. But this parallel with popular romance proves to be a subversion of this genre:

*Just as Swann revises the narrative form of the detective mystery, so The Republic of Love revises the romantic novel, incorporating gentle parody of the genre as well as self-reflexive commentary on the language of love and the plots of love stories (Hammill The Republic 61-62).*

## **2. THE CONCEPT OF LOVE**

If we consider the title itself, it becomes obvious that the word love contained in it is the expression of Shields’s preoccupation with its meanings (for both sexes), while the word republic prompts the idea of democracy, egalitarianism between the two genders. This association of terms, related to a profoundly human feeling and a societal organization is a sign that we might expect to find an indication of how love is perceived in the contemporary society, possibly in contrast with the nineteenth-century popular romance. Indeed, there are instances in the novel that reveal the way in which the protagonists – Tom and Fay – understand and posit love in their lives. Their views, male and female respectively, are equally divided in a well-balanced account, like in *Happenstance*. Half-way of the novel the storyline of the male and female perspective runs in parallel, with double focalisers in one narrative voice, and after the characters meet, the events of their lives are presented in common up to the end. Both of them have a past: three divorces in Tom case and three former lovers in Fay’s case. At the time when they meet Fay was

working on a book about mermaids and she had probably thought so deeply of them, so that she cannot stand any longer their impact on her psyche. This is one of the occasions when we find out her thoughts on love, as being opposed to rationality, even close to madness:

*the mermaids have affected her equilibrium ... She's sick of mermaids. Their writhing bodies. Their empty, unblinking faces shrieking for love ... Not one of the mermaids she's seen has had a whit of intelligences about her ... Love, love, love is all they can dream up down there in their underwater homes. They're starved and vapid and stupid as fish. They're impoverished by love, maddened by love, they're crazy as ... as crazy as Fay is herself. (Shields RL 222).*

For Tom too, love is foolishness, irrationality, feeling sorry for having sent that letter to Fay in which he declared his love: "he was a fool. He was a nut case ... he was a loony because he'd gone and written that foaming-at-the-mouth letter to Fay McLeod" (Shields RL 213-214). However he remembers he was sane when he wrote those words, which shows his wavering in finding his true attitude to love. This ambiguity in taking up a firm position in consideration of love, emotions, rationality is also an expression of fluidity and instability of how they are understood and experienced in the contemporary society. Fay is also hesitant in giving a straight response to other people's talking about love, in taking love seriously, and this is due to the conventions and clichés attached to love representations in literature. Shields admits its importance in human lives, explaining her decision to write about love in an interview:

*I felt that I wanted to rescue [love], hold it up against other major themes. Love is the basis of our lives. I don't think of it as minor theme and yet we all know it's been relegated to Harlequin romance novels. Serious, reflective people do not fall in love; it's embarrassing even to say so. I don't believe that for a minute, so I want to write about love (Anderson M. Interview 143).*

*The Republic of Love* is the subversion of the traditional romantic love between Fay McLeod Fay, a folklorist who is writing about mermaids and Tom Avery, a radio talk-show host. The mermaid, in psychoanalytical feminism is the symbol of femininity by its association with water and seduction. Fay's sense of self is totally dependent on others:

*She has all the identity she wants, all she can absorb. Daughter, sister, girlfriend, all her Fay-ness... She's learned, too, how unstable identity can be, how it can quickly drain away when brought face to face with someone else's identity (Shields RL 154).*

Thus, love can only be problematic, as it requires balancing isolation and connection; Fay fears “the fragility of human arrangements” (Shields RL 331).

As to the language of love, it obviously deserves a little attention as already mentioned, there are clichés that real people as well as characters of romantic fiction use in expressing their feelings. In her discussion on the representation of femininity as being primarily generated through the masculine discourse, Nancy Chodorow expresses a paradox about the way in which the woman is viewed in male fantasy: “It is for what she is not that she expects to be desired as well as loved” (Chodorow, *The Reproduction* 121). The intertextuality provided by Jane Austen and popular romance is easily recognizable. The novel is yet distanced off the romantic fiction by the equal attention paid to the male character and through parody and some features of the characters. For instance, Fay is a mature, experienced woman. Another difference is that Shields is also concerned with male sexuality, not only with the female one. As a matter of fact, this is a novel of two characters (one female, one male), both growing into the adults that decide to form a couple and get married, like in a *buildungsroman*. The traditional, conventional plot of romance – the characters’ marriage – after several trials and a short period of alienation due to Fay’s concern for her parents’ separation is a happy ending that reminds again of fairy tales. Like the mermaid named Ariel in Hans Christian Andersen's story, who has to give up her voice in order to become human and become the prince’s wife, Fay lives in a society where the male voice is dominant. She has to sacrifice her voice and autonomy so that the hero will marry her, thus fulfilling her desire. She gives up being a mermaid anymore, but she has undergone a personal transformation, a metamorphosis into a new realm, from unfulfilled desires to fulfilled ones. The influential role of others in defining the individual and deceptiveness of appearance are as strong as in Shields’s novel, *The Republic of Love*. The central theme gets various nuances and degrees, from romantic-fairy tale like love story counterbalanced by a more rational perspective in *Larry’s Party*. In *The Republic of Love*, Fay’s and Tom’s narratives reveal their opinions on love and marriage, they talk both about domestic and professional life, whose

developmental stages are shown in their achievements. Contrary to traditional romances where the love story is secondary to the protagonists' reaching maturity through action, this is a romantic novel centered on the main characters' falling in love on the way to marriage. Since they are both disappointed by their former lovers (three in number for each partner), they become suspicious of such a complex feeling that can be very treacherous when not genuine. The storyline swerves around a series of coincidences, a frequent narrative technique of Shields's, unlike the plot in realist narration that is based on cause and effect. Fay's and Tom's lives are presented alternatively about halfway the novel, then they meet and the story flows in a single, unified series of events. Shields suggests through the title equality between men and women in a love relationship and female voice, reconsidering love.

This is a hint at how Shields views gender in a coupled relationship. Tom's and Fay's lives are revealed in successive chapters up to a point when they are intertwined, in the bond of love. Both of them have a past of broken relationships and think that it is foolish to fall in love, but gradually they reach the same conclusion that this concept should be defended against what is generally said about it in the attempt to take it seriously:

*Fay noticed something she's never noticed before. That love is not, anywhere, taken seriously. It's not respected. It's the one thing in the world everyone wants – she's convinced of that – but for some reason people are obliged to pretend that love is trifling and foolish (Shields RL 248).*

As seen in *The Republic of Love*, the characters were continually thinking about the true meaning of love and how it is viewed in their society and its seriousness, just to find out that they change their opinion throughout the novel. As demonstrated, one cannot talk about Eros, for instance, unless the gendered body is considered.

Beth Prior, Larry's second wife in the novel *Larry's Party* also ponders over goodness as a major issue in women's life and the tone is ironic:

*Goodness is what she's really in search of, especially feminine goodness, that baffling contradiction. [...] Was it, Beth asks, that their smaller, more vulnerable body size drove them into wily strategies, so*

*that by arming themselves with holy rectitude they were able to solicit the protection of men? (Shields LP 122).*

The Republic of Love and Larry's Party are relevant examples for the way in which the female characters place love in the center of their inner life, with romantic accents, unlike the male ones that are not inclined to idealization.

## **CONCLUSION**

The allegorical vision of the masculine and feminine principle in interaction is the basis of aesthetics in the analyzed novels that reveal the attitude of the characters towards gender. Interpersonal relationships are the result of the cooperation between the emotional manifestations of male and female protagonists that circumscribe their private life. They learn about love from each other, but they have different responses to the other's initiation. Writer Carol Shields captured the differences between the psychological aspects of their understanding and acting with the deepening of closeness feelings, in the desire to harmonize them in love and marriage. There are various degrees of importance real people and characters as well give to the concept of love and the impact it has on their inner lives. How everything is viewed by the society is the other salient aspect of such considerations.

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## **CHAPTER 4**

### **THE NECESSITY OF MULTICULTURALISM FOR ADULT EDUCATION IN THE CONTEXT OF TURKEY**

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## **INTRODUCTION**

The expectations and needs of individuals benefiting from adult education (AE) activities are important in the planning and implementation of education programs. Multicultural education has features that can be integrated with AE, as it is an educational approach that emphasizes learner characteristics and allows individuals' culture and experiences to be included in the learning environment. However, although multiculturalism is frequently discussed within the framework of formal education in the literature, it seems to be discussed in very few studies in relation to AE. In this study, first of all, information about AE and multiculturalism is given and the relationship between them is explained. Then, these two concepts are discussed in the context of Turkey, which has rapidly become a multicultural country with immigration in recent years. This study aims to offer suggestions on what can be done within the framework of multiculturalism to the educators working with individuals from different cultures in AE institutions and to decision-makers about AE.

### **Adult education**

Today, AE is used together with similar concepts such as public education, non-formal education and lifelong learning. It can be said that AE includes educational activities organized for the needs of individuals who have not benefited from formal education. Although there are different definitions of AE, the definition by the Ministry of National Education [MoNE] (1990 as cited in Okçabol, 2006, p.25) “planned, systematic and continuous out-of-school education, training and guidance activities which are implemented as programs based on the needs of individuals and societies at all levels, whose main job is not to go to school, who have taken responsibility or who have to take responsibility in life, to help them to progress in social and cultural fields” is inclusive and emphasizes the different functions of AE.

While the social development aspect was at the forefront in AE in the early days, as the focus was on individuals who could not benefit from their educational rights due to various disadvantages in the society, with the influence of global and neoliberal policies, the continuation of lifelong education activities by people with a certain level of education has begun to be considered within the framework of adult education over time. In fact, it is seen that individuals who want to improve themselves and who have already benefited from formal education opportunities try to benefit more from AE,

instead of individuals belonging to disadvantaged groups who are deprived of education opportunities and should be the first priority in AE (Bağcı, 2019).

Since there are many features that distinguish AE from formal education, a different approach should be adopted at various stages from the preparation of the curriculum to its implementation. Unlike formal education, AE is short-term and needs-oriented. For this reason, it provides more flexibility and change compared to formal education programs, which are more difficult and static to change (Okçabol, 2006). In addition, since AE targets issues such as equality of opportunity and social integration, its scope focuses more on social purposes than formal education (General Directorate of Lifelong Learning, 2020). When considered in terms of the target audience, it is seen that there are no restrictions such as age, education level, place, time and AE includes diversity. Compared to children in formal education, it can be said that adults are more realistic and rational, therefore they expect adult learning, which can bring concrete suggestions for their own needs and situations (Subaşı, 2018). For this reason, an educational approach that includes learners' experiences in the teaching process seems to be important in AE. Although it is often stated that the traditional approach, in which the teacher is active and the learner takes place as a listener expressed by Freire (2011) as the “banking concept of education”, should be changed for children in formal education, it is even more obvious that this approach will not appeal to adults. Because adults participate in the learning environment with years of experience and personality traits, they may get bored in a short time if they do not see an inclusivity towards themselves in the educational environment. This situation can be understood when considering the high dropout rates in AE compared to formal education.

Instead of pedagogy, which is known as the science and art of teaching children, the term andragogy is often used in adult education. There are different opinions about when the concept of andragogy, which is considered as a science and art that helps adults learn, emerged (Duman, 2007). However, Malcolm Knowles discussed the concept of andragogy in a theoretical framework in the 1970s and shared some assumptions about adult learning. Among them, the assumption of *self-perception* is related to the fact that the adult, who is a self-directed person, wants other people to see himself/herself as the same. For this reason, an implementation in which the learning environment is suitable for adults, where adults are respected and the teacher plays a facilitating role should be preferred. The assumption of *experience* includes the appreciation of adults' experience and requires using

practical and solution-oriented practices through methods such as learning by doing not to ignore that experience. The *learning need* assumption is related to the adult's willingness to know and understand the reason for learning. The assumption of *readiness to learn* relates to adults' willingness to learn as a result of the emergence of a need in their lives. The assumption of *learning orientation* is related to finding a solution and benefiting in a short time. While children in formal education are likely to use what they learn in their future lives, adults want to apply it in their lives as soon as possible. For this reason, whereas subject-oriented understanding is dominant in formal education, problem or life-oriented understanding is more dominant in AE. Finally, the assumption of *motivation* to learn is related to the need to develop intrinsic and extrinsic motivation of adults who have negative feelings as learners or who had to leave formal education for any reason. In this context, it can be said that the education programs, whose aims and contents are formed by taking the opinions of adults, might provide more motivation for adults (Duman, 2007; Knowles, 2009).

### **Multiculturalism**

The concept of culture includes common beliefs, values, symbols and interpretations and determines the adaptation of a group to its environment (Banks, 2010). Culture can be considered as a process that determines how one thinks, behaves and believes, which individuals are mostly not aware of (Gay, 2014). Although the common features of a society come to mind when culture is mentioned, individuals living in the same society can develop different cultures. These differences, both group and individual, lead to cultural diversity in the society, but different groups may not have equal opportunities in the society (Banks, 2010). As a result, cultures can be classified as macrocultures and microcultures according to their roles in the society where they live. Macro culture is used to describe an inclusive national culture shared by all individuals and groups, while microculture is used to describe smaller cultures that contain cultural fragments that are different from macroculture. Although each of the micro cultures in the society has common features that conflict with the macro culture, each has different characteristics. Over time, macro and micro cultures can develop common features by interacting with each other (Banks, 2010).

The concept of multiculturalism, which emerged as a result of the coexistence of different cultures in the society, is a philosophical stance and trend that emphasizes the reflection of gender, ethnic, racial and cultural

diversity in all units of a state (Banks, 2010). States facing multicultural social structure can react to this situation in two ways. First of all, by being aware of the cultural diversity in the society, states may welcome this situation and try to make the necessary arrangements in the institutions of the state, which can be said to be the purpose of multiculturalism. Or, the characteristics of different groups may be assimilated by destroying them in the macro culture (Parekh, 2000). In this context, two types of integrative approaches can be considered, such as taking differences into account or following a standardization policy. Two metaphors known as the *melting pot* or the *salad bowl* in the literature describe the policies that a state can adopt within the scope of multiculturalism. While the transformation of heterogeneous societies into a homogeneous structure and the harmonization process is important in the understanding of the melting pot, the metaphor of the salad bowl focuses on the richness and taste that each of the parts that make up the whole adds to the society and expresses that these parts take place in the whole with their differences (Başbay, 2014; Uçar-İlbuğa, 2010).

The field of education, which is one of the most important areas where a state can implement policies in the context of multiculturalism, has led to the emergence of a multicultural education approach. Banks (2010) states that today's important problems are not caused by illiterate people, but by people from different cultures, races, religions and nations who cannot get along with each other and cannot work together to address today's important problems such as global warming, poverty, racism, sexism, terrorism, international conflict and war. For this reason, the main objectives of multicultural education are to ensure that all individuals benefit from the right to education equally, regardless of gender, social class, race, or cultural characteristics, to increase the academic success of individuals by including their identity in the learning environment, and to develop dialogue between different groups (Banks 2010; Gay, 2014).

There are those who see multicultural education as an idea and approach and consider its practice as culturally responsive teaching (Kotluk & Kocakaya, 2018). Culturally responsive teaching places the learner at the center of the learning process and uses the cultural knowledge, previous experiences and performance types of students from different cultural groups (Gay, 2014). In this way, individuals in the micro-culture in the society can establish a link between the culture at home and the culture at school without experiencing cultural incompatibility in educational institutions. Within the framework of sensitivity to cultural values, Gay (2000 cited in Hinkel, 2019)

emphasizes five important points: 1.) developing knowledge based on cultural diversity, 2.) including ethnically and culturally diverse content in the curriculum, 3.) demonstrating cultural caring and building a learning community, 4.) understanding intercultural communication, and 5.) responding to ethnic diversity in classroom instruction. It is understood that these points are important in the implementation of the multicultural education approach.

### **The relationship between adult education and multiculturalism**

In the framework discussed above, it is seen that multiculturalism and AE have many common points. It is understood that these are especially the social purpose, the flexibility of the content, the fact that the participants are from various cultural groups, and the importance of the learner's identity and culture in education. However, the fact that multiculturalism has not been addressed within the framework of AE compared to formal education is an important deficiency in the literature and practices (Abunaib, 2019; Ahrens et al., 2020; Rhodes, 2018). As a matter of fact, it is seen that two of the four main strategies determined for the countries that are or are trying to become a member of the European Union focus on adult education and multiculturalism. Among these strategies, "To realize lifelong learning and mobility" and "Promoting equality, social cohesion and active citizenship" are indications that these concepts are handled together and their importance is increasing every day (Avcı & Kıran, 2021, p. 845).

AE has been criticized for not considering the cultural identities and sociocultural characteristics of learners (Ahrens et al., 2020). When the information discussed above is evaluated, the inclusion of the individual's experiences in the learning process allows them to both increase their academic success and meet their needs by feeling belongingness to the learning environment. In terms of purpose, social change and social justice, which requires the elimination of inequalities and providing the rights that people are deprived of, are at the forefront in both AE and multiculturalism. In terms of teaching methods, multiculturalism has an undeniable importance in AE as an approach that helps the learner make sense of why they are there, increases their intrinsic motivation and takes individual differences into account.

Although multiculturalism is related to the inclusion of racial and ethnic differences as a starting point, it includes various differences such as

gender, disability, age, social class, religion and belief, and political orientation (American Psychological Association [APA], 2002). Adult education is also a broad-spectrum field that includes applications in different fields, and therefore it can appeal to all different cultural groups in a society. In addition, in relation to multiculturalism, AE focuses on the educational needs of disadvantaged groups, and its target audience is individuals who could not benefit from formal education due to various reasons such as race, gender and social class. In this context, the cultural structure of societies has an importance that should be taken into account in the organization of adult education programs because migration shows its effect in many countries today due to environmental factors, war and economic difficulties. Immigrant individuals can be seen as a disadvantaged group because they face various difficulties such as adapting to society and finding a job in host countries. This situation leads them to benefit from adult education. It can be said that AE that does not address immigrants will be incomplete (Subaşı, 2018).

The economic dimension of adult education is more about people taking an active role in society by improving their knowledge and skills in various business areas. From the perspective of immigrants, this dimension is important because it is necessary for them to find a job and integrate into society in the host country (Ahrens et al., 2020). AE, which is a tool for acquiring new knowledge and skills in the modern world, also increases intrinsic motivation and social participation (Subaşı, 2018). AE should also be organized in a way that can lead adult foreigners to develop social cohesion with the host country. This can be possible with the use of multicultural education approach, considering that there are individuals from different cultures in adult learning environments. Social interaction and social integration contribute not only to immigrants but also to individuals in the host country, because a peaceful and harmonious society is important for all individuals (Duman, 2019).

Multicultural education practices for immigrants require the adoption of an individual-oriented approach and the inclusion of cultural values and norms, religious factors, previous learning and experiences (Ahrens et al., 2020). In this context, it is important to develop a learning environment called *shareroom* instead of classroom (Kaya, 2014). Some of the practices that should be considered in AE within the scope of multicultural education are to involve the learner, to make them feel that the cultural values of the minorities who face oppression and difficulties are respected, and to deal with different ideas by purifying the education system from the dominant western culture,

theories and principles (Abunaib, 2019). Considering that immigrant students try to cope with emotional situations such as a sense of belonging, fear and stress (Hinkel, 2019), it may be possible to eliminate these negative feelings with an education that is responsive to cultural values.

Social cohesion is defined as the whole of the relations between individuals and groups in a certain environment and the institutions that govern them (Çalışkan-Sarı, Aksanyar, Kadioğlu & Uylaş, 2021). Indicators of social cohesion in a society can be listed as human security, trust and satisfaction in the institution, low threat and social distance, and high intergroup contact (Çalışkan-Sarı et al., 2021). Social cohesion can be considered in three dimensions as belonging, targeting common sense and social relations (Duman, 2019). Considering the approaches to integration into the society discussed under the title of multiculturalism, it is important that an attitude expressed as *othering* or *cohesion* (Yaman, 2017) is adopted by the state and reflected in educational institutions. It is seen that an effective integration process in which immigrants can create added value to the host country and take place as equal stakeholders in the society coincides with the goals of multiculturalism. However, it is seen that some countries prefer an integration called assimilation in migration events, which includes the adoption of the lifestyle in the host country (Yaman, 2017).

Within the scope of social cohesion, language lessons within the framework of AE offered by host countries for immigrants can be handled by regarding the principles of multicultural education. In this respect, it is important for a teacher to exhibit a reflective and flexible approach, taking into account the previous knowledge bases of language learners (Hinkel, 2019). The process of learning the language of the host country should not be only in the form of language education, but should be carried out in a way that allows the individual to strengthen themselves, help and understand each other.

In addition to language education, literacy has an important role in the education of immigrants. Discussing the unknown aspects and misinformation about immigrants' own culture and history, explaining the achievements of individuals from immigrants' culture in various fields of science, making contextual analysis, and understanding cultural differences are the subjects that should be emphasized in literacy classes. For adult immigrants, it is important to address rights and responsibilities within the framework of multicultural education, to focus on issues such as democracy, justice,

minorities and their rights, to discuss concepts such as social marginalization and exclusion, and to ensure cooperation (Kumi-Yeboah & Wayne, 2011).

### **Turkey as a multicultural country**

Due to its location, Turkey is a country where individuals from different cultures have lived from past to present. However, considering the forced migration, especially because of the wars experienced in recent years, Turkey is rapidly advancing towards becoming a multicultural society. Hosting more than 3,500,000 refugees, Turkey ranks first in the world in this regard (Global Education Monitoring Report [GEM], 2019). It is known that approximately 3,200,000 of them are Syrian refugees (Subaşı, 2018). In Turkey, an “open door policy” was initially applied to those fleeing from Syria due to the war, and expressions such as “guest” and “asylum seeker” were used for immigrants who could not be accepted as refugees because of a previous contract. In this way, a rapid and sudden, uncontrollable migration led to many economic and political changes in the host country, while it also brought with it the problem of social cohesion (Duman, 2019).

Some studies on Turkey show that diversity is perceived as a threat and local people have negative feelings and thoughts about immigrants (World Values Survey [WVS], 2017-2020). However, there is a need to develop respect for differences in order to ensure social harmony and peace. For this reason, appropriate policies should be developed by keeping multiculturalism on the agenda in Turkey. Aydın (2012) states that Turkey carries out a policy that is close to cultural homogeneity in terms of multiculturalism, and resembles it not to the melting pot theory explained earlier, but to a dessert called *aşure*, where each ingredient preserves its own taste and creates a delicious combination together. Cırık (2008) likens the multicultural social structure in Turkey to the art of *marbling* and states that colors and patterns preserve their original structure and exhibit a fused structure together.

One of the most important tasks in ensuring social cohesion falls on educational institutions, because when both children benefiting from formal education and adults benefiting from non-formal education institutions are considered, it is necessary to make arrangements in educational environments related to the integration of immigrants into society (Education Reform Initiative [ERG], 2020, GEM, 2019). It is already known that there are inequalities in Turkish education system due to various reasons such as disability, socioeconomic status, and different ethnic groups (Kotluk &

Kocakaya, 2018). Temporary Education Centers, which were established at the beginning of the migration from Syria to Turkey, lost their function as a result of the increasing number of refugees and the settlement of refugees in city centers over time. A policy towards the preference of learning environments where refugees and local people receive education together has begun to be adopted. However, it is seen that there are various problems such as language, preparing appropriate teaching content, communication, exclusion, and loneliness for refugee students (Aydm, Gündođdu & Akgül, 2019; Kotluk & Kocakaya, 2018). In addition, it is understood that there are problems in providing a multicultural education environment due to physical conditions such as classroom and school inadequacy, and the lack of experience of students, parents and teachers about living with foreigners (Duman, 2019). There is no curriculum that supports multiculturalism in the Turkish education system that is not based on integration (Kırkık, Kırkık & Berberođlu, 2018). Although language lessons for immigrants have an important role in ensuring social cohesion, if a multicultural approach is not followed there, a situation may occur where individuals lose their identities and cultures. For this reason, the curriculum for refugee students should be different from the programs of the host country and their own countries, and should focus on the cultural characteristics of the two cultures and include how they can live in a global world with different cultures (Kırkık et al., 2018). As can be seen, although multiculturalism in Turkey is a concept that is emphasized in formal education considering the number of immigrants, it is understood that there are problems in its implementation and a multicultural education policy has not been adopted yet. It can be said that the multicultural approach, which cannot be applied in formal education, has not yet been discussed within the framework of adult education.

### **The education of adult foreigners in Turkey in terms of multiculturalism**

AE in Turkey first started with the concept of public education and included individuals who could not attend formal education. However, social and economic changes have led to changes in the structure of AE (Avcı & Kiran, 2021) and the concept of lifelong learning has begun to be used. Currently, education programs are implemented for both local people and foreigners within the unit, which was named the General Directorate of Lifelong Learning in 2011 under the MoNE.

The General Directorate of Lifelong Learning provides a wide range of services from vocational training to language education, from literacy education to trainings related to various hobbies. Avcı & Kıran (2021) states that these trainings are mostly associated with the market and that there are few cultural training programs, and even with these programs, this understanding exists. On the other hand, the General Directorate of Lifelong Learning states that education services are provided in order to reveal the full potential of individuals and help them to be active and happy citizens (General Directorate of Lifelong Learning, 2020).

The Council of the European Union (2011) considers adult education important in terms of social inclusion and active participation, especially for disadvantaged groups such as immigrants. However, in many countries, including Turkey, it is seen that the education of adult foreigners does not get the same attention as the education of school-age immigrants (Subaşı, 2018). In the latest monitoring report published by the General Directorate of Lifelong Learning, it is stated that there are approximately 4,700,000 foreigners from 170 countries in Turkey, and 156,332 of them from 135 different countries benefit from Public Education Centers (General Directorate of Lifelong Learning, 2020). More than half of the participants in these courses are Syrians. Although it is high in number, one of the most important obstacles for adult foreigners not to benefit from educational environments is language, because it is seen that courses focusing on vocational education cannot be preferred due to language barriers, but there is an orientation to language lessons in AE (Subaşı, 2018). Duman (2019) states that receiving Turkish language education will enable Syrians to enter business life in healthy and safe conditions, to be successful, and to gain the rights they need. İlbay (2017) also states that language education is a prerequisite for foreigners in terms of other trainings, and states that opening courses in which the country's political structure, language, legal system, culture and history, and rights and obligations are explained at a basic level can contribute to social cohesion. Çalışkan-Sarı et al. (2021) states that it is compulsory to learn the language of the host country and getting familiar with the social life, cultural characteristics, child-rearing practices, religious structure, jokes, body language, etc. of the host country happens through language.

As a matter of fact, the courses attended most by foreign adults are Turkish Level A1 for Foreigners, Turkish Level A2 for Foreigners, and Literacy Level 1 (General Directorate of Lifelong Learning, 2020). It is

understood that foreign adults have deficiencies in literacy in addition to not knowing the language of the host country. When the characteristics of those who migrated to Turkey from Syria are analyzed, it is seen that they mostly come from the north of Syria from a region where education opportunities are low. However, the fact that adults have a certain level of education is also important for the education of immigrant children (Kırkıcı et al., 2018). There are situations where some immigrants do not even know how to take their children to school, and when there are problems, communication between parents and teachers cannot be established due to language barriers. For this reason, creating an inclusive learning environment in AE and providing adults with educational opportunities can also positively reflect on formal education.

When it comes to social cohesion, it is seen that the focus is on immigrants and the situation is understood as a one-sided relationship. However, it is important that local people take an active part in integrating with immigrants. For this reason, it is important to organize educational environments that can inform the local people about this adaptation process and help them to overcome their prejudices (Duman, 2019). Underlining that multicultural education is not only for disadvantaged groups, Banks (2010) states that individuals in macro culture in society should also benefit from multiculturalism to change their perspectives and seek ways to live in peace by becoming aware of micro cultures in the society. Kaya (2014) states that instead of the traditional understanding that focuses on differences in the use of multiculturalism for adults, an understanding that touches on common points and ignores differences can be more integrative in the context of Turkey. She explains that in this way, reliable multicultural environments can be provided for adults and they may feel safe in the learning environment.

It is understood that the courses in AE do not focus on areas such as multiculturalism and active citizenship. In her study with adult foreigners in Turkey, Subaşı (2018) states that there are homogeneous groups for participation in AE. For example, while certain courses are preferred for women and men, the religion of foreigners is also important in this choice. While religious adults prefer Quran courses, non-religious people are more likely to take courses for hobby. In terms of religion, it has been revealed that sects are also important in participating in these trainings. For example, while there are more course opportunities for Sunni immigrants living in more central areas, it is seen that these opportunities are few for Alevi immigrants due to the location they live in. The General Directorate of Lifelong Learning (2020) works in cooperation with the Presidency of Migration Management

on foreign adults and undertakes initiatives on social integration and development by carrying out various projects.

### **Suggestions for Multiculturalism in AE**

In the framework discussed above, it is seen that a multicultural education approach is important in terms of ensuring social cohesion in the education of adults in the host country as well as in the education of adult foreigners. Although learning environments that should be created on the basis of multiculturalism are mostly discussed with formal education in mind, it is possible to benefit from them in AE as well. Social integration of immigrants in a multicultural country like Turkey can be achieved through AE, by providing a more effective learning environment through both the development of curricula in adult education and the training of adult educators within the framework of multiculturalism (Duman, 2019).

It is important that the curriculum to be prepared should be practical and in a way that the participants can relate to their lives (Hinkel, 2019). Multicultural knowledge is important in choosing the appropriate content for the student, and a culturally responsive teaching approach is an asset. Curriculum in which the participant is in the center and takes into account participants' mother tongues, lives, previous knowledge and experience does not marginalize the learner from the subject and as a result becomes more inclusive and democratic. That is, the AE curriculum should be global and context-dependent (Kubow, 2009). By expressing that the hidden curriculum is inevitable, Demir & Yurdakul (2015) state that the curriculum should emphasize the multicultural dimensions in order to prevent negative situations that may arise from the teachers. Kaya (2014) also states that insensitive behaviors of adult educators can reflect negatively on the learner and that a multicultural education curriculum is important in preventing this.

First of all, it is necessary to benefit from the multicultural education approach in determining the aims and objectives of the programs to be used in AE. It is important to benefit from cognitive, affective and psychomotor skills in writing objectives because it is important for learners to internalize these skills and use them in their own lives. In particular, it can be said that the social-affective and psychomotor learning areas have more influence in this process (Adıgüzel & Karagül, 2020). In this respect, adding objectives from affective and psychomotor areas such as developing empathy, accepting responsibilities as a citizen of a multicultural society, appreciating different thoughts, developing a positive perception of oneself, developing an

understanding of the elimination of social problems based on oppression and inequality, communicating with individuals from different cultures, and being able to work in teams in the curriculum has an important role in the learner's internalization of learning (Demir & Yurdakul, 2015).

Content is one of the most important points in the inclusion of multiculturalism in the learning environment, since content integration is the most utilized dimension among the five dimensions required by multicultural education (Banks, 2010). Integrating appropriate content into the curriculum in AE practices helps to provide a learning environment where adults can express themselves. In this context, in addition to dimensions such as race/ethnicity, gender, disabled individuals, elderly people, low-income families, individuals with different beliefs, minority languages, and different political orientations mentioned in the definition of multiculturalism, prejudice, discrimination and stereotypes that explain the situations related to the inability of micro-cultures to be accepted by the dominant culture, cultural hegemony, citizenship, value, democracy, conflict resolution, globalization, racism, migration, cultural interaction are the themes that can be addressed in teaching activities organized in line with multiculturalism (Başbay, 2014; Byram, Gribkova & Starkey, 2002; Demir & Yurdakul, 2015; Ngai, 2004). Na (2015) mentions the universal themes for a multicultural curriculum as shown in Figure 1.

Social	Political	Economic	Philosophical
<ul style="list-style-type: none"> <li>○ Family</li> <li>○ Social class</li> <li>○ Recreation</li> <li>○ Physical competition</li> <li>○ Symbol systems</li> <li>○ Mobility</li> <li>○ Understanding diverse people</li> </ul>	<ul style="list-style-type: none"> <li>○ Government</li> <li>○ Protocol</li> <li>○ War machines</li> <li>○ International relations</li> <li>○ Access to / meeting basic needs</li> </ul>	<ul style="list-style-type: none"> <li>○ Energy</li> <li>○ Shelters</li> <li>○ Workplace</li> <li>○ Employment</li> <li>○ Population</li> <li>○ Growth</li> <li>○ Natural resources</li> </ul>	<ul style="list-style-type: none"> <li>○ Supernatural rituals and celebrations</li> <li>○ Religions</li> <li>○ Democracy</li> <li>○ Socialism</li> <li>○ Communism</li> </ul>
<b>THE EVOLVING CULTURE</b>			

**Figure 1.** Universal Curricular Themes for a Multicultural Curriculum (Na, 2015, s.11).

According to Figure 1, it is seen that there are four areas as social, political, economic and philosophical, and under these are different contents, some of which are listed above. It is important that the content in AE curriculum is free from prejudice and stereotypes (Hinkel, 2019). In addition, the content should be complete and accurate and include the contributions and perspectives of all groups (Hanover Research, 2020).

Although it seems important to add what kind of content and themes in the AE curriculum within the scope of multicultural education, one of the points that is as important as the content is how this teaching is carried out. Since multicultural education requires students to develop high-level skills such as questioning, analyzing, and critical thinking, it is important to organize learning environments in this direction. Hinkel (2019) recommends that the learning environment be organized in a way that covers different cultures, and that teaching should be done in a way that includes group and pair work, supports critical thinking and reflection, enables open-ended discussions by allowing different perspectives, and helps to build bridges with previous knowledge and experiences. In addition, it is important to make arrangements for different learning styles (Hanover Research, 2020).

In this framework, in order for students to understand the perspectives of different groups, case studies can be used in the lessons. Teachers and students can discuss the situations related to prejudice and discrimination that they observe and experience in the classroom (Banks, 2010). In addition, cooperative learning, discussion, film screenings, analysis of examples in the media, simulation, role playing, reading aloud, related trips and projects are activities that can be benefited from within the scope of multicultural education in AE (Başbay, 2014; Cırık, 2008; Demir & Yurdakul, 2015; Gay, 1994; Gay, 2014; GEM, 2019).

In terms of evaluation, practices different from formal education are important in AE and multiculturalism can contribute to the regulation of this process. Process and high-level skill-oriented methods such as reflection writing, film analysis, reading analysis, presentation, discussion leadership, self-criticism, media diaries and learning blogs can be given as examples for using in this process (Başbay, 2014). It is difficult to see the effectiveness of multicultural education practices, which should be evaluated with more reflective thinking and flexible ways, in the short term because changes in thought and behavior can occur over time. Therefore, it is important to consider cultural differences in the evaluation process (Demir & Yurdakul, 2015).

It can be said that teachers have a key role in the success of multicultural education because they are in one-to-one contact with students in the learning and teaching process and shape learning environments based on multiculturalism (Başbay & Kağnıcı, 2011). It is important for teachers to have positive attitudes towards all differences, try to recognize their own and students' differences, and have the skills to realize the goals of multicultural

education based on the culture of their class and the differences of students. Teachers need to know themselves first and get rid of their prejudices, and then try to understand their students by getting to know their differences and previous experiences (Başbay & Kağnıcı, 2011).

Teachers who can face their own prejudices should be able to transfer students' past experiences to the learning process in order to design teaching environments responsive to cultural differences in the future because it is possible that students' academic interest and success will increase as a result of finding their own identity in the learning environment. At this stage, making students active in the knowledge construction process, enabling the curricula to be examined from different perspectives, creating a classroom climate that includes all students, and benefiting from different assessment methods are some of the characteristics that teachers should have (Başbay & Bektaş, 2009). In addition, it is important for teachers to be interactive, creative, flexible, sensitive, egalitarian, supportive, collaborative and inclusive within the scope of multicultural education (Aydın, 2012). Gay (2014), on the other hand, emphasizes the conciliatory and unifying role of teachers by stating that teachers should understand cultural intersections and conflicts, minimize tension points and build bridges between different cultures. Finally, Ahrens et al. (2020) state that adult educators should have responsibilities such as integrating multicultural knowledge into the curriculum, recognizing cultural differences among immigrant groups, creating inclusive learning environments through learning partners, de-emphasizing assimilation in practices, and caring about work socialization of immigrant groups in order to reduce cultural discrimination.

## **CONCLUSIONS**

It is seen that multiculturalism and adult education have many common points. For this reason, especially in multicultural countries such as Turkey, where the number of immigrants is high, arranging adult education considering multiculturalism can be beneficial in terms of ensuring social harmony and peace, incorporating the participants' own identity and culture into the learning environment, and developing respect for the disadvantaged groups in the society. In this context, the following points are important for adult educators and decision makers who want to include multicultural education in AE practices:

- To create an inclusive environment in AE practices, adult educators should attend in-service trainings on multiculturalism and a multicultural curriculum should be prepared.
- A multicultural AE curriculum should be designed based the context of the country and the region, be responsive to the cultural characteristics of the participants. For this, special attention should be paid to writing objectives from the affective and psychomotor domains, the appropriate multicultural themes should be selected according to the context, the learning process should be designed in a way that puts the learner in the center and is suitable for using different methods, and reflective and flexible approaches should be used for assessment.
- Adult educators must first face their own prejudices and be able to take initiatives to eliminate prejudice in the classroom. Educators who know how to work with different cultural groups, are flexible, respectful and take the role of facilitator in teaching should enable learners to be included in a safe and inclusive learning environment within the framework of multicultural education.

Although it is mostly discussed in formal education, multiculturalism needs to find its voice in adult education, too. For the well-being of today's multicultural societies, it can be suggested to conduct both theoretical and practical research for the role of multiculturalism in AE.

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## CHAPTER 5

### TRAVEL TO THE PAST IN ENTOMOLOGY IN INDIA

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## INTRODUCTION

The word entomology is derived from two Greek words, *entomon*=insect and *logos*= study, so Entomology is a branch of Biology that deals with the study of insects. It includes the study of various aspects of insects such as their body structure, functions, habit and habitat, development, their position in taxonomy and relationship with other animals, their distribution, origin and economic importance. The relationship between humans and insects has been from the prehistoric times, however, the scientific study of insects started as late as the 16<sup>th</sup> century. In the 19<sup>th</sup> century, several enthusiastic natural voyagers, set on their epic journeys, and noticed insects while on their journeys and contributed significantly to insect diversity. Alexander von Humboldt and Aimé Bonpland explored Orinoco and Amazon rivers, savannah and rainforest from 1799 to 1804, and collected 60,000 specimens which they published in 30 volumes of *Personal narrative of travels* (1805-1834). Voyages by Charles Darwin (round the world voyage: 1831-1836), and Henry Bates with Alfred Russell Wallace (Voyage to Brazil: started in 1844) also added to the insect diversity. Other notable voyagers included J.B. Spix, CFP von Martius (1824), R. Spruce (1908), and Thomas Belt (1874). The famous book by Darwin, *The Origin of Species*, extensively used examples of insects to explain the theory of evolution (Price, 2003).

## ENTOMOLOGY IN ANCIENT INDIA

Indians had known insects from Vedic times (1500-800 BCE). *Vedas* constitute the classical literature of India and provide information, on which the foundation of ancient and modern India has been built. There are four Vedas i.e. the *Rigveda* (verses), the *Yajurveda* (worship rituals), the *Samaveda* (melodies and chants), and the *Atharva veda* (magic and charms). In *Vedas*, there is mention of silk, honey, and lac, all of which are products from insects. The *Atharva Veda* mentions *Krmi* which means insects, as one of the causative agents of human diseases. It also mentions the destruction of crop plants by insect pests. Insects such as Śalabha, Pataṅga, Tittibha, Kīta, Kotika, Harina, Salyaka, Godh, etc. destroy young shoots of plants (Dwivedi, 2017). It also mentions charms against poison of insects and the use of Madhula plant and water from Upajīkā ants as treatment for poison (VII.56) (Prasad, 2002). Similarly, there are mentions of insects in the epic *Mahabharata* also. The Kauravas built a house of lac to kill Pandavas by burning. The rearing of silkworms and the manufacture of fabric from them was known around 6000 years ago (Husain, 1938).

The knowledge of *Vedas* was introduced to the West by Colebrooke in 1805 when he wrote an essay on *Vedas* for *Asiatic Researches* (Whitney, 1853).

### **Entomology in India in the 18<sup>th</sup> to early 20<sup>th</sup> Century**

The scientific study of insects from India finds its origin in the book '*Systema Naturae*' written by the famous taxonomist Carl Linnaeus in 1758. In his book, he included 12 species of insects from India. During the 18<sup>th</sup> and 19<sup>th</sup> centuries, several Christian Missionaries and high-rank officials of the East India Company were interested in insects. They collected insect samples and sent them to entomologists in Europe. Fabricius was a well-known entomologist at that time who studied more than 1000 species of insects from India. Another noteworthy entomologist at that time, who came to India and studied Indian insects, was Dr. Koenig, a student of Carl Linnaeus. He collected a large number of insects which were named and classified by Linnaeus and Fabricius. The very early publications of entomology in India included '*Natural History of Insects of India*' by Donavans, which was later revised by Westwood, who also published *Cabinet of Oriental Entomology* (Rao, 1983).

Entomology came in India in its true sense in 1785 when the Asiatic Society of Bengal was established. As the interest in insects grew over a period of time, the Indian Museum was established in Calcutta in 1875 and all the insect collections of the Asiatic Society of Bengal were transferred to the Indian Museum (Rao, 1983). The names of pioneers in entomology such as E.C. Cotes and J. Anderson who studied agricultural entomology, and Sir Ronald Ross who studied medical entomology, are worth mentioning who contributed significantly to the Indian Museum (Husain, 1938). Between 1884 and 1894, many more insect collections were added to the museum. Meanwhile, in 1883, the Bombay Natural History Society was established in Bombay, which created its collections of insects. Its scientific work was published as papers in various journals which contributed to the taxonomic and biological knowledge of various types of insects in India (Rao, 1983).

The late 19<sup>th</sup> century was the time when emphasis was laid more on the taxonomy of insects. The records of insects were published in a series entitled '*Fauna of British India*', which started its first publication in 1892, and it is still being published as '*Fauna of India*' by the Zoological Survey of India (ZSI) (Rao, 1983), which was established in 1916. The first recorded work on consolidating the Indian Odonata was done by F.C. Fraser who

published it in three volumes in 1933, 1934 and 1936 in the *Fauna of British India*, which published a total of 50 volumes (Chandra, 2011).

In 1905, National Pusa Collection (NPC) was established by Harold Maxwell-Lefroy, at Pusa, Bihar, which created a collection of many thousands of species of Lepidoptera. NPC is now situated in Delhi, under the Division of Entomology of Indian Agricultural Research Institute (IARI). It has a collection of more than 0.5 million specimens and acts as the national repository for insect pests of crops. Of these specimens, 0.1 million have been identified authentically which represent 20,000 species (IARI, 2022). Similarly, several other institutes have been catering to the taxonomic studies of insects such as the Forest Research Institute (FRI), Dehradun (having collections of Lepidoptera, Coleoptera, Isoptera and Hymenoptera), and the National Zoological Collections (NZC) under the ZSI (Rao, 1983). Many Indian scientists contributed to the field of entomology in India and some of the notable ones include S. Pradhan, E.S. Narayanan, B.R. Subba Rao, N. Ramakrishnan, Ramakrishnan Ayyar (Coccoidea, Braconidae, Chalcidoidea), M.S. Mani (Chalcidoidea, parasitic Hymenoptera, Evaniidae, Serphoidea), M. Prasad and R.K. Varshney (Odonata), and M.S. Shishodia (Orthoptera).

### **Entomology in India after the mid-20<sup>th</sup> Century**

Since 1940, there has been extensive work in the field on insect taxonomy. Distinguished scientists such as H.S. Pruthi (Homoptera); T.N. Ananthakrishnan (Thysanoptera); A. Raichoudhury (Aphididae); A.N.T. Joseph (Diptera); M.S. Mani, E.S. Narayanan, A. Gupta, B.R. Subba Rao and M. Hayat (Hymenoptera); M.L. Roonwal (Orthoptera and Isoptera); S.K. Ghosh (Neuroptera); and C. Basavanna (Acarina) significantly contributed to the body of knowledge in the field.

To facilitate studies on insect biodiversity at extensive scale, the ZSI started publishing *State Fauna Series* from 1987. To date, twenty states have identified and published faunal diversity. These states are Andaman and Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Goa, Gujarat, Lakshadweep, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Sikkim, Tamil Nadu, Tripura, Uttarakhand, and West Bengal. Among the states, Sikkim (5941 species) has the highest insect diversity followed by West Bengal (5818 species), Meghalaya (5118 species), and Uttarakhand (4160 species). Region-wise, the tropical evergreen forests of eastern Himalayas and hills in the states of Meghalaya, Sikkim, Manipur, Arunachal Pradesh, Nagaland, Mizoram and Tripura have the highest number

of insect species followed by those in the Western Ghats. After this, the western Himalaya and Andaman & Nicobar Islands show the third highest insect biodiversity (Chandra, 2011).

Globally 39 orders of insects have been identified and India represents 27 insect orders (Tables 1 and 2). The insect orders that have not been reported from India include Protodonata, Geroptera, Palaeodictyoptera, Paoliida, Mishchopterida, Diaphanopteroidea, Titanoptera, Caloneuroidea, Grylloblattodea, Zoraptera, Mantophasmatodea, Glosselytroidea and Miomoptera (Chandra, 2011).

**Table 1:** Global distribution of insect species found in India

S. No.	Order	Global distribution	Reference
1	Archaeognatha	513 species	Chandra, 2020
2	Zygentoma	564 species	Chandra, 2020
3	Ephemeroptera	3700 species	Chandra, 2020
4	Odonata	6312 species	Paulson and Schorr, 2020
5	Plecoptera	3700 species (16 families)	DeWalt et al., 2019
6	Orthoptera	28,650 species	Gupta and Chandra, 2019a
7	Phasmida	3350 species	Chandra, 2020
8	Dermaptera	2375 species (belonging to 311 genera under 19 families)	Hopkins et al., 2020
9	Embioptera	457 species	Zhang, 2013
10	Blattodea	7570 species (4641 species of cockroaches and 2929 species of termites) The 4641 species of cockroaches belong to 8 families and 492 genera  7779 species (4837 cockroaches and 2942 termites)	Prabakaran and Senraj, 2018  Chandra, 2020
11	Mantodea	3049 species (639 genera under 33 families)	Otte et al., 2020
12	Isoptera	About 3000 described species	Šobotnik and Dahlsjö, 2017
13	Psocoptera	5611 species	Johnson et al., 2020
14	Phthiraptera	5316 species	Chandra, 2020
15	Hemiptera	107180 species	Chandra, 2020
16	Thysanoptera	6288 species	Chandra, 2020

17	Megaloptera	386 species	Zhang, 2013; Oswald, 2020
18	Raphidioptera	253 species	Zhang, 2013; Oswald, 2020
19	Neuroptera	5917 species	Zhang, 2013; Oswald, 2020
20	Coleoptera	3,86,755 species (29,595 genera under 176 families)	Bouchard et al., 2017).
21	Strepsiptera	627 species (15 families)	Cook, 2019
22	Mecoptera	737 species (382 genera under 9 families)	Bicha, 2018
23	Siphonaptera	2575 species(246 genera under 16 families)	Whiting et al., 2008
24	Diptera	157,971 species	Courtney et al., 2017
25	Lepidoptera	Butterflies: 18,768 species (1,815 genera under 6 families) Moths: 1,39,655 species	Nieukerken et al., 2011; Zhang, 2013; Chandra, 2020
26	Trichoptera	16,266 species (632 genera under 63 families)	Morse, 2020
27	Hymenoptera	1,54,067 species	Zhang, 2013

**Table 2:** Record of insects in India

Taxonomic position		Species from India	Species endemic to India	References
<b>Subclass</b>	<b>Apterygota</b>			
Order	Archaeognatha	10 species (6 genera under 2 families)  11 species (6 genera under 2 families)	23	Mandal (2010)  Chandra et al., 2020
Order	Zygentoma (Thysanura) (bristletails and silverfish)	28 species (15 genera under 3 families)  29 species (16 genera under 3 families)		Mandal (2010)  Chandra et al., 2020
<b>Subclass</b>	<b>Pterygota</b>			
	<b>Exopterygota</b>			
Order	Ephemeroptera (Mayflies)	124 species (46 genera under 12 families)	72	Chandra, 2011

		152 species (60 genera under 15 families)		Sivaramakrishnan, 2016; Selvakumar et al., 2019
Order	Odonata	488 species (154 genera under 18 families)	186	Subramanian and Babu (2017)
		496 species (153 genera and 17 families)		Chandra et al., 2020
	Suborder: Anisoptera (Dragonflies)	277 species (95 genera under 9 families)		Subramanian and Babu (2017)
	Suborder: Zygoptera (Damselflies)	211 species (59 genera under 9 families)		Subramanian and Babu (2017)
Order	Plecoptera (Stoneflies)	146 species (27 genera under 8 families)	90	Chandra et al., 2019
Order	Orthoptera (Grasshoppers, crickets and katydida)	1033 species (396 genera under 21 families)	563	Shishodia et al., 2010
		1033 species (398 genera under 21 families)	560 species/subspecies (19 families and 17 genera)	Chandra and Gupta (2013)
		1166 species (449 genera under 22 families)		Gupta and Chandra, 2019a
Order	Phasmida (the walking stick)	140 species (45 genera)	96	Srinivasan et al., 2019; Chandra et al., 2020
Order	Dermaptera (earwigs)	296 species (75 genera under 7 families)	117	Chandra, 2011;
		284 species (72 genera under 7 families)		Chandra et al., 2020c
Order	Embioptera (web-spinners)	31 species (6 genera under 2 families)	14	Chandra, 2011; Chandra et al., 2020
Order	Blattodea	170 species (65		Prabakaran and

	(Cockroaches and termites)	genera under 5 families)  Cockroaches: 181 species (72 genera under 17 subfamilies and 6 families) Termites: 295 species (52 genera)	89  177	Senraj, 2018  Gupta and Chandra 2019b
Order	Mantodea (Praying mantids)	174 species (72 genera under 11 families)  184 species (73 genera under 11 families)	77	Chandra, 2011;  Chandra et al., 2020
Order	Isoptera (Termites and white ants)	271 species (52 genera under 7 families)  828 species and subspecies of ants (100 genera)	172	Chandra, 2011  Bharti et al., 2016
Order	Psocoptera (Bark and book lice)	105 species (16 families)  126 species	15	Chandra, 2011  Chandra et al., 2020
Order	Phthiraptera (Lice)	400 species  466 species	16	Chandra, 2011  Chandra et al., 2020
Order	Hemiptera (Ex. Bugs, cicadas, leaf-hoppers, tree-hoppers, plant-hoppers, aphids, white flies, scales)	6479 species (92 families)	2421	Chandra, 2011; Chandra et al., 2018
Order	Thysanoptera (Thrips)	686 species (258 genera under 7 families)  754 species (260 genera)	520	Chandra, 2011  Chandra et al., 2020

<b>Endopterygota</b>				
Order	Megaloptera (Alderflies and dobsonflies)	25 species (7 genera under 1 family)  30 species	-	Chandra, 2011  Zhang, 2013; Oswald, 2020
Order	Raphidioptera (snakeflies)	5 species (2 genera under 1 family)  5 species	-	Chandra, 2011  Zhang, 2013; Oswald, 2020
Order	Neuroptera (Ex. Lacewings, antlions, owlflies)	312 species (112 genera under 12 families)  327 species	-	Chandra, 2011  Zhang, 2013; Oswald, 2020
Order	Coleoptera (Beetles)	-  22334 species (114 families)	3100	Chandra, 2011  Chandra and Raghunathan, 2018
Order	Strepsiptera (twisted-winged parasites)	21 species (8 genera under 4 families)  28 species	15	Chandra, 2011;  Cook, 2019
Order	Mecoptera (Scorpion flies and hanging flies)	23 species (2 genera and 2 families)	20	Rust and Byers, 1976; Chandra, 2011; Chandra et al., 2020
Order	Siphonaptera (Fleas)	46 species (24 genera under 8 families)  51 species (24 genera under 8 families)	15	Chandra, 2011  Chandra et al., 2018
Order	Diptera (True flies)	6337 species (1180 genera under 87 families)  7,220 species (1,323 genera)	110 genera and 2183 species	Chandra, 2011  Banerjee et al., 2018
Order	Lepidoptera (Butterflies and moths)	15000 species of and	1500	Chandra, 2011; Varshney, 2006

	moths)	butterflies (84 families); This includes 1641 species and subspecies of butterfly  Butterfly: 1501 species; Moths: 12193 species		Chandra et al., 2020
Order	Trichoptera (Caddisflies)	1046 species (94 genera under 27 families)  1261 species (95 genera under 27 families)	-	Chandra, 2011  Chandra et al., 2020
Order	Hymenoptera (Ex. Bees, wasps, ants, sawflies)	12605 species  10,605 species	-	Chandra, 2011  Chandra et al., 2018

India is home to 63,760 species of insects under 658 families representing 27 orders. Of all the orders, eight orders constitute the most (94%) of insect fauna in India which include Lepidoptera, Coleoptera, Orthoptera, Diptera, Hemiptera, Odonata, Hymenoptera and Thysanoptera. Interestingly, Coleoptera shows the highest diversity having 114 families. Hemiptera (92 families), Diptera (87 families), Lepidoptera (84 families) and Hymenoptera (65 families) are also diverse orders (Chandra, 2011).

## CONCLUSION

India is a country with great diversity of flora and fauna. It has rich insect diversity and distribution, especially in eastern and western Ghats, and Himalayan range. The ecological and economic importance of insects was identified thousands of years ago in India, hence, research in entomology in the late 20<sup>th</sup> century has focused more on tapping this potential. In India, large scale studies are being conducted to identify and categorize millions of insect species that have been discovered. Insects have many beneficial roles to play such as they are very crucial for nature and agriculture as they act as pollinators; they are a good source of protein-rich food; they have a great potential to be used for making traditional medicines for various diseases; they have

social and cultural significance; many of them have potential to be used as biocontrol agents for crop-pests and are crucial for a healthy ecosystem. In respect of their abundant significance, efforts are also being put to understand their habitat, ecology, physiology and behavior.

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## CHAPTER 6

### A COMPARATIVE SOGIOLOGICAL REVIEW: MARX, WEBER AND HABERMAS ON MODERNITY AND POSTMODERNITY

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## INTRODUCTION

Most developments experienced recently, including but not limited to, globalization, internationalization, digital technologies, digital capitalism, global citizenship and knowledge society are either direct or indirect results of modernity whose roots go back to the enlightenment period in Europe. In this context, the invention of modernity is as important as the invention of fire, the invention of wheel or the invention of writing in human history. However, introducing machines, computers, electric and electronic gadgets in the process of modernization do not only establish benefits for humans, but also lead to some complications in society. Through modern thinking and science, production has been greatly boosted, transportation has been improved, access to information has been diversified and enhanced. However, this progress has also led to some problems, which humans have never faced before such as concentration and centralization of capital, capitalist exploitation, materialism, alienation, cultural assimilation, etc. Therefore, various thinkers such as Hegel, Marx, Durkheim, Weber, Comte, Engels, Fourier, Proudhon, J.J. Rousseau, Saint-Simon, Spencer, Tonnies, Tocqueville, Hobbes, and Gramsci tried to deal with the problems of modernity and offered either economical or philosophical solutions for these problems. Over the years, new developments occurred in society and the generalizing nature of modernity and the great theories couldn't explain these recent developments. As such, modernity lost its attraction and started to get some reactions from the thinkers led by Derrida, Lyotard, Baudilard and Foucault who are known as the founders of postmodern theories.

In sum, the mentality change in Europe with the enlightenment period triggered a series of developments and thoughts from modernity to postmodernity. In this study, the thoughts of three famous thinkers: Marx, Weber and Habermas with respect to modernity and postmodernity will be explored in a comparative way. However before proceeding, modernity and postmodernity will be clarified in the following section due to the fact that these commonly used terms are easily confused with each other.

### 1. MODERNITY AND POSTMODERNITY

If the term “modern” is analyzed etymologically, it will be seen a connection with “modernus” in French and “*modo*” in Late Latin, which means “just know”. Actually, the distinction between ancient and modern has been observed and entitled since the 15th century. In the beginning, the term “modem” was being used, however over time, it became “modern” due to the

positive meaning (improved, satisfactory or efficient) loaded on this term (Williams, 1985:208). Modernity comes from the term “modern” and according to the Oxford Dictionary, the main meaning of modernity is “the quality or condition of being modern”. (www.oxforddictionaries.com). According to Daniel Bell (Died 2011) “The emphasis of modernism is on the present, or on the future, but never on the past.” (Bell, 1976:27). In this sense, anything defining itself as “modern” should be completely different and newer from the old one.

In human history, modernity had been possible with a series of developments, beginning with the Renaissance which had a domino effect of triggering other social events: reformations, secularism, enlightenment, industrial revolution and the IT revolution. Karahöyük (2015:215) defines the onset of all these movements as a revolt attempted to scholasticism<sup>3</sup> since a theocentric way of thinking was dominant in the medieval ages, typically reflecting itself in philosophy of St. Augustine.

*Throughout his philosophy the world is of less interest to Augustine than the actions of God in the world and particularly in us. He says, in fact, in the Soliloquies that he wishes to know only God and soul, and it is clear there as elsewhere that he says Noverim me only after he has prayed Noverim te.<sup>4</sup> (McKeon, 1929:2).*

This mentality prohibited novelties, scientific research and investigations throughout the middle ages which is why this period is referred to as the “Dark Ages”. The elimination of religious-centered thinking is called disenchantment of the World due to the fact that it changed not only the social order of the period but also the mindset underlying this order. However, the point is that the process of modernization could not occur all of a sudden. It had been possible through a transformation which consisted of some certain stages taking a long time (Evkuran, 2003:15-16). The milestones of this long process were formed by the actions and thoughts of numerous people in Europe such as Martin Luther, Galileo Galilei, Rene Descartes, Francis

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<sup>3</sup> Although there is no general consensus on Scholasticism among the authors, it is generally accepted as a medieval philosophy which religious beliefs have an effect on (Dönmez, 2005:123-124,127).

<sup>4</sup> This is a famous prayer of S. Augustine. “*Noverim te*” means “I would like to know you (God)” and “*Noverim me*” means “I would like to know myself” in Latin (Adamut, 2009:23).

Bacon, Blaise Pascal, Isaac Newton, Willhelm Leibniz, Immanuel Kant, Denis Diderot, Montesquieu, Jean-Jacques Rousseau, Voltaire, David Hume, Baruch Spinoza, John Locke and etc. Perhaps, the most important stage of this process is the enlightenment which can be best defined by an essay of Immanuel Kant in 1784 entitled “Answering the Question: What is Enlightenment?”.

*Enlightenment is man's release from his self-incurred tutelage. Tutelage is man's inability to make use of his understanding without direction from another. Self-incurred is this tutelage when its cause lies not in lack of reason but in lack of resolution and courage to use it without direction from another. Sapere aude! "Have courage to use your own reason!"- that is the motto of enlightenment. (<http://allmendeberlin.de>)*

When the mind of man was freed from captivity of religion, secularism in religion, humanism in philosophy, positivism and rationalism in science became the torches of this period lightening the dark ages (the medieval ages). In fact, the bronze sculpture of “Le Penseur” (The Thinker), made by French Sculptor Auguste Rodin in 1880, can be accepted a typical symbol of the modern thinking which rationalism took hold instead of dogmatic thinking (Yılmaz, 2014:53-54). This shift in mentality occurred in Europe, which made way for the industrial revolution, enabling mass production by power-driven machines (Reilly, 2000:766). That was the rise of Capitalism, a new social and economic system in Europe, characterized by Fordism which is a mass production system using conveyor assembly lines and Taylorism which is a scientific management system organizing labour relations in factories (Er, 2014:424-425). These manufacturing and management philosophies of capitalism introduced division of labour, mass production, accumulation and centralization of capital, standardization of production, efficiency, productivity and etc. However, the most important point to be emphasized in this process was the transformation of products into commodities. Whereas, products were just for consumption in feudalism, they became commodities in capitalism produced for exchange in free markets (Gürbüz, 2014:8-15). This system kept its functionality till the 1970’s. However, the standardizing and generalizing nature of capitalism led to a serious crisis in capitalism symbolized by Fordism. This crisis was resolved with a process called “post-fordism” which provides flexibility in production methods. In this sense, post-

fordism is a revolt against the strict rules of fordism, which can be summarized as mass production, mass consumption, authority and centralized control (Aydođanođlu, 2011:23-26). The changing structure of capitalism with post-fordism affected social, political and economical structures accordingly. Using a literature review, Saklı (2013:118-123) compared fordism and post-fordism in terms of various aspects and found numerous differences between these two production philosophies. In this comparison, the prominent features of post-fordism had been individual consumption, individualism, post modernism, flexibility, re-organization, localization, local policies instead of Fordism’s mass consumption, collectivism, modernism, inflexibility, centralization and national policies respectively. In this context, postmodernity emerged as a reactionist movement whose starting point is questioning modernism or surpassing modernism (Bayram, 2007:37) and it is clear that postmodernity has values and concepts in stark contrast to the ones modernism has (Table 1). However, there is no clear consensus on the definition of postmodernity since the fact that various authors defined this term in different ways: dissociation from modernity, developed form of modernity or even end of history. (Yıldız, 2005:1-3). According to Lyotard (Died 1998), postmodernity is not rejection but rewriting of modernity (As cited in Kılıç, 2015:110). In Pehnt’s opinion, postmodernity is a kind of antimodernity (As cited in Habermas, 1983:3). As a movement, postmodernity appeared in various fields of life including art, literature, music, fashion, philosophy and history in different times especially beginning from 1960’s (Yıldız, 2005:2).

**Table 1. Modernity vs. Postmodernity**

	Modernity	Postmodernity
SCIENCE	Macro theories	Micro theories
	Objective	Subjective
	Determinism	Indeterminism
	Positivism	Hermeneutic
	Certainty	Uncertainty
	Mind and Rationalization	Knowledge and Communication
	Reality	Virtuality
	Universal	Relative
ECONOMY	Exploitation	Environmentalism
	Industrial Unions	Civil societies
	Fordism	Postfordism/Neofordism
	Mass Production	Tailor-made production
	Production	Consumption
	Capital and Interest	Knowledge and Communication
	Mechanic production	Digital production
	Manufacture	Service
POLICY	Monism	Pluralism
	Monologue	Dialogue
	Inflexibility	Flexibility
	Status Quo	Change
	Authority	Liberalism

	National Citizenship	Global Citizenship
	National states	Multinational Integrations
	Collectivism	Individualism
	Centralism	Localism
	Society	Community
	Totalism	Singularity
SOCIAL LIFE	We	I
	Mass Media (Tradional)	Social Media (Digital)
	Integration	Disintegration
	Singularity	Plurality
	Majority	Minority
	Generalization	Specification
	Stability	Mobility
	Public Life	Private life/privacy
	Culture	Multiculture/Subculture
	Similarities	Differences
	Standardization	Diversification
	Nationality	Internationality
	Organized action	Spontaneous action
	Manipulation	Disassociation
	Graveness	Irony
	Place	Time

## 2. MARX, WEBER AND HABERMAS IN BRIEF

### 2.1 Karl Marx (1818-1883)

Karl Heinrich Marx was born in Trieste<sup>5</sup> on May 5th 1818 as the only son of a large Jewish family. His father Hirschel, converted to Christianity and took the name Heinrich, was an advocate in Trieste. His mother Henrietta (Pressburg) was also Jewish and took care of her children. Marx finished college in Trieste and enrolled in various departments (Jurisprudence, History and Philosophy) of various German universities (Bonn University, Berlin University and Jena University) between the years of 1835 and 1841, graduating from Jena University in 1841. Following his graduation from the university, he married Jenny von Wesphalen and had seven children from his frau. Due to his works and collaborations with other German and French socialists, he was expelled from Germany, France and Belgium respectively. In 1849, he moved London and lived there till his death in 1883. During the years he lived in London, he founded the International (Working Men's Association) and joined the congress of this association which took place in various European cities. In sum, he had a 65-year lifespan with sorrows<sup>6</sup>, financial difficulties, exiles, journalism, political studies, radical thoughts and globally known works (Mehring, 1962, XXIV-XXV, 1-10).

<sup>5</sup> Trieste is a coastal town located in northeastern Italy. It had been a free port city and was granted autonomy in the years of 1700. Then, it occupied by French troops until it returned to Austrian Empire in 1813. Today, the city's borders are divided between Italy and Slovenia according to the Treaty of Osimo (<https://en.wikipedia.org>).

<sup>6</sup>Marx witnessed the death of his wife and 5 children before he died in 1883.

**Table 2.** Important Milestones in Marx’s Life

Date	Events
1818	Born in Trier/Trieste (Germany)
1835-36	Attended to Bonn University (Jurisprudence)
1836-41	Attended to Berlin University (History and Philosophy) Interested in Hegel’s philosophy and joined a Hegelian group
1841	Graduated from Jena University
1843	Married Jenny von Westphalen
1843-45	Lived in Paris (due to his expulsion from Paris)
1844	Met with Friedrich Engels and made some studies with Heinrich Heine and Proudhon
1845-48	Lived in Brussels and collaborated with Engels.
1848	Published <i>Communist Manifesto</i> and expelled from Brussel.
1849-83	Exiled to London
1867	Published <i>Das Capital</i> (Volume I)
1883	Died in London

**Source:** Mehring, Marx The Story of His Life, xxiiiv-xxv.

During his life, Marx wrote many articles and books mostly on economics, policy, history and philosophy, some of which were contributed by Engels. These are “*Die Heilige Familie*” (*The Holy Family*), “*Die Deutsche Ideologie*” (*The German Ideology*) and “*Das Kommunistische Manifest*” (*The Communist Manifesto*). However, Marx is mostly known with his masterpiece “*Das Capital*” (*The Capital*) volume one, published in 1867. Marx could not finish volumes two and three of *Das Capital*, however his close friend Engels published them following Marx’s death. Apart from these works, there are also unpublished writings of Marx (Rosen,1998:3-4).

## 2.2 Max Weber (1864-1920)

Max Weber was born in 1864 in Erfurt (Germany). His father, Weber Sr., was a well-known and wealthy politician. His mother, Helene Fallenstein, was a wise woman who adopted protestantism. Due to his father’s engagement with politics, Weber grew up in a circle where many German politicians were present. Weber was interested in reading and criticized his friends’ poor reading habits at an early age. Affected by his father’s career, he enrolled at the university of Heidelberg as a law student. After his graduation, he preferred to proceed in academic career. Thus, he completed his Ph. Degree on law with the dissertation entitled “The History of Medieval Business Organisations” in 1889 and his post doctorate study entitled “The Roman agrarian history and its significance for public and private law” in 1891. As a result, he was qualified to teach in German Universities. Weber

married Marianne Schnitger<sup>7</sup> in 1893 and became an economics professor at the Freiburg University and the University of Heidelberg. His father's death, immediately after a squabble with Weber, affected him deeply and he had to suspend his career at the University. He received a treatment in a sanatorium for a while, and then traveled to Italy, the Netherlands, Belgium and the USA respectively. He pursued various scientific and political science studies until he resumed to teach at the University of Vienna and the University of Munich. He died of pneumonia in Munich (Germany) in 1920 (Weber, 2004:23-53).

Weber produced all of his political and academic work in a 56-year lifespan. His most renowned work is the essays which were published in 1904 and 1905 under the title of "*The Protestant Ethic and the Spirit of Capitalism*" (*Die protestantische Ethik und der Geist des Kapitalismus*). This is the only book published when Weber lived. Then, he made a comprehensive study on the religion of China, India, and ancient Judaism between 1910-1919 to contribute to the volume of a project entitled "Outline of Social Economics" (These Works of Weber were collected in a book entitled "*Economy and Society*"). Other than these studies, he edited, the *Archiv für Sozialwissenschaft und Sozialpolitik* (Archives for Social Science and Social Policy), a distinguished social science journal in Germany. He also took part in the establishment of the new *Deutsche Soziologische Gesellschaft* (German Sociological Society). One interesting point in Weber's career is that Weber took charge in the German Armistice Commission at the treaty of Versailles which ended the World War I and the commission which were formed to prepare Weimar Constitution<sup>8</sup> (<http://faculty.lahoreschool.edu.pk>).

### **2.3 Jurgen Habermas (1929-)**

Habermas was born in 1929 in Dusseldorf (Germany). He grown up in a middle-class protestant family. His father was the director of Cologne Chamber of Commerce and a Nazi sympathizer. Therefore, Habermas was interested in the Nazi movement in his youth. However, the movies of Jewish massacre which were recorded in Nazi concentration camps and shown during

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<sup>7</sup> After Weber's death, Marianne Weber collected his articles and published them as a book.

<sup>8</sup> Weimar Republic is a political period occurred in Germany between 1919 and 1933. It was established immediately after the World War I, but it could not last long due to the fact that socioeconomic crisis of the period led to severe political discussions between German socialist, communists and social democrats. With the collapse of Weimar Republic, the racism and the Nazi Regime rised in Germany (Ayan, 2008:34).

the Nuremberg<sup>9</sup> trials had been a turning point for his views on the Nazis. These movies left a deep mark on his thoughts emphasizing equality, dialogue and human rights in social interactions. After he received his Ph.D. from University of Bonn (Germany) with a dissertation on Schelling, he started to work in Frankfurt School and had an opportunity to work with Adorno and Horkheimer. Then, he prepared his dissertation for associate professorship entitled “*Strukturwandel der öffentlichkeit*” (*Structural transformation of the public*) which became his first masterpiece of his career. But his dissertation was rejected by Horkheimer and he received his associate professorship from Marburg University. He worked at various German universities and Max Planck Institute between 1961 and 1994. Following his retirement in 1994, he worked as a visitor faculty in various US universities (Özbank, 2009:5-10).

### **3. WEBER, MARX AND HABERMAS ON MODERNITY AND POSTMODERNITY**

Before evaluating and comparing the three thinkers’ thoughts on modernity and postmodernity, their social and economic backgrounds should be clarified first since their views and works can not be isolated from the settings which they lived in. The three thinkers were born in the same political geography (Germany) with the same nationality (German) but different ethnic, social and economic backgrounds. Furthermore, they lived in different periods with different lifespans (Table 3). When the table 3 is reviewed, it is clearly seen that Habermas has lived more recently and witnessed many more historical events than Marx and Weber did. This fact clarifies why Marx and Weber focused solely on modernism with the economy at the forefront, while Habermas had anti-postmodernist discourse with a philosophical point of view.

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<sup>9</sup> Nuremberg trials were made so as to prosecute the representatives of German military, politics, economy and the Nazi party who committed war crimes in World War II. The trials were took place in Nuremberg’s Palace of Justice (Nuremberg/Germany) between November 1945 October 1946. On the trials made by an International military tribunal, various verdicts (acquittals, life sentences, long term prison sentences and death penalthy) were proclaimed (<http://memorium-nuremberg.de>)

**Table 3.** Comparison of Bios of Marx, Weber and Habermas

Thinker	Birth and Death Dates	Place of Birth	Education	Historical events they witnessed
<b>Karl Marx</b>	1818-1883 (aged 65)	Trier (Germany)	Law and Philosophy	Industrial Revolution (1760-1830)
<b>Max Weber</b>	1864-1920 (aged 56)	Erfurt (Germany)	Law	World War I (1914-1918)
<b>Jurgen Habermas</b>	1929- (aged 93 as of 2022)	Dusseldorf (Germany)	Philosophy	World War II (1939-1945), Korean War (1950-1953), Vietnam War (1950-1975), Counterculture movements (1960's), Energy Crisis (1970), Persian Gulf War (1991), Fall of Berlin Wall (1989), German Reunification (1990), Breakup of Soviet Union and Yugoslavia (1991), Attacks on Twin Towers (2001), Invasion of Afghanistan (2001), Invasion of Iraq (2003), Arab Spring (2010), Syrian civil war (2011), COVID-19 Pandemic (2019)

The main point Weber emphasized on modernity is rationalization in social structure. This is an ongoing process unique to the Western world. With this process, mind will replace with belief and science will spread over social practises (Kaya, 2012:125-126). In the introduction part of “*The Protestant Ethic and the Spirit of Capitalism*”, Weber’s most renowned work, he especially underlined that science was pertain to the West with the statement of;

*Only in the West does science exist at a stage of development which we recognize to-day as valid. Empirical knowledge, reflection on problems of the cosmos and of life, philosophical and theological wisdom of the most profound sort, are not confined to it, though in the case of the last the full development of a systematic theology must be credited to Christianity under the influence of Hellenism, since there were only fragments in Islam and in a few Indian sects (Weber, 1930, p.xxix).*

It is understood from his major works that Weber tried to analyze the relationship between economy and society through religion and history. In this context, his well-known works are “*Economy and Society*” and “*the Protestant Ethic and the Spirit of Capitalism*”. Other than this, he also

focused on methodology problem in social sciences and developed some typologies to understand social action (As cited in Arıcıoğlu, 2013:14-15). When sociological thoughts of Weber are evaluated in general, it will be seen that their works bear dichotomy between modern and traditional (Table 4).

**Table 4.** Modern vs. Traditional in Weber’s Sociology

	Traditional Society	Modern Society
<b>Social Action</b>	Traditional action	Rational-purposeful action
<b>Types of Power</b>	Traditional authority	Legal-rational authority
<b>Rationalization</b>	Domination of traditions (No rationalization)	Process of replacing tradition with mind and scientific knowledge.
<b>Bureaucratization</b>	Domination of traditions (No bureaucracy)	Process of a rigid structure organizing complex operations in modern society

According to Weber, modernity means rational action or rationalization in society. In this context, he distinguishes four types of rationality: practical rationality, theoretical rationality, substantive rationality and formal rationality. All these rationalities organize individual and social actions in modern society (Ritzer, 2013:30). Rationalization is at the heart of Weber’s sociology and he associates most of the social actions with rationalization such as rational capitalism, rational law and rational administration (as cited in Torun, 2008:16). Through rationalization in the West, science (in understanding the World), technology (in production), capitalism (in economy), law and democracy (in policy), laicism (in religion) and bureaucracy (in administration) appeared (Torun, 2008:18-22). Weber calls this process the disenchantment of the World, a process eliminating the magical thoughts in society which was initially enchanted (Ritzer, 2005:57-58). In this context, in his famous book *Economy and Society*, Weber particularly gives a special importance to technology in modern society by stating as below:

*The primary source of the superiority of bureaucratic administration lies in the role of technical knowledge which, through the development of modern technology and business methods in the production of goods, has become completely indispensable (Weber, 1978:223).*

However, Weber's occidental rationalization and modernity do not have only positive features. Increased bureaucracy and rationalization can lead to undesirable results in modern societies. This is called the metaphor of "iron cage" by Weber. This is just a kind of mechanization of humans by losing humanitarian feelings in a overrationalize and/or overbureaucratic society (Aydm, 2010:25-29).

*The Puritan wanted to work in a calling; we are forced to do so. For when asceticism was carried out of monastic cells into everyday life, and began to dominate worldly morality, it did its part in building the tremendous cosmos of the modern economic order. This order is now bound to the technical and economic conditions of machine production which to-day determine the lives of all the individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. Perhaps it will so determine them until the last ton of fossilized coal is burnt. In Baxter's view the care for external goods should only lie on the shoulders of the "saint like a light cloak, which can be thrown aside at any moment". But fate decreed that the cloak should become an iron cage (Weber, 1030:123).*

This is a unique common point agreed by Marx and Weber in that they accept capitalism has potentials deviating individuals. For Aydm (2010:19) the main reason of this agreement between these two thinkers is that capitalism is an open and dynamic system which can create instabilities.

Marx's thoughts on modernity can be indirectly inferred from the works he prepared with his close friend Engels due to the fact that, in his 65-year life, Marx managed to write only his masterpiece *Das Capital* Vol I and some articles. Engels also confirms this in the introduction part of his well-known work "*The Origins of The Family, Private Property and The State*".

*My work can offer but a meagre substitute for that which my departed friend was not destined to accomplish. However, I have before me, in his extensive extracts from Morgan, critical notes which I reproduce here wherever this is at all possible (Engels, 2004:25).*

And it is understood in this book, modernity or modernization is nothing but civilization introducing machinery which led to the accumulation and centralization of capital, together with exploitation of workers. For Engels (2004:163), there was no a clear distinction between rights and duties in the era of Barbarians. However, the machinery in production or civilisation created two different classes, capital holders and workers, and divided the rights and duties among these classes. In *Das Capital* Vol I, Marx sees this process as a historical necessity and warns all other people who disregard this historical development and the negative effects of capitalism by saying:

*If, however, the German reader shrugs his shoulders at the condition of the English industrial and agricultural labourers, or in optimist fashion comforts himself with the thought that in Germany things are not nearly so bad; I must plainly tell him, "De te fabula narratur! [It is of you that the story is told. – Horace] (Marx, 1887:6).*

Marx, in parallel with his historical materialism, asserts that the history of society is nothing but the history of class conflicts. There have been opposing classes in society and with the class struggles new classes appear while old ones collapse. And each dominating class forms a new type of society. This is the case in history. In the period Marx lived, bourgeois (capital holders) is the dominating and proleteria (workers) is the exploited class in a capitalist system. But this system will be ended by communism under the efforts of the united workers of the World. And the key element of the communism will be abolition of property due to the fact that capital should belong to people instead of individuals (Marx and Engels, 1848:473-484).

The main rationale why Marx insistently blames modernism and its way of production (machinery) is the brutalist, hard and heavy work conditions of the system. He gives the work conditions of the workers who were employed in tile and brick making factories as an example. Daily work hours were total 15 hours starting from 5am and finishing at 8pm. In the factories, 6-year old (even 4-year old) children were working together with the women and men under the same heavy and hard conditions. After the exhausting work day, they were all resting and sleeping on the ground of badly-ventilated and over-crowded cottages only with 2 rooms (Marx,

1867:593). Regarding to this, a dramatic incident lived on June 1863 in England was embodied in Marx's *Das Capital* as below:

*Mary Anne Walkley fell ill on the Friday and died on Sunday, without, to the astonishment of Madame Elise, having finished off the bit of finery she was working on. The doctor, a Mr Keys, called too late to the girl's deathbed, made his deposition to the coroner's jury in plain language: ' Mary Anne Walkley died from long hours of work in an overcrowded work-room, and a too small and badly ventilated bedroom.' In order to give the doctor a lesson in good manners, the coroner's jury thereupon brought in the verdict that ' the deceased had died of apoplexy, but there was reason to fear that her death had been accelerated by over-work in an overcrowded work-room, etc. ''.* Marx, 1867:364).

Other than the exploitation of labour, alienation/enstrangement and objectification also have been frequently used terms by Marx in his social analysis in order to criticize the capitalist system. This is the term what Marx defines as “the inversion of subject into object and vice versa“ or “... the alienation [Enfremdung] of man from his own labour” (Marx, 1867:990). Wendling (2009) summarizes Marx's thoughts on alienation as below:

*His complete account of alienation has at least five overlapping dimensions: theological, political, psychological, economic, and technological. For each dimension, there is a corresponding metaphysical object into which the human essence is alienated. For Marx, these objects are produced by human beings themselves, yet come to dominate humans as alien powers over which they have no control. These objects are God (and related theological fictions), the state, ruling class ideology, and, finally, the commodity and the industrial machine (Wendling, 2009:37).*

As stated before, after a period of 150 years, generalizing nature of modernity became unresponsive to the diversified and fragmented nature of the modern world, which resulted in an antimodern movement whose philosophical basis formed by Derrida, Lyotard and Foucault. Some part of

Habermas's long lifespan of 90 years (as of 2019) corresponded to this dichotomy between modern and antimodern. Although he has witnessed many historical events indicating the weak sides of modernity from the World War II to the breakup of Soviet Union, from energy crisis to the foundation of European Union, he has been a strong defender of modernity or a harsh critic of postmodernity. It can be said that the roots of this stand was highly affected by traditional German philosophers (especially Kant, Weber and Hegel) and the Frankfurt School<sup>10</sup> which he became a member of for a while (Özdikmenli, 2006:17).

In modern/postmodern debate, his concern is philosophical instead of aesthetic. In this context, he gives a special importance to the concept of *public sphere*. And he describes this concept as below:

*By "the public sphere" we mean first of all a realm of our social life in which something approaching public opinion can be formed. Access is guaranteed to all citizens. A portion of the public sphere comes into being in every conversation in which private individuals assemble to form a public body. They then behave neither like business or professional people transacting private affairs, nor like members of a constitutional order subject to the legal constraints of a state bureaucracy. Citizens behave as a public body when they confer in an unrestricted fashion--that is, with the guarantee of freedom of assembly and association and the freedom to express and publish their opinions--about matters of general interest. (Habermas, 1974:49).*

For him, the emergence of public sphere (in today's meaning) goes back to the French Revolution. Together with the revolution, ordinary (uneducated) people has been replaced with educated people as the subjects of public sphere (Habermas, 1991: xviii). Even though modernity brings a serious risk to the individuals' liberties and freedoms, this risk can be eliminated through a healthy communication in the public sphere, which is not

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<sup>10</sup> Frankfurt School or formally the Institute For Social Research was established in 1923 by a group of German Jewish scientists. The purpose of scholars from various disciplines was to criticize capitalist system and to find social discrepancies in capitalist society. The leading figures of the school were Herbert Marcuse, Eric Fromm, Theodor Adorno, Mark Horkheimer and Jürgen Habermas (Peker, 2009:2, 9-11).

manipulated and coerced by the system (Torun, 2020:234), since, as Kant stated, “for in all its purity world was constituted in the communication of rational beings” (Habermas, 1991:106).

On the other hand, Habermas defends that modernity should be distinguished from similar terms of modernization and modernism. For him, modernity is a communicative rationality; modernization is an instrumental rationality or rationalization (what Weber said); and modernism is a cultural movement in literature and art. After clarifying the distinction between these terms, he asserts that the communicative rationality of everyday life is being gradually captured by the instrumental rationality of state and economy under the dominance of capitalism. According to him, this is the colonization of the life World which led to social pathologies in modern societies. The solution of this problem is to reorganize the values of modernity and strengthen the communicative rationality (Merawi, 2012:76-79).

American neoconservative sociologist Daniel Bell establishes the problem similar to Habermas as follows:

*... In his book, The Cultural Contradictions of Capitalism, Bell argues that the crises of the developed societies of the West are to be traced back to a split between culture and society. Modernist culture has come to penetrate the values of everyday life; the life-world is infected by modernism. Because of the forces of modernism, the principle of unlimited self-realization, the demand for authentic self-experience and the subjectivism of a hyperstimulated sensitivity have come to be dominant. This temperament unleashes hedonistic motives irreconcilable with the discipline of professional life in society, Bell says (Habermas, 1981:6).*

In brief, modernism is living a contradiction in itself between rationalization in everyday life (Action) and rationalization in social/economical institutions (system). All the problems of modernity result from the intervention of system rationalization to the action rationalization. If these two types of rationalization is separated from each other, a healthy integration will be achieved between the system and the action (Özdikmenli, 2006:89).

When the thoughts of all these three thinkers are compared in terms of modernity and postmodernity, it is seen that while Weber and Habermas

defend the modernism, a project extending from enlightenment period to-day, Marx criticizes it due to the alienation, objectification and materialization created by capitalism and suggests a pre-modern solution of communism with no private ownership. In a separate note, among these thinkers, only Habermas has been witnessed the crisis of modernity and modern/postmodern debate. Therefore, while Marx and Weber only evaluate modernity, Habermas has got the opportunity evaluating postmodernit (Table 5).

**Table 5.** Comparison of the Thinkers on Modernity.

Thinker	Methods Used	Aspects Emphasized	Upsides of Modernity	Downsides of Modernity	Solution Offered	Basic Viewpoint
<b>Marx</b>	Deterministic Materialism	Economy	-	Alienation	Communism	Anti-modernist
<b>Weber</b>	Comparative History	Economy and Organization	Rationalization	Iron Cage	-	Modernist
<b>Habermas</b>	Rational Reconstruction	Everyday Communication	An Incomplete Project	Interference between cultural and social systems	Reconstruction of everyday communication	Critical Modernist

## CONCLUSION

Modernism and modernity have been one the most important milestones which mankind experienced so far. Replacing science and mind with belief and dogma in sixteenth century led to a new way of life in Europe. This replacement, goes to modernism and modernity, expressed itself on every field of life through renaissance (in art and philosophy), reformation (in religion), enlightenment (in science), industrial revolution (in production) and capitalism (in economy), which made society completely different than that of the previous one. However, modernism and modernity have been a double-edged sword for humans. On one side, they have offered benefits, but on the other side, they have generated some problems which are cumbersome. The origins of all these problems arisen from the generalising philosophy of modernity in every field of life together with prioritizing capital, material and production. Thus, this system inevitably faced to a serious crisis in the 1970's and had to resctructered itself with an antimodernist discourse called postmodernity. With postmodernity, all the values of modernity have been tumbled and macro-scaled narratives of modernism replaced with micro-scaled narratives of postmodernism.

In this study, three German thinkers were compared in terms of their thoughts on modernity and postmodernity. Due to witnessing different stages

of modernism and having different social and economical backgrounds, each of these German thinkers adopted different viewpoints and made different contributions or critics on the issue. In this context, Marx and Weber were in sharp contrast with each other. Whereas Marx severely criticized modernity through his anticapitalist discourse, Weber extolled modernity through his capitalist discourse. While Marx perceived modernity as an alienation process of man, Weber saw modernity as an empowering process of man. Indeed, modernity and capitalism are intermingled terms in the eyes of Marx. Accumulation and centralization of capital, appearance of worker and bourgeois classes, worker exploitation, class conflict and alienation are not only direct results of Capitalism but also indirect results of modernity. Since the capital travels as a stray bullet in modern society, it harms everything except the one who owns it (capital owners). That's why Marx was positioned as an antimodernist when compared to Weber. For Weber, modernity is nothing but a cumulative rationalization process which spread over whole social action. At this point, he gave an utmost importance to protestan ethic and Western countries since the fact that critical pillars carrying modernity such as science and capitalism appeared only in (Christian) Europe. However, Weber foreseen some potential handicapped sides of this process and he coined them under the term "Iron Cage" which refers the domination of uncontrolled rationalization and bureaucratization. On the other side, Habermas, the third thinker compared in this paper, is close to Weber with his anti-postmodernist thoughts. He believes that modernism is an unfinished project and the current issues within modernism are artificial ones created by specific deviant cases in the system and destruction of public sphere via mass media. At this point, he suggests different solutions for resolving the problems of modernity such as establishing an ideal communication setting among people, making modernism returned to its factory defaults and liberating public sphere.

In brief, all the three thinkers tried to comprehend the process of modernity either emphasizing rational aspect of the system or critisizing social and economical contradictions of modernity.

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## CHAPTER 7

### DECENTRALIZED OR CENTRALIZED FINANCING OF PUBLIC SCHOOLS: WELFARE, INEQUALITY, AND SEGREGATION<sup>1</sup>

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## INTRODUCTION

All over the world, central governments are transferring an increasing part of their fiscal powers to local governments over time implying fiscal decentralization. In a sample of 48 countries, Arzaghi and Henderson (2005) find that average central government share in total government expenditures declined from 74% to 64% between 1975 and 1995. Rodriguez-Pose and Ezcurra (2011) confirm the findings of Arzaghi and Henderson (2005) using the sample of OECD countries (except Scandinavian countries) between 1990 and 2005. On the other hand, as noted in Wallis and Oates (1998), U.S. is becoming more fiscally centralized as evident by the falling share of local government spending over time. Both fiscal centralization and decentralization have their own advantages and disadvantages. Following Tiebout (1956), public goods could be provided efficiently in a fiscally decentralized economy at the cost of unequal consumption compared to centralized provision. Motivated by these, using U.S. data, we quantitatively compare a fiscally decentralized economy with a fiscally centralized economy in terms of welfare, inequality, and residential segregation in this paper.

To make these comparisons, we use the general equilibrium hybrid Tiebout model of a closed city by Yilmaz (2020). The model economy consists of heterogeneous households, two school districts (west, east), and the central business district. Each household consists of one working member and one school age child. Households are heterogeneous with respect to the skill of the working member which determine the wage earnings. Valuation of education is also different across households. Some of them are high valuation type and others are low valuation type. School districts are heterogeneous with respect to property tax rates for land and per pupil public spending levels. Households choose a school district to reside, consumption of the composite commodity, lot size, and leisure time. Land rents are determined through an auction held by absentee landlords. Education spending in each district is financed by local property taxation where the tax rate is determined through majority voting. Quality of education received by a child depends on public spending and peer effects in the district.

The benchmark model economy outlined above is fiscally decentralized. To analyze the effects of fiscal centralization, we run a computational experiment at which school district boundaries are removed and their budgets are consolidated. This implies equal per pupil public spending and equal peer effects across the student population. Our results

imply that each household type loses welfare after centralization and inequality among students falls. Moreover, residential segregation decreases.

Because of the free-rider problem, perfectly competitive markets fail to provide public goods at efficient levels. In such settings, consumers have an incentive to misreport their preferences for the public good. Tiebout (1956) proposed to resolve the efficiency problem through decentralized provision of the public good. In Tiebout's model, consumer-voters would move to that community that best satisfies their preferences for the public good. Thus, a consumer's choice of community reveals her true preferences for the public good. Thus, according to Tiebout (1956), efficiency requires transferring power to local governments for providing certain types of public goods. On the other hand, local provision of public goods creates residential segregation and persistent inequality among consumers (Durlauf, 1996).

Tiebout (1956) ignores inter-jurisdictional spillovers which is accounted in Oates (1972). According to Oates (1972), public goods may be underprovided compared to efficient level in a fiscally decentralized economy due to inter-jurisdictional spillovers being not internalized although the efficient matching of consumer preferences to local public good levels. This is known as Oates' Decentralization Theorem. If there exists such spillovers, then central government's role would be to subsidize (in a Pigouvian sense) the local governments as noted in Oates (2005). Bloch and Zenginobuz (2015) extend the theorem of Oates (1972) by allowing household mobility across jurisdictions and find that an increase in household mobility favors centralization.

Quantitative general equilibrium comparisons of fiscally decentralized and centralized economies are provided by Fernandez and Rogerson (1998), Brueckner (2004), Calabrese et al. (2012), and Yilmaz (2020). Fernandez and Rogerson (1998) compare decentralized vs. centralized provision of public education using a dynamic model. They find that welfare rises by 3.2% of steady state income under centralization. In their model, public education is financed through property tax under both cases which may be the underlying reason behind the inefficiency under decentralized provision. Brueckner (2004) points to the inefficiency in a decentralized economy caused by tax competition among jurisdictions for mobile capital. This competition drives down tax revenues and causes underprovision of the public good. Under certain parametric assumptions, Brueckner (2004) shows that welfare may be higher under a centralized or decentralized regime. Calabrese et al. (2012) find that a decentralized economy with head taxes is welfare superior to a

centralized economy with property tax. They also compare a decentralized economy with property tax to a centralized economy with property tax and find welfare losses under decentralized equilibrium. More recently, Yılmaz (2020) compares fiscal federalism with property taxes to a centralized economy with income taxes using a hybrid Tiebout model and finds higher welfare under fiscal federalism. Our paper differs from Yılmaz (2020) by comparing a decentralized economy with property taxes to a centralized economy with property taxes.

The paper is organized as follows. Section 1 provides a survey of previous literature on fiscal decentralization. Section 2 provides the details of our benchmark model. The quantitative results are reported in Section 3. Section 4 concludes the paper.

## **1. LITERATURE REVIEW**

In this section, we review previous literature with a particular emphasis on education related papers.

Bergstrom et al. (1982) provide a method for estimating the demand for local public school expenditures using survey data from Michigan in 1978. Contrary to cross-section studies, their analysis does not require "median voter" assumptions. They find that an individual demands higher local public school expenditures if the individual is non-white, Jewish, renter, college graduate, school employee, over 65 years old, and having a child in public schools. On the other hand, an individual demands less local public school spending if the individual is retired, disabled, unemployed, and having a child in private schools.

Benabou (1993) considers a model of a city with several communities where education is provided locally. Ex-ante identical agents choose a community to reside. They also decide among the options of becoming high-skill workers, low-skill workers or do not participate in the labor force. Skill types are complementary in production. There are human capital spillovers in each community. The more high-skill workers in a community, the easier to acquire high skills and to a lesser degree, it is easier to acquire low skills. Because of this asymmetry, high-skill agents have an incentive to bid more for land in highly skilled community. This leads to segregation and creates communities consisting of low-skill agents with low productive capacity. Segregation in turn may negatively affect high-skill agents as well because of the skill complementarity in production.

There is a growing literature that analyzes how the local public spending capitalizes into housing property values. The seminal contribution to this literature by Oates (1969) finds a positive relation between local public spending level and house values and a negative relation between local tax rate and house values. Another innovative contribution by Black (1999) analyzes the effect of school qualities on house values by controlling for local tax/expenditure packages. For that sake, Black (1999) uses house value data for houses located in the same district but in different neighborhoods. She finds that parents are willing to pay 2.5% more for houses if test scores in the neighborhood school rises by 5%.

DeBartolome (1990) studies efficiency in a multi-community model with local differences in public spending level and peer group effects. Because of the local public spending differences, efficiency requires homogeneous communities following Tiebout (1956). On the other hand, because of the existence of local peer group effect and resulting within community positive externality, efficiency requires heterogeneous communities. DeBartolome (1990) shows that an inefficient equilibrium exists when peer group effect is neither too strong nor too weak.

In a full Tiebout economy, local redistribution is not feasible since each community consists of identical income households. However, in reality, the number of communities is less than the number of income types implying possibility of local redistribution through tax/transfer policies. Such local redistribution in a fiscally decentralized economy is analyzed by Epple and Romer (1991) and Epple and Platt (1998). Epple and Romer (1991) use a model with heterogeneous income households with identical tastes for housing. Epple and Platt (1998) extend the model of Epple and Romer (1991) by also considering the household preference heterogeneity for housing. They find that substantial levels of local redistribution is feasible if the fraction of renters dominates the fraction of homeowners in the economy. And local redistribution falls as fraction of homeowners rise. Moreover, Epple and Platt (1998) is able to obtain imperfect income sorting among communities consistently with U.S. data.

Nechyba (2000) explains the fact of imperfect income sorting among U.S. school districts by introducing heterogeneity in housing stocks among districts and private schools into a Tiebout model. The existence of low and high quality houses in his model provides incentives for the rich to live in poor districts and for the poor to live in rich districts. Moreover, existence of private schools provides further incentives for the rich to live in poor districts.

Moreover, households differ by both income and child's ability in his model. And school quality depends on educational spending and peer group effects. Nechyba (2000) uses this model to simulate the effects of different types of private school vouchers. Ferreyra (2007) extends the model of Nechyba (2000) by introducing religious private schools and estimates the model using structural econometric tools. She then simulates the effects of uniform vouchers and vouchers limited to nonsectarian schools for the Chicago metropolitan area. She finds that uniform voucher increases private school enrollment more than nonsectarian vouchers.

Besley and Coate (2003) compare decentralized versus centralized provision of public goods in a citizen-candidate framework. In their model, a centralized government is allowed to allocate resources differently across districts. This creates conflict of interest between citizens in different districts which is the drawback of centralized provision compared to decentralized provision. On the other hand, the disadvantage of a decentralized system is underprovision of the local public good if there exists spillovers among districts. They find that if spillovers are large and districts have similar tastes for public goods, then a centralized system is optimal. Moreover, if spillovers are small and districts have different tastes for public goods, then a decentralized system is optimal.

Using a rich dynamic general equilibrium model, Aliprantis and Carroll (2018) analyze the effect of neighborhood externalities on equality of opportunity. In their model, households choose a neighborhood to live and the investment on their children. The human capital acquired by a child depends on ability and neighborhood externalities. In a series of quantitative simulations, they conclude that law-enforced racial equality is ineffective in implementing equality of opportunity because of household sorting among neighborhoods. This confirms the findings of Wilson (1987) and Durlauf (1996).

## **2. BENCHMARK MODEL**

We borrow the model from Yılmaz (2020). The technical details are provided in Yılmaz (2020). In this section, we summarize the model in words.

More specifically, we consider a circular closed city located on an  $x$ - $y$  plane with its unique business district (CBD) at the origin. There are two school districts (west and east) separated by the  $y$ -axis. Households make all economic decisions. Each household consists of one working member and one child. Working members are classified as skilled vs. unskilled. The wage

earnings of a worker depends on skill level. The exogenously given wage per hour of a skilled worker is higher than that of an unskilled worker. Households are heterogeneous with respect to their valuation of education quality. Thus, there are four types of households: i) skilled high valuation, ii) skilled low valuation, iii) unskilled high valuation, and iv) unskilled low valuation. Each child attends the public school in the district of residence. The population of each type is exogenously given.

Each household's preferences are represented by a Cobb-Douglas utility function that depends on child's education quality, lot size, consumption of a composite good, and leisure. By assumption, households who have high valuation for education quality impose low value on lot size. The city has a dense radial transportation network. Households travel between CBD and their homes every day. Commuting has a variable monetary cost per round-trip mile and a time cost. Time cost equals the foregone wage per hour multiplied by time spent commuting. Each household pays property tax as a fraction of lot size expenditures. Household's total wage earnings equals wage per hour multiplied by hours worked. Household allocates total wage earnings among consumption expenditures and after tax land rent payments so as to maximize utility.

We assume competitive land markets at which absentee landlords hold land auctions at any distance in any district as in Alonso (1964). The land is purchased by the highest bidding household. The bid must exceed the agricultural rent. Otherwise, the land is left for agricultural use. A household derives identical utility at any location in spatial equilibrium which then determines the household's land bid-rent function.

Households' spatial ordering from the CBD is determined by the relative steepness of land bid-rent functions. The steeper the land bid-rent, the more household is attracted to locations closer to the CBD. The higher the household's income, the flatter the land bid-rent function holding commuting costs constant. As commuting cost rises, the household's land bid-rent curve becomes steeper. Thus, because of high income, skilled households are pushed away from CBD. At the same time, because of higher commuting cost, skilled households are pulled closer to CBD. Depending on which force is dominant, household's residential location is determined.

School districts are heterogeneous with respect to the quality of education and property tax rate. In a district, total property tax revenue is equally spent among the students. Property tax rate is determined by majority rule through an election held in the district. Quality of education depends on

per pupil spending and peer effects in a district. Peer effects depend on the population of skilled and unskilled households in a district. Peer effects rise with skilled population and fall with unskilled population.

### 3. QUANTITATIVE RESULTS

In this section, we quantitatively compare our benchmark economy with a fiscally centralized economy. For that sake, we use the parameter values calibrated in Yılmaz (2020) where the details of the calibration is provided. The fiscally centralized version of our model is obtained by removing the district boundaries and combining their budgets. Thus, there is a single economy-wide property tax rate after centralization. Also, per pupil public spending and peer effects are same among students.

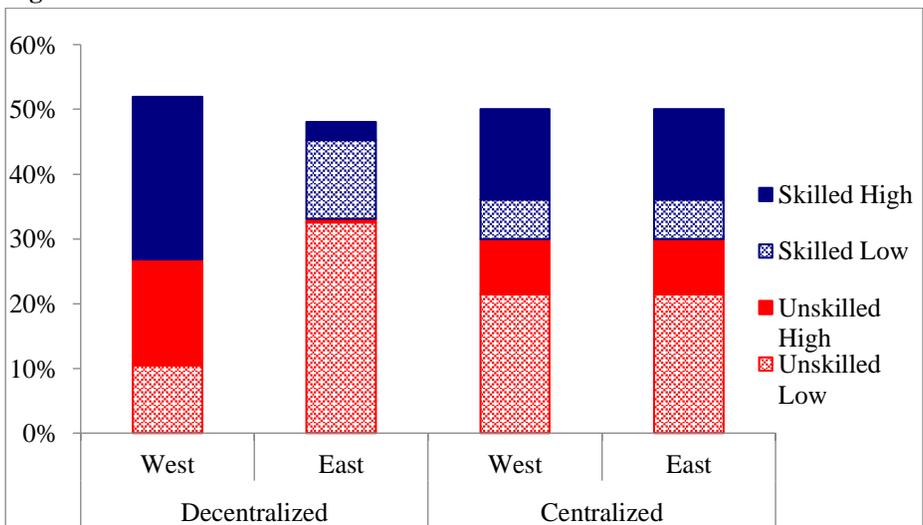
For the benchmark economy, the spatial distribution of households and the main statistics are provided in Figure 1 and Table 1. As seen, the quality of education, efficiency (peer effects), property tax rate, per pupil spending, and average rent are higher in the west district. This is expected since the fraction of skilled households is higher in the west. High valuation household types are the majority in the west and low valuation household types are majority in the east since education quality is higher in the west. However, there exists low valuation types in the west and high valuation types in the east. High valuation types in the east enjoy lower rents and bigger houses. Different types of households reside in each district which implies imperfect sorting and is consistent with the findings of empirical studies such as Ioannides (2004) and Davidoff (2005).

Fiscal centralization causes a rise in the degree of redistribution from skilled to unskilled households. After fiscal centralization, households do not have an incentive to segregate across districts since tax/expenditure differences disappear. Thus, quality of education together with efficiency and average rent are all equalized across districts. Households that live in the west district before centralization are worse off because of falling quality of education and they are better off because of falling rents. On the other hand, households that live in the east initially are better off because of rising in quality of education and they are worse off because of rising rents. We compute welfare change for each household as in Cooley and Hansen (1992) keeping in mind that identical households receive identical utility in spatial equilibrium. For that sake, we ask and answer the following question: For a household, how much should benchmark consumption change such that the household is equally better off as in the case of fiscal centralization? If the

change is negative, then household is better off under decentralization and vice versa. The percentage changes are reported in Table 2. As seen, all households are worse off under fiscal centralization which is the bad side.

Another bad side of fiscal decentralization is the loss in average quality of education in the economy. As seen in Table 1, average quality of education falls from 6.75 to 5.78 implying a 14.4% fall. The good side of fiscal centralization is reduced segregation and also zero inequality among students. Thus, there is a trade-off between efficiency and equity when one compares fiscal decentralization with centralization.

**Figure 1:** Distribution of households across school districts



**Table 1:** Fiscal decentralization vs. centralization

	Decentralized		Centralized	
	West	East	West	East
Quality of Education	7.9	5.51	5.78	5.78
Tax Rate	3.21%	1.88%	1.88%	1.88%
Efficiency	0.713	0.676	0.698	0.698
Expenditure per pupil per year	4041	2974	3024	3024
Average monthly gross rent per acre	2791	2194	2247	2247
Average quality of education (Std. dev.)	6.75 (1.19)		5.78 (0)	

**Table 2:** Percentage change in welfare after centralization

Household types	Equivalent variation
Skilled high valuation	-0.51%
Skilled low valuation	-0.17%
Unskilled high valuation	-0.69%
Unskilled low valuation	-0.29%

#### **4. CONCLUSION**

In this paper, we quantitatively compared U.S. economy under fiscal decentralization and centralization. For that sake, we used a general equilibrium hybrid Tiebout model as in Yilmaz (2020) that captures the main characteristics of a fiscally decentralized economy. To simulate fiscal centralization, we exogenously unified districts into a single district. We find that households lose welfare after centralization whereas residential segregation and inequality among students decrease implying a trade-off between efficiency and equity. In our model, capital tax competition is ignored. This may increase welfare under a fiscally centralized economy following Brueckner (2004). This is left for future research.

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## **CHAPTER 8**

### **LEGAL RESPONSE TOWARDS PETS IN INDIA**

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## INTRODUCTION

Interacting with animals has been shown to decrease levels of cortisol (a stress-related hormone) and lower blood pressure. Other studies have found that animals can reduce loneliness, increase feelings of social support, and boost your mood. Animals can serve as a source of comfort and support. Therapy dogs are especially good at this. They're sometimes brought into hospitals or nursing homes to help reduce patients' stress and anxiety. Animals may help you in other unexpected ways. A recent study showed that caring for fish helped teens with diabetes better manage their disease. Researchers had a group of teens with type 1 diabetes care for a pet fish twice a day by feeding and checking water levels. The caretaking routine also included changing the tank water each week. This was paired with the children reviewing their blood glucose (blood sugar) logs with their parents. Researchers tracked how consistently these teens checked their blood glucose. Compared with teens who weren't given a fish to care for, fish-keeping teens were more disciplined about checking their blood glucose levels, which is essential for maintaining their health. While pets may bring a wide range of health benefits, an animal may not work for everyone. Recent studies suggest that early exposure to pets may help protect young children from developing allergies and asthma. According to a 2021 study by the University of the West of Scotland, pet parents overwhelmingly believe that these creatures have boosted their well-being during the pandemic and faded loneliness. The love for pets among citizens of India has increased within recent times, and the practice of owning pets has become a rapidly growing trend. This is mostly due to the fact that a lot of people have come to appreciate the companionship nature of pets, especially dogs and cats. However, there is still some conflict of interests between persons who love or own pets, on the one hand, and persons who dislike pets and do not own them, on the other hand. This conflict stems from the fact that those who do not love pets often feel that pets constitute a lot of nuisance, due to the loud pet sounds, e.g. loud barking from dogs, pet litters/excreta, disease from unsterilized or unvaccinated pets, and other factors. To strike a balance between pets/animals' interests, and the interests of humans, NGOs and some private organizations have fought for the interests of pets, and this has led to the laying down of certain laws and guidelines protecting pets. The objectives of the present paper are to explore the various legal issues regarding pet shops and aquariums. For this purpose, the paper has been divided into the Role of Law Commission of India for regulation of pet shops, regulation of pet shops outside India, and the changes

introduced in the Indian legal system to regulate pet shops and aquariums. It also discuss the do's and don'ts for the pet owners. The paper ends with suggestions for effective regulation of the pet shops and rights of pets.

### **POSITION ACROSS THE GLOBE**

The Pet Animals Act 1951 establishes a regime of regulation of “pet shops” under which pet shops are licensed by local authorities. Local authority environmental health departments inspect pet shop premises and are responsible for prosecuting violations of the Act. Section 1 makes it an offense to “keep a pet shop except under the authority of a license granted by the provisions of the Act”. There have been few prosecutions under the Act since local authorities generally resolve issues by a discussion with pet shop proprietors. Very few cases have gone further than the magistrates’ courts and there are therefore very few reported cases interpreting the Act. The main area of controversy that currently arises for animal welfare groups and local authorities is what constitutes a “pet shop” for the Act. Anecdotal evidence suggests that local authorities have been divided on how to apply the Act to temporary events involving several different animal sellers, such as exotic animal fairs and bird auctions. Such events typically take the form of one-day exotic animal fairs held in leisure centers and other large facilities at which several exotic animal breeders and dealers display and sell animals to the public.

One of the main areas of controversy over the interpretation of the Act has been how it applies to temporary events, such as exotic animal fairs held in large facilities involving a number of different animal vendors. These events, which are often organized by exotic animal or bird societies, usually take place in public facilities, such as leisure centers, that have been hired for a day or weekend. Exotic animal enthusiasts pay fees to the organizers for being able to set up stalls at such events from which many then sell exotic birds or reptiles. While many sellers will be selling animals that they have bred themselves or are surplus to their collections, other stallholders are dealers who sell animals that have been imported or bought from other breeders.

Organizations such as Animal Aid, the Captive Animals Protection Society, and the RSPCA have expressed concern about the conditions in which the animals at such events are transported and displayed. Such conditions are likely to be lower than those that prevail at permanent pet shops that are licensed and inspected by the local council. This may pose

risks, not only to the welfare of the animals sold but also to public health, given that exotic birds and animals may transmit diseases to the children who compose a considerable proportion of the visitors to such fairs and who are often keen to touch the animals. Animal welfare campaigners also fear that the fairs encourage impulse purchases of exotic pets. Although some sales will be made to existing enthusiasts, many sales are also made to families who visit the fairs simply as an exciting day out. Impulse purchasers are unlikely to have considered the needs of the exotic pet that they have bought. The Pet Animals Act envisages the annual grant of licenses to “premises” and does not make express provision for licenses for occasional events. The difficulties for local authorities in regulating such events are often not made any easier by the fact that the local authority is frequently the owner of the premises in which the event is taking place. To the dismay of groups concerned for the welfare of animals sold at such fairs, some local authorities have dealt with the problem by issuing licenses to the organizers of such events, purportedly to permit the selling of animals by all the vendors taking part in them. Other local authorities have been reluctant to require that organizers of temporary markets for exotic animals obtain licenses, claiming that the selling of animals at temporary locations is not covered by the Act. Such a stance ignores the clear wording of section 7(1). The selling of animals as pets “at premises of any nature” requires a pet shop license. As will be argued below, however, in the case of events involving more than one seller, no licenses should be granted because such markets are completely prohibited by section 2, which prohibits the sale of pet animals from market stalls and in public places.

Section 1 makes it an offense to keep a pet shop “except under the authority of a license granted in accordance with the provisions of the Act.” Local authorities are responsible for granting licenses, for which they may charge a fee, in respect of “premises” in their areas. The section lists five non-exclusive considerations for the local authority to take into account when deciding whether to grant a license. These are expressed as “the need for securing” that animals are kept in suitable accommodation, supplied with food and water and visited at suitable intervals, that mammals are not sold at too early an age, that reasonable precautions will be taken to prevent the spread of infectious diseases, and that appropriate steps will be taken in case of fire or another emergency. The local authority “shall specify such conditions in the license as appear to the local authority necessary or expedient in the particular case for securing” those five objectives. Both the

keeping of a pet shop without a license or the failure to comply with a condition of a license constitutes a criminal offense.

### **Licensing and Regulation of Pet Shops in Europe**

It is very laborious to enact detailed legislation including housing and care requirements for each exotic animal species that may be kept as a pet, taking into account its specific needs. Indeed, the needs of some species cannot be adequately met in a captive household environment. Some countries, such as Austria, Estonia, and Slovenia, have made great efforts in elaborating detailed housing requirements for groups of species, including minimum cage sizes, temperature, humidity, social structure, and feeding. However, regulations based on science and expert opinions need to be fully implemented and enforced to make these requirements effectively. This requires a considerable amount of resources not just in monetary terms, but also personnel (i.e. inspectors). An alternative and perhaps more efficient way to reduce the risks caused by exotic species, being kept as pets, is to introduce a positive or negative list. These lists restrict the types of species that are authorized to be kept as pets, generally excluding dangerous animals (e.g. large wild cats and venomous snakes), and protected species, while allowing more traditional, domesticated species (e.g. cats, dogs, guinea pigs, and rabbit). The European Convention for the Protection of Pet Animals aims at assuring the welfare of animals, especially animals kept privately in the European territory. It has been open for signature since 1987 and entered into force in 1992. The Convention includes general provisions covering the care of pet animals of all kinds, the humane control of dog and cat populations, and the control of trade in pet animals. Since 1995 it has also included a resolution discouraging the keeping of wild animals as pets (Council of Europe, 1995)

So far the Convention has been ratified by 24 countries, including 18 EU Member States (Council of Europe, status as of 25/06/2019). Countries are legally and morally bound to incorporate the provisions of the Convention into their national legislation six months after the ratification. Unfortunately, due to the lack of an enforcement mechanism, some countries have only partially implemented the Convention or have made reservations. Some EU Member states have implemented the provisions in their national legislation without ratifying the Convention.

In 1995, the Council of Europe adopted a non-binding Resolution on the keeping of Wild Animals as Pet Animals. It recalls the provision in the Convention stating that ‘The keeping of specimens of wild fauna as pet

animals should not be encouraged'. The requirements of Article 4 of the Convention state that 'pet animals should be provided with accommodation, care, and attention taking into account the ethological needs of the animal by its species and breed, and that an animal that cannot adapt itself to captivity despite these conditions being met, shall not be kept as a pet animal'. To control the keeping of exotic pets, criteria related to housing and care, knowledge of the keeper, escape prevention, and human health and safety were incorporated in the Resolution on the Keeping of Wild Animals as Pet Animals Council Regulation 338/97/EC and Commission Regulation (Wildlife Trade Regulations) At the international level, the wildlife trade is controlled by the Convention on International Trade in Endangered Species of Flora and Fauna, which is applied in the European Union through Council Regulation 338/97/EC on the protection of species of wild fauna and flora by regulating trade therein and Commission Regulation lays down detailed rules for the implementation of Council Regulation (Implementing Regulation) also known as the EU Wildlife Trade Regulations. These Regulations aim to conserve wild species by ensuring that international trade in these species does not threaten their survival.

The Regulations include four Annexes (A, B, C, and D) that divide species according to their level of trade restrictions. The EU categorizes animals and plants according to more stringent criteria than those of CITES and includes species listed in the EU Birds and Habitats Directives, as well as those that - if introduced to the EU natural habitat - could pose a serious ecological threat to indigenous species. The commercial use of Annex A species is prohibited with exemptions possible for captive-bred specimens and species intended for breeding, education, or research for conservation purposes. According to Article 8.2 of the Regulation, "Member States may prohibit the holding of specimens, in particular, live animals of the species listed in Annex A". In this report, 'holding' of species is usually referred to as 'keeping' of animals or species Council Directive and Regulation (Animal Health Law) Council Directive of 13 July 1992 laid down animal health requirements governing trade in and imports into the Community of animals [356] will be repealed and replaced by Regulation (EU) 2016/429 on transmissible animal diseases on 20 April 2021. Its implementing and delegated acts will be finalized by 2021. The Directive and then subsequently the new regulation and the related delegated and implementing acts provide for specific health requirements for the movement of animals into, out of and within the Community. All animal species that are not already covered by

specific EU rules are included. The legislation harmonizes the rules for movements of live animals between the EU Member States and imports into the EU from third countries, to prevent the entry of animals with infectious diseases. Imports are conditional on specific requirements, including a health certificate. Live animals entering the EU are inspected at authorized

As part of the EU 2020 Biodiversity Strategy (adopted in May 2011), the European Commission introduced Regulation (EU) on invasive alien species, which entered into force on 1 January 2015.

The IAS regulation stipulates the adoption of a list of invasive alien species of Union concern (hereafter referred to as the Union list). Species listed on the Union list are prohibited from being intentionally imported (including transit), kept, bred, traded, allowed to reproduce, or released into the environment. Derogations can, however, be granted. The regulation is evaluated every six years, while the Union list is updated every year. The European Commission or the Member States can propose additional species to be included in the Union list, based on a risk assessment. The Scientific Forum, consisting of representatives of the scientific community in the Member States, reviews these risk assessments. Other stakeholders are also invited to submit additional evidence. If the Scientific The forum issues a positive opinion, the risk assessment is passed on to the IAS Committee (representatives of all Member States), which examines the compliance of the proposed species with the criteria for listing. Also here, stakeholders are invited to provide feedback on the draft implementing regulation. In addition, the IAS regulation provides for a set of measures to be applied in the EU about IAS, which include prevention, early detection and rapid eradication, and management.

The existing state of regulations in EU Member States and two additional countries on the keeping of exotic animals as pets is insufficient for several reasons. First, the majority of countries use the less precautionary and reactive negative list approach rather than the simplified positive list. Second, regulations often fail to encompass the whole animal kingdom, as they address only mammals, or only reptiles, etc. Third, the scope of regulations is often inconsistent and illogical. In order to address animal welfare, animal and human health, species and biodiversity conservation, and invasive alien species threats, Eurogroup for Animals calls on countries to take the following actions:

- Establish further restrictions on the types of animals that may be kept as pets. Preference should be given to the creation of a positive list of animal species that are allowed to be kept by private owners. A set of criteria, based on those used by Belgium in its positive list for mammals and criteria proposed by can be used to determine which species are suitable as pets.
- Animals must be easy to handle and be kept in respect of their essential physiological, ethological and ecological needs.
- No species should be listed for which there are clear indications that, should it escapes or be released into the wild, it would be able to survive and consequently represent a risk for the native ecosystem.
- The species that are kept cannot have an aggressive and/or dangerous nature or represent a particular danger for human health.
- Data and scientific information must be available concerning the keeping of these animals.
- In case of contradictory data or information on the keeping of an animal, the benefit of the doubt should be in favor of the animal.
- Keeping of the animal should not jeopardise (ideally should enhance) the welfare of the animal and the owner.
- Restrict the sale of pets to licensed pet shops and breeders. Countries should regulate the sale of pets only allowing licensed, knowledgeable pet shops and breeders to sell animals. Strict evidence-based licensing and inspection rules need to be adopted and enforced.

Require shops to provide detailed information on the animals' needs to prospective buyers. As part of the pet shop regulatory scheme, we recommend a mandatory requirement for breeders and pet shop owners to provide prospective owners with high-quality, evidence-based detailed information on the physiological, ethological, and ecological needs of the animals.

Require mandatory training of pet shop personnel. Training courses should be evidence-based and cover issues including animal welfare and husbandry, disease control, and environmental and sanitary conditions.

Establish a minimum age for someone purchasing a pet animal. The majority of countries have set this age at 16 years old and this should be

adopted in other countries to prevent impulsively and ill-informed purchases by younger people unable to offer the commitment required to properly care for the animals.

Include information on housing requirements in legislation on the keeping and sale of exotic pets.

This information should be evidence-based and address the physiological, ethological, and ecological needs of the animals including housing materials, temperature, humidity and lighting needs, enrichment, security, and the appropriate social interactions for the animals.

It should be illegal to abandon animals and higher penalties should be imposed on people who abandon animals. This could be included in animal welfare legislation as well as legislation on invasive alien species.

Improve enforcement of existing legal provisions and oversight of the exotic animal species currently being kept by private individuals through strict recordkeeping and permitting by Competent Authorities.

European policy cohesion is needed to integrate risks linked to exotic pets with policy areas covering trade, welfare, invasive alien species, and human and animal health. Specifically, the exotic pet trade and keeping should be addressed within:

- The proposed EU Animal Health Law by including sanitary measures for wildlife imports and registration of facilities holding exotic animals;
- The possible Animal Welfare Framework Law by ensuring it extends coverage to wild animals kept in captivity;
- The pending EU Invasive Alien Species Strategy as a new legislative instrument represents an opportunity to address the trade in exotic species that could pose a significant threat to native wildlife and ecosystems by restricting the import, trade, sale and keeping of certain species. The highest priority should be given to prevention as the most cost-effective humane and environmentally desirable measure.
- Trade policy to ensure that exotic pet trade practices are not compromising the welfare of exotic animals or contributing to biodiversity loss. Sustainability impact assessments required under bilateral trade agreements should include examination of the exotic pet trade.

## **CONSTITUTIONAL AND LEGAL FRAMEWORK IN INDIA**

India has one of the world's fastest-growing pet markets, as ownership increases with the growth of the middle classes. Dogs are the most common pets, followed by cats. The attitude towards pets and animals, in general, can vary greatly in a country in which the cow is venerated yet stray dogs are routinely abused. The Wildlife (Protection) Act, 1972 ("WPA"), prohibits the sale of certain animals in pet shops. However, these sales are continuing. All kinds of animals can be found for sale in animal markets across the country, and they are kept in terribly inhumane conditions. Puppies are drugged to prevent them from crying, large birds are stuffed into small cages and fish become stressed and sometimes die because of confinement, crowding, contaminated water, and unnatural temperatures. Other common harmful practices include de-beaking birds, docking the tails of dogs, selling unweaned pups, and de-clawing kittens. Animal breeding is also cruel. Many animals do not survive the trauma of being transported in small cages without adequate water or food, and estimates suggest that, overall, 40% of animals die in captivity or transportation. Moreover, even star tortoises and other protected animals are sold openly, and wild animals (including parakeets, munias, and mynas) are caught and sold in complete violation of the WPA. It is estimated that for every bird sold in the market, two die en route. Fledglings are stolen from their nests and smuggled to market in cartons and tiny boxes, and some are even rolled up inside socks during transport to cities. Captive birds' wings are crudely clipped with scissors to prevent them from flying. Laws designed to protect India's birds are well-intentioned but rarely enforced. In addition, there is a clandestine network of extremely well-organized persons, from pet-store owners to other dubious sellers, who use the internet to serve their clients. 'Wildlife pet lovers spend exorbitant amounts to get such exotic pets, so much so that the global illegal pet trade industry is estimated to be worth millions of US dollars. The poor conditions in pet shops and a lack of basic veterinary care "also place pet shop employees and the general public at risk of contracting zoonotic diseases such as salmonellosis and psittacosis". Besides the terrible conditions, pet shops also trade in animals and birds that are protected under law. Birds, animals, and fish are sold in an unscientific and cruel manner; there are no records of sale/purchase or inventory of species; endangered species are freely sold; the pet shop industry is not taxed, and so on.

The constitutional and legal framework regarding pets in India is as follows :

### **Provisions under the Constitution of India**

**Article 51A(g)** of the Constitution states that “It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures.” It is a fundamental duty.

### **Provisions under the Prevention of Cruelty to Animals Act, 1961**

The preamble of the AWBI’s Draft Pet Shop Rules, 2010 made clear that the proposed rules fall under the purposes of the Act - “In the last decade, with the liberalization of the economy and the increase in purchasing power, several new trades have come into being. One of these is the mushrooming, and yet unregulated pet trade in live animals, that are capable of experiencing discomfiture, pain, hunger, and thirst just as humans do. Live animals are exhibited and traded like commodities in pet and pet product shops. These Rules are intended to ensure their humane handling and to regulate this trade. Since the mute cannot complain, the responsibility to ensure compassionate and empathetic handling is greater. Since pet shops are commercial establishments, they have to be regulated with licenses, and parameters of operational standards. Uniform practices and procedures have to be prescribed and adhered to by those partaking in the profits derived from this brand of commercial activity. Consequently, the Pet Shop Rules have been formulated. The rules on pet shops, dog breeding and aquarium fish breeding are also justified under the principles of the Indian Constitution. It must also be noted that the PCA Act has a built-in check to ensure that the Central Government does not exceed its authority when drafting rules Section 38A provides that all rules and regulations must be laid before each House of Parliament. Section 3 of the PCA Act further substantiates the purpose of the Act. The section provides for the duties of persons having charge of animals, and states, “It shall be the duty of every a person having the care or charge of any animal to take all reasonable measures to ensure the well-being of such animal and to prevent the infliction upon such animal of unnecessary pain or suffering.” Regarding the issue of species covered under the WPA, there is a clear and complete prohibition on those species that are not regulated or prohibited under the WPA. Based on this analysis of the legal position, the

representations received by the Commission in this regard, as well as a large number of reports on the issue, it appears that the provisions of the law are violated with impunity by pet shops and breeders. In these circumstances, the Central Government must seriously take cognizance of the issue and regulate the trade in pet shops and practices followed in dog breeding and aquarium fish breeding. The trade or rearing of such species and therefore, the provisions of the WPA must be strictly enforced to ensure their implementation. The present opinion, therefore, is about the rules on pet shops, dog breeding, and aquarium fish breeding. In the present case, rules regarding pet shops, dog breeding, and aquarium fish breeding fall within and have a rational nexus to the object and purpose of the Prevention of Cruelty to Animals Act, i.e., they are intended to prevent cruelty and harm to animals. Neither are the rules inconsistent with the enabling Act nor do they infringe any fundamental rights or constitutional provisions. Thus, the MoEF has the authority to make these rules.

### **Provisions under the Wildlife Protection Act, 1972**

Most animals that can be domestically found are allowed to be kept as pets. Dogs, Cats, Poultry Some variety of birds like pigeons, parrots, Budgerigars, finches, Fishes reared in aquariums, Horses, Pigs, Rabbits, Ponies, and Cattles are some of the examples. However, the following are strictly prohibited/forbidden from being kept as pets: Rodents, Turtles. Birds like Parakeets, Bears. Animals are mentioned in Schedule I and II of the Wildlife (Protection) of the Act, 1972.

### **Recommendations of the Law Commission of India**

The 20th Commission took note of the letter from AWBI and the various representations received by animal rights and animal welfare organizations throughout the country of India in its 271 Report in 2015. The Commission recognized the need to examine whether the central government is empowered to issue rules under the relevant legislation to regulate pet shops, dog breeding, and aquarium fish breeding. In light of this, the Commission has undertaken the present study on the “Need to Regulate Pet Shops and Dog and Aquarium Fish Breeding” to provide the Government with its views on the scope of its powers and examine the necessity of regulating such practices.

## **Formulation of Relevant Rules under the Prevention of Cruelty to Animals Act, 1961 in 2018**

The new Prevention of Cruelty to Animals (Pet Shop) Rules, 2018 were passed as a result of the efforts of various animal welfare legislations and recommendations of the Law Commission of India. The Rules make it mandatory for pet shop owners to obtain a registration certificate from the State Animal Welfare Boards and lay down a range of other rules for non-compliance which could result in the revocation of the certificate.

“No person shall carry on or continue the business of sale or trade-in pet animals, whether retail or wholesale; or establish or operate a pet shop, or any other establishment engaged in sale, purchase or exchange of pet animals by whatever name called, without obtaining a certificate of registration,” the Rules state.

As per the Rules, a pet shop cannot be operated in or close to areas where loud noise can be heard or noxious fumes and odors are emitted. Further, no one can operate a pet shop near factories, butcheries, and abattoirs.

No pet shop can be operated on a shanty, shack, pavement, or any temporary makeshift arrangement. Further, it is allowed to be operated only if it is located in a permanent structure with proper arrangement for basic amenities, such as clean drinkable water and proper supply of electricity including power backup to provide the animals with a safe, healthy, and stress-free environment. This is another provision that makes the hawkers and peddlers on the roadside, dealing in puppies, kittens, and birds shoved inside small boxes and rags, absolutely illegal.

In addition to the above, every pet shop should have a proper ventilation system, an ideal temperature depending on the species of the animals housed inside along with smoke-detection and firefighting equipment. Furthermore, it is mandatory to have an isolated area inside the shop, where animals infected with contagious diseases can be quarantined and separated from healthy ones. There should be adequate space for the animals kept inside a pet shop to stand, sit, lie down, turn around, stretch and make any other posture adjustment without any hindrance or impediment. The birds should be kept in cages that allow them to comfortably fly, hop, jump, climb and move around without any disturbance due to the paucity of space.

### **Key Features are as follows:**

No person can operate a pet shop or carry on the business of trading in pet animals without a certificate of registration from the concerned State

Animal Welfare Board. Any person already operating pet shops may apply for registration within 60 days from the date of these rules.

Any pet shop without a valid certificate of registration, or the failure of the person to apply for the same within a specified period, will result in the sealing of the pet shop.

Animals confiscated from such shops shall be sent to an animal welfare organization recognized by the Board Application for registration to be made to the State Board with a non-refundable fee of 5,000 INR. A separate application shall be made for every pet shop or any premises being used for the pet trade. Such a certificate shall be valid for five years, non-transferable, and shall be subject to a yearly review.

Pet shops registered by the Board shall be inspected by an authorized veterinarian upon receipt of the application. On being satisfied that the applicant and the establishment comply with requirements under these rules, the State Board shall continue the registration.

The Rules provide standards for accommodation, infrastructure, housing, general care, veterinary care, and other operational requirements. These include the elimination of wire mesh for the floors of the enclosures, a health certificate from a veterinary practitioner for every animal on sale, and a written exercise plan for any pup over 16 weeks of age.

Every pet shop owner shall maintain a record book with the particulars of breeders and suppliers of pet animals, trade transactions, and their details. Records of the customers buying pet animals must also be kept. Additional records required to be kept are the “mortality register” and “health register.”

On receipt of a complaint about noncompliance with these rules by pet shop owners, an inquiry will be conducted through the local authority or SPCA. Animals found to be ill-treated or sick shall be confiscated and sent to a recognized animal welfare organization for treatment. The pet shop owner shall be liable for any expenses incurred for the care and treatment of such animals.

If violations are discovered during the inspection, the State Board shall issue the owners a notice of show cause. The State Board may, if it is not satisfied with the response received, or if no response is received from the owners, cancel the registration and communicate the reasons in writing. Subject to appeal, the pet shop may be sealed or registration reinstated as the case may be.

Every registered pet shop owner is required to submit an annual report to the State Board detailing the total number of animals traded, boarded, or exhibited during the previous year.

Central Government's Animal Welfare Board on May 1, 2020, had notified certain guidelines under Prevention of Cruelty to Animals (Dog Breeding and Marketing Rules, 2017) and Prevention of Cruelty to Animals (Pet Shop) Rules, 2018.

### **Provisions under Indian Penal Code, 1870**

Section 428 of the Indian Penal Code, 1860 states that, whoever commits mischief by killing, poisoning, maiming, or rendering useless any animal or animals, of the price of ten rupees or upwards, shall be punished with imprisonment of either description for a term which can reach two years, or with fine, or with both.

Section 429 of the Indian Penal Code, 1860 states that, whoever commits mischief by killing, poisoning, maiming, or rendering useless, any elephant, camel, horse, mule, buffalo, bull, cow, or ox, whatever could also be the worth thereof, or the other animal of the worth of fifty rupees or upwards, shall be punished with imprisonment of either description for a term which can reach five years, or with fine, or with.

### **Roles and Responsibilities of Pet Owners**

For pet owners who do not want to be harassed or penalized, the guideline imposes certain duties on them as follows:

**Give Constant Attention to Pets:** Pet owners must view their pets as perennial toddlers, as such, the attention given to human toddler during infancy is the same attention to be given to a pet throughout the life of such pet.

**Pets Should not be Abandoned:** A pet owner should not abandon his pet animal, irrespective of the amount of pressure on him to do so. Abandoning your pet animal is a violation of the law.

**Check-mate Pets:** Pet owners are to ensure that their pets do not constitute a source of nuisance to others. However, a pet owner should be able to distinguish between reasonable and unreasonable claims of nuisance.

**Try to Keep Pet Dogs Quiet:** Even though a dog has the right to bark, because that is its natural form of expression, pet owners are however, advised to make every effort to keep their dogs quiet, especially during night hours.

**Health Maintenance for Pets:** Pet owners are to give their pets adequate health care, regular vaccinations and sterilizations.

**Clean Pet's Poop:** Even though pets have the right to excrete, pet owners or any body they entrust their pet to, e.g. dog walker or care-giver, must clean up the pet's poop, especially in public premises. This is in compliance with the civic duty of keeping the environment clean, and for the purpose of respecting the interest of other users of public space.

**Leash Pet:** Pet owners are also advised to leash their pets in public places. This is for the safety of the pet, and also for the purpose of assuring passersby that they are safe and can walk comfortably within the vicinity.

**Use of Alternative Lifts or Elevators Where Possible:** Even though pets have the right to use lifts or elevators, and cannot be banned by Apartment Owners or Resident Welfare Associations, pet owners are, however, advised not to object to using 'alternate' lifts or elevators in a building, if such lift or elevator is working and is conveniently accessible.

**For Caregivers of Street Dogs,** the law appreciates the efforts made by these persons to show kindness to stray dogs. The law also advises that these persons carry out certain civic responsibilities for the good of the dogs and the general public. These responsibilities include:

**Assists the Animal Welfare Organizations in Maintaining the Animals Health:** Even though they are not given mandatory obligations to do so, the guidelines however, advises that care-givers should participate in sterilization and yearly vaccination of street dogs. Where they're unable to do so, they are advised to call on the Animal Welfare Organization to vaccinate or sterilized the street dogs.

**Feed Street Dogs in Your Residence or Private Areas:** In order to avoid any form of litter or conflict with other residential owners, care-givers are advised not to feed street dogs close to residences that are not their own. They are also advised not to feed street dogs in areas which children play, in crowded places, or public spaces where people walk.

**Do Not Try to Control the Poop Habit of a Street Dog:** Street dogs have the right to defecate. So, care-givers are prohibited from controlling the defecation habits of these dogs. Rather, they should participate in finding solutions on maintaining cleanliness.

### **Tail-Docking, Ear cropping of puppies, etc.,**

The cruel procedures of cosmetic tail-docking and ear-cropping of dogs were originally banned by the Veterinary Council of India in 2011

following an advisory issued by AWBI which explained that non-therapeutic tail-docking and ear-cropping mutilations amount to cruelty to animals under the Prevention of Cruelty to Animals Act, 1960 and that performing these procedures is, therefore, a punishable offense. Maiming dogs also violates Section 429 of the Indian Penal Code. Nevertheless, the Madras High Court overturned the ban in 2013. AWBI filed an appeal against the order that is still pending, and PETA India has filed an intervention application in the matter. Although this 2017 Rule has been challenged before the High Court of Delhi, the Rajasthan High Court, and the Madras High Court, no interim stay has been granted to the petitioners, and the provisions of the Rules remain in force.

Ear-cropping, or cutting off a portion of a dog's ears, even when performed by a veterinarian under general anesthesia, causes post-surgery pain and psychological trauma and can lead to complications like infected wounds. The cut-apart ears are then taped and re-taped to try to force them into a pointed shape, causing the dogs further distress. Some breeders take matters into their own hands and use scissors or a blade to slice the dogs' ears without anesthesia or painkillers. Even when done by veterinarians, tail-docking is usually performed on puppies with scissors or a scalpel and without anesthesia. As an alternative, breeders often use a ring to cut off the blood supply of the tail so that it eventually falls off.

Those who perform the procedures disregard how essential these body parts are to dogs—they use their tails, to a degree, for balance and use their ears and tails to communicate with their human guardians and other dogs.

Ear-cropping is also banned in Australia, New Zealand, many countries in Europe, and most Canadian provinces, and tail-docking is prohibited in Australia, Iceland, Israel, South Africa, and elsewhere.

**Residents' Welfare Associations, Apartment Owners' Associations, etc., are prohibited from doing the following:**

Banning Pets: Even if the consensus of a majority of residents and occupiers have been obtained, or byelaws of the resident are framed or amended, these associations cannot introduce any form of ban on keeping of pet dogs. They cannot insist that a particular 'type' or 'size' of dog is acceptable or not. They have to cope with the barking of dogs, and cannot cite dog barking as a reason for proposing a ban.

**Banning Pets from Using Lifts:** Pets have the right to use lifts, and these associations cannot infringe of this, neither can they impose fines or charges on pet owners on this account.

**Banning Pets from Using Parks and Gardens:** Pets have the right to use parks and gardens. These associations cannot ban pets from accessing these places. However, in consensus with the pet owners and residents, these associations can set suitable times that pet owners can walk their pets through parks and gardens without any inconvenience to other residents.

**Compulsory Imposition of Leash/Muzzles by Pet Owners:** Even though pet owners have been advised to use leashes on their pet, these associations cannot compulsory impose or insist that pet owners must do so. They can only request that the pet owner should do so.

**Imposing Fines or Charges on Pet Owners for Pet's Poop:** Pets have the right to defecate, and their owners have been imposed with the obligation to clean up the mess. However, these associations do not have right to impose any fine or special charges on pet owners when the pets excrete within the premises.

**Intimidating Pet Owners:** these associations are prohibited from intimidating their residents who are pet owners. Any association that successfully makes their resident to give up or abandon his/her pets, violates the law and commits an offence.

The Guidelines also makes other mandatory provisions such as:  
Street dogs should not be beaten or driven away.

Where dogs are sterilized or vaccinated, they must be returned back to their original locations.

Care-givers of street dogs should not be intimidated or harassed as this amount to an offence of criminal intimidation.

Any human who is aggressive or hostile to a dog, and is bitten by the dog, shall be the only one to be blamed.

### **Roles and Responsibilities of Owners**

Various circulars of the Animal Welfare Board of India are in force to deal with owners' duties and responsibilities as follows:

#### **General Do's and Don'ts**

- Any Resident Welfare Association cannot ban residents from keeping pets even by obtaining a consensus.

The introduction of any sort of a ban on residents keeping a pet cannot be introduced even if the majority is in favour of such a ban.

- There cannot be any discrimination on the size of pets allowed in the housing society.
- Dog Barking is not a valid reason to impose any pet-related ban.
- Any ban on keeping pets cannot be introduced even after the amendment of society by laws and regulations.
- Banning pets is direct interference with fundamental freedom guaranteed to the citizens as per the constitution.
- Any pets and resident owners of the pets not violating any municipal law are permissible to stay in the society or community.

#### **Use of Lift by Pets:**

- Pets cannot be legally disallowed from using lifts as per previous court rulings.
- No changes can be imposed on banning the use of lifts by pets.
- Courts believe that dogs are like family and must have access to lifts in any society or community.
- RWA cannot impose any sort of special charges or fees for pets or their owners for providing lift facilities.

#### **Use of Park by Pets:**

- Banning pets from having access to the garden is short-sighted and pets can show aggression in frustration.
- It is better to fix a dedicated timeline allowing access to gardens/parks for pets.
- The timings for access to a garden or park for pets can be intimidating to the general body of the RWA.

#### **Use of Leashes and/or Muzzles:**

Pet owners can be requested to keep their pets on a leash when in common areas.

Negligent pet owners can be fined if their actions cause any trouble to other residents.

#### **Defection by Pets in Community Premises:**

- Since there is no central law requiring the cleaning of pet excreta, RWA can request pet owners to clean the same.

- RAW however cannot impose fines or special charges on pet owners in case of pet excreta in common areas or community premises.
- Pet owners must train their pets to use the same area for excreta each day without causing trouble to other residents.

**Intimidation:**

No RAW or member can intimidate a pet owner into giving up or abandoning his or her pet under any circumstances.

**Role of Pet owners in the prevention of cruelty to animal**

According to the constitution of India, an apartment should not ban the keeping of animals in an apartment and the **Section 11 (3)** states Prevention of Cruelty to Animal Act, 1960. It is also against article **51 A (g)** of the Indian Constitution wherein, it is the duty of every citizen to have compassion towards animals, and living creatures and to improve the natural environment. Owners should avoid their pets being teased by children and others. This angers the animal causing untoward instances for no fault of the animal. The dog owner must make sure that their pet is not causing any nuisance in the neighborhood.

- Residents keeping domestic animals or other pets shall abide by the Municipal Sanitary Bye-Laws or Regulations.
- Ensure that certain strict rules and regulations are followed so that no one is inconvenienced or affected.
- Even on walks within the premises or in any other common area, the animal has to be on a leash and accompanied by the owner at all times.
- It makes sense to go through the rules of residential complexes before renting a flat.
- In an apartment block, you have scores of people walking in and out, from maids to milkmen to children. It is essential to train the dogs so that they don't get provoked on seeing neighbours and workers.
- Ensure that your pet does not become a nuisance to others
- It needs to be toilet trained and taught some amount of discipline.
- Ensure that your pet does not cause inconvenience for others.
- Ensure that your pet does not fight with other pets.

### **By-Laws Concerning Street Dogs:**

- Beating and driving away street dogs is not allowed.
- Capturing street dogs for birth control or other medication-related measures are allowed but they must be released back into the same locality.

There is now a law barring any Indian resident to feed stray dogs. Feeding is equated to a compassionate feeling and is highly supported by the higher courts. Beating street dogs come under animal cruelty as is a punishable offense under Section 428 and 429 of the Indian penal code.

Hostility or aggressive behavior that may lead pets to embrace aggressive behavior is not allowed.

### **Punishment for Offenders**

According to the guideline, animal Cruelty is an offense under section 11 of the Prevention of Cruelty to Animals Act.

Anybody who is found guilty of this offense is punishable under sections 428 and 429 of the Indian Penal Code. Such an offender is liable to imprisonment or fine under these sections.

### **CONCLUSIONS AND SUGGESTIONS**

Pets also bring new responsibilities. Knowing how to care for and feed an animal is part of owning a pet. Pets can turn out to be a great source of comfort and motivation. Pets help an individual to live mentally healthier lives. Pets, be it land animals, birds, or aquatic are known for their benefits. As pet owners or pet parents, there are certainly moral and legal duties towards the pets.

From Paris Hilton's pink puppy mansion for her Pomeranians to the Nawab of Junagadh inviting Lord Irwin to grace his dog's wedding, man and beast have always had a special relationship. So obviously, the rules and regulations that we choose to run society on will have a special mention for our furry, scaly or feathered friends. Animals transported and traded to meet the demand of the pet shop industry are kept in inhumane conditions. These animals are typically denied complete veterinary care; puppies are separated from their mothers soon after birth; birds, rats, mice, hamsters, and guinea pigs are stuffed in small cages without access to adequate water or food. Other common harmful practices include mutilation in the form of de-beaking, tail-docking, feather plucking, nail clipping, and de-clawing. An estimated 40 percent of animals die in captivity or during transportation. Pet shops often

grossly violate the Wildlife Protection Act, of 1972 by blatantly selling wild animals. The laws in India have evolved regarding the upkeep of pets, not only by owners but by the pet shops also. The Prevention of Cruelty to Animals (Pet Shop) Rules, 2018 were made by the Government of India as an attempt to curb the rampant exploitation of animals by the pet shop owners. Before these rules, there were no set norms to regulate the pet industry, which even lacked the basic infrastructure to keep the animals in a reasonably healthy environment. Under the rules, a pet shop owner must obtain a Registration Certificate from the Animal Welfare Board of the concerned state without which he is/she not authorized to operate the shop. The license has to be displayed at a prominent place in the shop and the customers visiting the shop can ask for the same. Central Government's Animal Welfare Board on May 1, 2020, had notified certain guidelines under Prevention of Cruelty to Animals (Dog Breeding and Marketing Rules, 2017) and Prevention of Cruelty to Animals (Pet Shop) Rules, 2018.

In light of the above discussion, based on an analysis of the legal position, and a large number of reports on the issue, it appears that the following suggestions are required:

- ❖ the Central Government must seriously take cognizance of the issue and regulate the trade in pet shops, and practices followed in dog breeding and aquarium fish breeding.
- ❖ More stringent punishments for violators of animal rights must be introduced under various relevant laws - increased quantum of punishment and increased fine.

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## CHAPTER 9

### THE EFFECT OF EXPANDING GREEN CARD HEALTH INSURANCE ON THE LABOR SUPPLY OF INDIVIDUALS

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# **THE EFFECT OF EXPANDING GREEN CARD HEALTH INSURANCE ON THE LABOR SUPPLY OF INDIVIDUALS<sup>3</sup>**

## **1. INTRODUCTION**

Disparities in access to health services and the health status of individuals are facts that are on the agenda of all countries. It is also known that those who experience such difficulties are primarily poor people. O'donnell et al. (2008) found that those with good economic status in low and middle-income countries use health services more. Flores et al. (2008) mentioned that poverty compels people to renounce the health services they need or seek treatment by selling valuable assets such as land, cars, and real estate. Policymakers have developed different methods to solve such problems. In this sense, expanding health insurance for poor people is one of these solutions. Therefore, it aims to facilitate low-income people's access to health services (Tirgil et al., 2018) and make the health outcomes of people from different socioeconomic levels more equal (Atun et al., 2013).

In the light of all these findings, the effects of health insurance reforms on reducing the inequities in the health status of individuals, the use of health services, and catastrophic health expenditures have been extensively studied in the relevant international and national literature (Xu et al., 2006; Finkelstein and McKnight, 2008; Wagstaff et al., 2009; Aran & Hentschel, 2012; Atun et al., 2013; Miller et al., 2013; Tirgil et al., 2018). For example, Miller et al. (2013) emphasize that increasing the access of poor individuals to health insurance in Colombia can protect them from catastrophic health expenditures to a certain extent, they benefit more from preventive health services, and there are positive developments in health outcomes (Miller et al., 2013). Another study conducted in the People's Republic of China examines the effect of insurance on catastrophic expenditures and finds results that being insured increases these expenditures (Wagstaff et al., 2009).

While providing health care to the poor is a policy goal with positive implications, there are also moral hazards that can come with it. Although the risk of being insured is abused in many areas in the economics literature (Hansen & İmrohoroğlu, 1992; Smith & Goodwin, 1996; Sapelli & Vial, 2003; Chetty, 2008), the impact of health insurance on employment status has not been adequately studied (Krueger & Meyer, 2002).

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<sup>3</sup> The paper was generated from the TUBITAK project numbered 119K567, titled "The impact of expanding health insurance coverage for the poor on individuals' social behaviors."

Individuals who want to have good state-sponsored health insurance may discourage seeking employment for this purpose (at the cost of not working and therefore remaining low-income). This situation may lead to a decrease in the income of families. According to this possibility, membership in such programs also paves the way for individuals to become more dependent on other state aids (McConnell, 1991; Yelowitz, 1996). Individuals' decreased incomes are expected to decrease government revenues and increase government spending on other aid programs.

This situation may bring important consequences, especially for developing countries such as Turkey. Therefore, the changes in the labor supply of individuals who benefit from the green card social insurance are examined in this study.

The Green Card health insurance, introduced in Turkey in 1992, was a form of social security established for poor households. However, in the years it started, it only covered the expenses for inpatient treatment services. Therefore, there was not much interest in this insurance among the needy (Menon et al., 2013). Such problems were addressed with the Health Transformation Program (HTP), which started in 2003. Equity was sought regarding access to health services, out-of-pocket expenditures, and health outcomes among individuals with different insurance coverage (World Health Organization, 2000; Akdağ, 2012). In this context, with the change in the regulation as of December 22, 2004, the costs of examination, analysis, dressing, tooth extraction, dental prosthesis, eyeglasses services, and medicines to be received by green card holders within the scope of outpatient treatment were started to be covered by the state (Atasever, 2014).

Studies on the green card social insurance, which has an important place in social transfers in Turkey, consisted of descriptive analyzes and correlation calculations between two related variables (Kaya and Bozkurt, 2011; Gürsel et al., 2009; Baran et al., 2010; Metin, 2011). Studies published in international journals on green card application and other types of insurance in Turkey have approached the problem of catastrophic expenditures, descriptive analyzes, and access to health services (Menon, 2013; Aran & Hentschel, 2012; Narci et al., 2015).

Based on all these studies, we can say that the literature has remained weak and shaped around certain countries. In addition, although current studies have examined the effects of health insurance for the poor on labor supply, this issue is also lacking in Turkey. In this study, the effect of the reform carried out as of 2005 on the labor supply of people benefiting from

green card health insurance was examined using the Household Budget Survey data published by the Turkish Statistical Institute (TurkStat) every year between 2005 and 2018. In this sense, the study will significantly contribute to the current literature in terms of its results. It will be a starting point for future studies in Turkey and other developing countries carrying out similar programs.

## **2. LITERATURE**

When we look at the literature examining the effects of health insurance on individuals' working preferences, studies are primarily conducted in developed countries. (Gruber and Yelowitz, 1999; Gruber and Simon, 2008; Baicker et al., 2014; Garthwaite et al., 2014). Studies for developing countries are limited in number and for certain countries (Barros, 2008; King et al., 2009; Bosch and Campos-Vazquez, 2014; Campos-Vazquez and Knox, 2013; Gasparini et al. 2007).

Garthwaite et al. (2014) investigated individuals' labor force status who lost their public health insurance. About 170,000 people lost their Medicaid insurance in 2005. The study's findings indicate that there have been significant increases in the workforce. Baicker et al. (2014) examined the effect of health insurance for low-income and currently uninsured households on individuals' labor force participation. The Oregon Health Insurance Experiment implemented in the US state of Oregon is vital in seeing the results of a similar Study implemented in a developed country. According to the findings of this study, health insurance does not negatively affect the labor supply of these people.

Baicker et al. (2014) argued that the reach of Medicaid health insurance to large masses and the effect of individuals on labor supply could be explained through several different channels: First, if the hypothesis is valid, people's health outcomes will improve due to insurance. It can be said that the participation of healthy individuals in the labor force will be higher. As this situation will increase families' income, there will be a decrease in the number of beneficiaries of the government's other low-income programs. Based on this theory, people's incomes will increase, Government revenues from income tax will increase, and people's demand for other aid programs (income transfer demand) will decrease (Baicker et al., 2014). Therefore, this situation will increase public revenues and provide financial relief in public resources by reducing public expenditures.

A limited number of studies for developing countries have been conducted in the relevant literature for certain countries. Barros (2008), in his study for Mexico, examined the effects of the Seguro Popular (SP) program, which was implemented in 2002, on labor supply. With the SP, the coverage of government-supported health insurance has been increased, and the poor people's access to more health services has been paved (King et al., 2009). In this study, the effect of changes implemented with SP on out-of-pocket health expenditures of the poor people was examined, and it was observed that there was a significant decrease in these expenditures. It was also found that SP did not affect labor force participation and earnings.

Another study examining the effects of SP on labor supply; found the effect of the reform on formal job creation to be negative (Bosch and Campos-Vazquez, 2014). The study states that this effect is mainly seen in small and medium-sized enterprises. Campos-Vazquez and Knox (2013) looked at the possible effects of SP on the formal labor market in large settlements. According to the study's findings, there is a weak relationship between the desire of employees to be in the formal or informal labor market and SP (Campos-Vazquez & Knox, 2013).

Another developing country, Argentina, implemented an important social program-Program Jefes de Hogar (PJH), in the shadow of the economic crisis it experienced in 2001. The program consisted of making conditional cash transfers to families with specific criteria (householder with children and unemployed, having the child at school). Gasparini et al. (2007) looked at the impact of PJH on the informal labor force during the economic recovery. According to the findings, If the cash transfer is higher than the salary in the official job, informality bias was found (Gasparini et al. 2007). The study observed that the employment rate among PJH members was lower for the former group when compared to the employment rate among PJH non-beneficiaries.

Studies on the green card social insurance, which has an important place in social transfers in Turkey, consisted of correlation calculations and descriptive analyzes between the two related variables. For example, under three different hypotheses, Kaya and Bozkurt (2011) analyzed the correlation between the number of green card holders and crime rate, unemployment, and per capita income using the Least Squares (Least Squares) method. Gursel et al. (2009) talk about the strengths and weaknesses of green card health insurance in their analysis. In another study, Baran et al. (2010) developed a

system to be used in the evaluation of green card applications. On the other hand, Metin (2011) examined the functioning of social assistance in his study.

Studies published in international journals on green card application and other types of insurance in Turkey approached the problem of catastrophic expenditures, descriptive analyses, and access to health services. Yardim (2010) examined the relationship between some characteristics of households and catastrophic health expenditures with the help of bivariate analysis. Menon (2013), on the other hand, examines Turkey's health reforms on the way to reaching universal health insurance while also mentioning the performance of the green card. Aran and Hentschel (2012) test whether the green card application works in terms of providing financial protection. Narci et al. (2015) analyzed the prevalence and determinants of catastrophic spending in their study. Studies also examine the effects on health financing, access to health services, and these services (Aran and Hentschel, 2012; Erus and Aktakke, 2012). In addition, studies on hospital efficiency have also been conducted (Sulku, 2011; Sulku and Bernard, 2012).

### 3. METHODOLOGY

Immediately after the reform in 2005, when the green card health insurance program for poor people in Turkey was expanded in terms of service diversity, the demand for this insurance increased significantly. By 2008, green card holders reached approximately 9.5 million (Aran and Hentschel, 2012; Menon et al., 2013). In this study, the question of how the labor supply of people benefiting from Green Card health insurance is affected has been investigated. The following section provides the Ordinary Least Squares method regression results.

#### 3.1. Ordinary Least Squares (OLS) method

The preferred method is an OLS regression analysis approach, frequently used in the related literature, and is an important benchmark for giving basic results and making comparisons with other methods (Greene, 2012).

The relationship between employment status and green card was examined within the linear model framework. For this purpose, the following OLS model was estimated:

$$y_{it} = \alpha_0 + \alpha_1 GreenCard_{it} + \alpha_2 X_{it} + \alpha_3 Year_t + \alpha_4 Region_r + u_{it} \quad (1)$$

The dependent variable is estimated as “employment status” in the above model. The main independent variable was constructed to express whether or not to have a green card. If the individual has a green card, this variable takes the value of 1. If it is uninsured, it takes the value 0. In order to increase the predictive ability of the main independent variable and reduce biases, information on the regional health infrastructure, which we think will represent the health status of individuals for each year and region, has also been added, as well as the socioeconomic factors of the controlled individuals and households ( $X_{it}$ ). Since TurkStat does not share general health status on a regional basis, we used data on regional health infrastructure. For example, the total number of hospital beds per 100,000 patients, the number of hospitals affiliated with the Ministry of Health, university hospitals in the region, and the number of specialists. Also,  $Year_t$  and  $Region_r$  fixed effects are added to all models.  $u_{it}$  variable represents the unobservable error term. Clustering is done while calculating standard errors in regression analysis. Since Green Card ownership occurs on a household basis, clustering occurs at the household level.

The dependent and independent variables used in the regression analysis were obtained from the questions directed to individuals and households in the Household Budget Survey data sets of TurkStat. In addition to these, some regional macro data were also included in the analysis—for example, regional unemployment rates, inflation rates, and GDP per capita. Employment status was the dependent variable in the models to be estimated.

An individual's employment status was obtained from the question that expresses the working status of the people in the survey month. For those who answered yes to the working status question in the survey month, this variable takes the value 1, and for those who say no, it takes the value 0. The linear regression model described above was used to estimate this dependent variable. We also examined this dependent variable of labor supply for different subgroups. In addition, individuals under the age of 65 and after 2005 were included in the analysis.

$X_{it}$ , in Equation 1 consists of independent variables such as gender, age, education level, marital status, the variable that expresses whether the person has a disease that will prevent her from working or not (in the form of Yes/No), regional unemployment rates, inflation rates, and GDP per capita. In addition, as we mentioned above, variables related to the region's health infrastructure are also included in the  $X_{it}$  vector.  $Year_t$  and  $Region_r$

variables included in Equation 1 in order to control the fixed effects and to reduce the bias that may occur in the  $GreenCard_{it}$  variable.

### 3.2. Instrumental variable method established over regional eligibility

Green card eligible rates according to years (2005-2018) and NUTS-2 (26 regions) level were used as an instrumental variable for the green card status of individuals living in that region in that year. The probability of having a green card between regions has been calculated. It is considered that these rates carry information about the probability of giving a green card to an individual in this region. Other studies argue that obtaining social insurance in certain regions is related to the insured status (with social insurance) of other individuals in the same region (See: Dave et al. 2015; Cutler and Gruber, 1996; Currie and Gruber, 1996).

If the region's average green card ownership variable were the instrumental variable, the validity of the exclusion restriction would be a problem. We make our judgment that a person can obtain a green card more easily due to the average eligibility in the region where the person lives. Namely, if many people have a green card in region X, it is considered that a person will get a green card more easily when he applies for the card. However, if fewer people have green cards in region Y, authorities evaluating the green card application might reduce their card issuance. Of course, since we predict that these rates in the regions will also be affected by time-varying region-level characteristics, including the unemployment rate and income level, we control those variables in our analysis.

$$GreenCard_{it} = b_0 + b_1Eligible\_Region_{rt} + b_2X_{it} + b_3Year_t + b_4Region_r + \gamma_{it} \tag{2}$$

We use the above model to estimate first-stage coefficients. Equation (2) is obtained by running the endogenous variable  $GreenCard_{it}$  on the instrumental variable  $Eligible\_Region_{rt}$ , the other control variables  $X_{it}$ ,  $Year_t$  and  $Region_r$  fixed effects.

In the descriptive statistics in Table 4.1, the mean values of the dependent and independent variables are reported. Averages are shared for two groups based on Uninsured and Green Card status. Total values are also given in the third column. The stars in the last column indicate whether there

is a significant difference between the values of the two groups. The analysis covers individuals under the age of 65 and 2005-2018. There are observable differences between the groups in terms of variables. Therefore, it is crucial to control these variables in the analyses.

**Table 1:** Descriptive statistics

	Uninsured	Green Card	Total
Employment status	0.498 [0.500]	0.434 [0.496]	0.464*** [0.499]
Primary school	0.621 [0.485]	0.762 [0.426]	0.703*** [0.457]
Middle school	0.197 [0.397]	0.176 [0.381]	0.185*** [0.388]
High school	0.143 [0.350]	0.052 [0.221]	0.090*** [0.286]
University or more	0.040 [0.195]	0.011 [0.102]	0.023*** [0.149]
Single	0.412 [0.492]	0.361 [0.480]	0.385*** [0.487]
Married	0.549 [0.498]	0.597 [0.490]	0.575*** [0.494]
Widowed	0.011 [0.106]	0.023 [0.150]	0.018*** [0.132]
Divorced or separated	0.027 [0.162]	0.018 [0.134]	0.022*** [0.148]
Female	0.450 [0.498]	0.506 [0.500]	0.483*** [0.500]
Age	25.537 [15.315]	22.576 [16.632]	23.791*** [16.170]
N	52891	76003	128894

Note: Standard deviations are in parentheses. \*p <0.05, \*\*p <0.01, \*\*\*p <0.001. Asterisks indicate whether there is a significant difference between the values of the two groups. The analysis covers individuals under 65 years of age between 2005 and 2018.

#### 4. RESULTS

Table 2 shows the effect of green card health insurance on individuals' labor supply. The models used are OLS and instrumental variable models. First-Stage coefficients of instrumental variable analysis and weak instrument variable test (F-test) statistics are also reported in Table 2 and all other tables. First-Stage coefficients in Table 2 indicate a positive and significant relationship between our instrument variable and health insurance. This result indicates that *Eligible\_Region<sub>rt</sub>* increases the probability of receiving a

green card for those living in that area. F-test results are also well above the desired rule-of-thumb value (10), proving that our IV variable is not weak. Therefore, we can say that one of the two conditions that the IV variable must meet is fulfilled. In other words, we can say that  $Eligible\_Region_{rt}$  and  $GreenCard_{it}$  are related. However, the second condition (exclusion restriction), which is necessary for IV to be considered valid, that  $Eligible\_Region_{rt}$  is unrelated to other variables that determine our dependent variables and cannot be tested. Our assumption is that  $Eligible\_Region_{rt}$  information is unrelated to the labor supply of individuals. In other words, the employment status of insured or uninsured individuals will not change with the effect of the regional insurance eligible ( $Eligible\_Region_{rt}$ ) variable.

According to Table 2, a person with a green card is less likely to be employed than a person without insurance ( $p < .05$ ). It is seen that those who are women participate less in labor market activities. A relationship between the person's marital status and employment was also examined. Those who have never been married were taken as the base group. It is seen that the employment status of the married people is higher than the reference group. Based on this result, we may say that individuals with a family have more responsibilities than never-married individuals. In addition, it is an important issue that stands out that divorced people are more likely to be employed than never-married individuals.

**Table 2:** The effect of health insurance on employment

	Employment -OLS	Employment -IV
Green Card	-0.015*** (0.005)	-0.257** (0.119)
Female	-0.360*** (0.004)	-0.349*** (0.007)
Age	0.005*** (0.000)	0.004*** (0.000)
Middle school	-0.007 (0.005)	-0.023** (0.010)
High school	-0.075*** (0.007)	-0.119*** (0.023)
University or more	-0.210*** (0.012)	-0.262*** (0.028)
Married	0.150*** (0.006)	0.157*** (0.007)

Widowed	0.012 (0.016)	0.044* (0.023)
Divorced or separated	0.095*** (0.014)	0.094*** (0.014)
Disabled for work	-0.395*** (0.008)	-0.346*** (0.026)
First-stage coefficient		0.350*** (0.056)
Weak IV test (F-test)		38.4929
R-squared	0.225	0.182
N	85502	85502

Notes: Standard errors are in parentheses and are clustered at the household level. \*p <.1, \*\*p <.05, \*\*\*p <.01. All models were adjusted for sample weights. Twenty-six regions (NUTS-2) and year fixed effects (2005-2018) were included in all models. Data on health infrastructure and other macro variables were controlled at the level of 26 regions. For example, the regional unemployment rate, regional inflation rate, regional GDP per capita, the total number of hospital beds per 100,000 people, the number of institutions affiliated with the Ministry of Health, the presence of university hospitals, and the number of specialist physicians were added in all models. The natural logarithm of GDP was included in all models. All monetary values are adjusted for inflation.

Table 3 reports the employment status of the household reference person. When the employment status of the household reference person holding a green card is examined, it is seen that the employment does not differ compared to the household reference persons who do not have insurance (considering the IV results). In addition, there are significant differences between OLS and IV results in terms of the significance of estimations. Therefore, we can say that using the IV method has been beneficial. First-stage coefficients reported for this sample are positive and significant. In addition, the first-stage F-test gives high results.

**Table 3:** The effect of health insurance on employment for the household reference person

	Employment -OLS	Employment -IV
Green Card	-0.014** (0.007)	-0.254 (0.180)
Female	-0.412*** (0.015)	-0.400*** (0.018)
Age	-0.004*** (0.000)	-0.004*** (0.000)
Middle school	-0.019** (0.009)	-0.048** (0.024)

High school	-0.082*** (0.011)	-0.125*** (0.034)
University or more	-0.176*** (0.027)	-0.228*** (0.047)
Married	0.167*** (0.022)	0.171*** (0.022)
Widowed	0.146*** (0.031)	0.177*** (0.039)
Divorced or separated	0.156*** (0.029)	0.161*** (0.030)
Disabled for work	-0.464*** (0.014)	-0.417*** (0.038)
First-stage coefficient		0.330*** (0.066)
Weak IV test (F-test)		25.0193
R-squared	0.221	0.163
N	22473	22473

Note: See Table 2.

Table 4 examines the labor supply of the spouse with a green card. According to the results in this table, the OLS and IV coefficients on employment status are negative and significant. In addition, this decrease is statistically significant compared to the insignificant point estimates in the labor supply of the household head (see Table 3).

**Table 4:** The effect of health insurance on employment for spouse

	Employment -OLS	Employment -IV
Green Card	-0.018** (0.009)	-0.466** (0.212)
Female	-0.322*** (0.040)	-0.325*** (0.044)
Age	0.006** (0.000)	0.006** (0.000)
Middle school	-0.080*** (0.013)	-0.117*** (0.023)
High school	-0.105*** (0.016)	-0.188*** (0.043)

University or more	-0.122*** (0.034)	-0.236*** (0.066)
Disabled for work	-0.241*** (0.017)	-0.163*** (0.041)
First-stage coefficient		0.365*** (0.069)
Weak IV test (F-test)		27.9103
R-squared	0.136	.
N	19781	19781

Note: See Table 2.

Table 5 presents the results of the effect of health insurance on employment for children living in the household. The comparison group here consists of uninsured children. What is surprising is that children with social insurance do not differ from uninsured children in their labor market activity. These results show that health insurance does not reduce children's labor supply. On the contrary, it may indicate that it is important for these kids to contribute to household income.

**Table 5:** The effect of health insurance on employment for children living in the household

	Employment -OLS	Employment -IV
Green Card	-0.025*** (0.008)	-0.105 (0.204)
Female	-0.178*** (0.007)	-0.171*** (0.019)
Age	0.013*** (0.001)	0.012*** (0.002)
Middle school	0.023*** (0.008)	0.019 (0.013)
High school	-0.064*** (0.010)	-0.077** (0.034)
University or more	-0.242*** (0.015)	-0.256*** (0.039)
Married	0.188*** (0.011)	0.194*** (0.018)
Widowed	-0.074 (0.074)	-0.062 (0.080)

Divorced or separated	-0.070*** (0.021)	-0.071*** (0.021)
Disabled for work	-0.411*** (0.013)	-0.392*** (0.051)
First-stage coefficient		0.309*** (0.077)
Weak IV test (F-test)		16.3314
R-squared	0.170	0.165
N	33676	33676

Note: See Table 2.

Table 6 examines the heterogeneous effects of social insurance on married individuals' employment status. It is interesting to note that the employment status of married individuals with social insurance is lower than those of married individuals without social insurance. Once again, our first-stage coefficient is high, and F-test provides high statistics.

**Table 6:** The effect of health insurance on employment for married individuals

	Employment -OLS	Employment -IV
Green Card	-0.010** (0.005)	-0.333** (0.132)
Female	-0.489*** (0.004)	-0.486*** (0.005)
Age	0.002*** (0.000)	0.002*** (0.000)
Middle school	-0.050*** (0.007)	-0.081*** (0.015)
High school	-0.079*** (0.008)	-0.136*** (0.025)
University or more	-0.186*** (0.021)	-0.260*** (0.038)
Disabled for work	-0.418*** (0.012)	-0.358*** (0.028)
First-stage coefficient		0.374*** (0.063)
Weak IV test (F-test)		35.62
R-squared	0.304	0.226
N	49085	49085

Note: See Table 2.

Table 7 shows the impact of health insurance for divorced or separated individuals with children. The results were not found significant. A possible explanation for this might be that divorced or separated individuals with children need to work to ensure their family income. Significant decreases are observed in the first-stage F-test and first-stage coefficients in Table 7. These results mean that the IV variable used is weak for this sample. Therefore, the results should be approached with caution. This result may be explained by the fact that the reduction in the number of observations may be the reason for the low F-test results, which leads to a loss of power (Miller et al., 2013).

**Table 7:** The effect of health insurance on employment for divorced or separated individuals with children

	Employment -OLS	Employment -IV
Green Card	0.007 (0.049)	4.498 (17.719)
Female	-0.168*** (0.056)	-1.130 (3.783)
Age	0.003 (0.003)	-0.016 (0.075)
Middle school	-0.021 (0.068)	0.380 (1.605)
High school	0.062 (0.069)	1.034 (3.853)
University or more	-0.126 (0.125)	0.371 (2.077)
Married	-0.253*** (0.083)	-0.937 (2.713)
Widowed		0.100 (0.401)
Divorced or separated		0.0622
R-squared	0.135	.
N	609	609

Note: See Table 2.

While Table 8 shows the labor market activity in urban areas, Table 9 shows the situation in rural areas for the same variables. According to the results in Table 8, individuals with a green card living in urban regions do not differ in terms of their employment compared to those without a green card. In other words, no significant difference between the two groups (those with insurance and without insurance in urban regions) was evident. Employment

in urban areas appears to be affected by other variables such as female, education level, age, marital status, and disability.

**Table 8:** The effect of health insurance on urban employment

	Employment -OLS	Employment -IV
Green Card	0.007 (0.007)	-0.125 (0.119)
Female	-0.443*** (0.006)	-0.439*** (0.008)
Age	0.003*** (0.000)	0.003*** (0.000)
Middle school	0.029*** (0.008)	0.019 (0.013)
High school	-0.032*** (0.009)	-0.059** (0.026)
University or more	-0.166*** (0.017)	-0.200*** (0.035)
Married	0.159*** (0.008)	0.166*** (0.010)
Widowed	0.099*** (0.028)	0.122*** (0.036)
Divorced or separated	0.181*** (0.023)	0.179*** (0.023)
Disabled for work	-0.331*** (0.014)	-0.303*** (0.029)
First-stage coefficient		0.510*** (0.098)
Weak IV test (F-test)		26.8199
R-squared	0.243	0.230
N	30117	30117

Note: See Table 2.

In Table 9, the results show that green card holders in rural regions do not differ from uninsured individuals in terms of labor supply. In other words, there was no evidence that social insurance has an influence on employment in rural areas. Similar factors (see Table 8) are of great importance in explaining employment status in rural regions. These findings suggest that people living in urban and rural areas need to be employed irrespective of insurance status.

**Table 9:** The effect of health insurance on rural employment

	Employment -OLS	Employment -IV
Green Card	-0.034*** (0.007)	-0.273 (0.204)
Female	-0.267*** (0.006)	-0.261*** (0.009)
Age	0.006*** (0.000)	0.005*** (0.001)
Middle school	-0.021** (0.009)	-0.030** (0.013)
High school	-0.039*** (0.013)	-0.074** (0.033)
University or more	-0.143*** (0.036)	-0.207*** (0.066)
Married	0.172*** (0.009)	0.189*** (0.018)
Widowed	-0.020 (0.028)	0.018 (0.043)
Divorced or separated	0.025 (0.031)	0.051 (0.040)
Disabled for work	-0.455*** (0.015)	-0.405*** (0.046)
First-stage coefficient		0.341*** (0.096)
Weak IV test (F-test)		12.7133
R-squared	0.234	0.188
N	28903	28903

Note: See Table 2.

## 5. CONCLUSION

Green card health insurance was introduced in 1992 for people outside the official health insurance plan. The general budget covers the expenditures made for the green card health insurance established for families in need below a certain income level.

When green card health insurance started to be implemented, it only covered inpatient treatment services in the first years. Those who wanted to benefit from outpatient treatment, diagnosis, and medicine services had to cover their expenses. By 2003, 2.5 million people benefited from this health insurance (Atun et al., 2012). By 2005, the insurance covered green card health insurance, especially due to changes in the health transformation program, outpatient treatment, diagnosis, and medication costs. The

government's expenditure of 1.2 billion TL in 2004 for green card holders reached 5.51 billion TL in 2009 (Atun et al. 2012).

Furthermore, while the number of people benefiting from green card health insurance was 6852000 in 2004, this number increased to 9647000 in 2009. There has been a significant increase in the number of people benefiting from the green card, coinciding with the health transformation program. The impact of this situation on the labor supply of green card holders remains to be evaluated.

Green card health insurance was put into practice to facilitate low-income people's access to health services, reduce out-of-pocket health expenditures, and improve health indicators to improve equity in health care. However, the relationship between green card health insurance and the labor supply of individuals was ignored in the literature. This present study provides the first comprehensive assessment of green card insurance on employment status.

According to the OLS results, there was a negative correlation between green card health insurance and individuals' labor supply. Taking into account the endogeneity of the insurance variable, our IV estimates found no effect of green card health insurance on employment. The analysis of employment undertaken here, has extended our knowledge of health insurance. The findings will be of interest to policymakers in developing new policies regarding the effect of health insurance.

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## CHAPTER 10

### MISCONCEPTIONS OF UNIVERSITY STUDENTS REGARDING THE CONCEPT OF EXERCISE

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## INTRODUCTION

Exercise is continuous activities that needs to be repeated in order to reach, develop or maintain planned, structured, voluntary and physical condition, to develop or maintain one or more aspects of physical fitness (Caspersen, Pereira and Curran, 2000; Haskell and Kiernan, 2000; Özer, 2013; Wilmore and Costill, 1994).

Exercise is, a) a physical or mental activity that you do to stay healthy or become stronger, b) a set of movements or activities that you do to stay healthy or develop a skill, c) use of the body or the mind that involves effort or activity, d) an activity or a task that trains the body or the mind (Exercise, n.d.; Hornby, 1995). On the other hand exercise is a practicing or skill acquired by repeating a particular action frequently; practical experience (Übung, n.d.).

A well-executed exercise program requires regularity. Exercise does not mean playing tennis for 3 hours at the weekends or running in the forest. Such unbalanced physical activities do more harm than good, they even increase the symptoms at work. Effective exercise is regular and enjoyable (Zorba, 2015). Also, the positive effect of exercise on the cardiovascular system, respiratory system, skeleton and muscular system is an undeniable fact (Günay, Tamer and Cicioğlu, 2013).

Concept teaching is included in every step of education. The individual perceives the outside world through concepts and embodies it. People transfer every phenomenon they gain through their sense organs to life as information with their interaction with the environment throughout their lives. This learned information is grouped through concepts and organized by associating (Karatekin and Elvan, 2016).

The relationship of concepts with themselves and other concepts creates an information structure in the human mind. For this reason, knowing the concepts with their correct meaning is of great importance in understanding scientific information (Canpolat, Pınarbaşı, Bayrakçeken and Geban, 2004).

It has been determined by the researches that individuals' understanding the new information with their prior knowledge hinders the interpretation of new information and even causes misconception (Baysen, Güneşli and Baysen, 2012; Özmen, 2005; Voska and Heikkinen, 2000).

Studies about misconceptions in the literature started with Karplus (1977) and Posner, Strike, Hewson and Gertzog's (1982) approaches based on conceptual change. Hewson (1981) and Posner et al. (1982) follow these steps

when a new concept is being structured in their study; First, if the individual's knowledge of the new concept is insufficient or compatible with the existing concepts in his mind, this new concept is structured together with the existing concepts. This first stage is called as 'assimilation' by Posner et al. (1982), 'conceptual capture' by Hewson (1981) and 'enrichment' by Vosniadou (1994). The second stage is that if individuals' existing concepts fail to grasp the new information, or if the new concepts are incompatible with their prior knowledge, individuals change or reshape their existing concepts. The second stage is called as accommodation by Posner et al. (1982), conceptual exchange by Hewson (1981) and revision by Vosniadou (1994). Misconceptions, created as a result of the interaction and experience of the person with his environment are cognitive structures that are far from being scientific (Canpolat, 2006; Eryılmaz and Sürmeli, 2002; Schmidt, 1997; Tekkaya, 2003). The misconception is not a mistake or a wrong answer given due to lack of information. The misconception is a state that fits a concept in the mind, but is scientifically different from the definition of that concept (Eryılmaz and Sürmeli, 2002).

The main reasons of misconceptions used rather than scientific meaning classified as; *student effects*: Lack of basic knowledge, prejudices, lack of motivation and interest, using spoken language in scientific fields; *teacher effects*: Insufficient subject information, classification of concepts, not paying attention to details; *effects of textbooks*: Content ranking, too many errors and incorrect information, lack of shapes and examples, lack of connection between topics (Aşçı, Özkan and Tekkaya, 2001; Griffiths and Preston, 1992; Haidar and Abraham, 1991; Nakhleh, 1994; Novick and Nussbaum, 1981; Stavy, 1988).

This misconception, which exists in all areas, also appears in the field of physical education and sports. When the literature is examined, although the concept of exercise in the society has different meanings, it is often perceived as sports (Akkoyunlu, 1996; Caspersen, Pereira and Curran, 2000; Mirzeoğlu, 2003). These are the result of the use of concepts in their narrow or broad meanings. For this reason, it is aimed to identify the preliminary knowledge that students acquired in educational settings or have about the concept of exercise before coming to this setting, and if they have any wrong and incomplete information.

## METHOD

### *Research Model*

Qualitative research approach, focusing on issues such as socially structured reality, close and intimate relationship between the subject or group studied and the researcher, how events and experiences emerged and how they are interpreted is used in this research conducted to determine the misconceptions of the students studying in physical education and sports departments regarding the concept of ‘exercise’ (Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel, 2015; Denzin and Lincoln, 2005). The most basic feature of the research approach is that it can see the subject under study from the perspectives of the individuals concerned and allows to reveal the social structure and processes that constitute these perspectives (Yıldırım, 2010; Yıldırım and Şimşek, 2016). In analyzing the problem status of this research one of the qualitative research approaches, embedded multiple case study which is suitable for the nature of the study is used (Creswell and Creswell, 2017; Yıldırım and Şimşek, 2016).

### *Study Group*

This study was carried out on 64 students studying in Faculty of Education, Department of Physical Education and Sports and School of Physical Education and Sports in Erzincan Binali Yıldırım University in the 2021-2022 academic year.

*The First Study Group:* The study was conducted, first of all, with 64 volunteers, 32 females and 32 males, in order to determine the perceptions of the participants about the concepts. The characteristics of the participants are shown in Table 1.

**Table 1.** The Characteristics of Students Participating in the Independent Word Association Test

<i>Participants</i>	<i>Variables</i>	<i>N / %</i>
Gender	Female	32
	Male	32
	Total	64
Age	Female	21,65
	Male	21,68
Faculty	Faculty of Education	32
	Physical Education and Sports Academy	32

	Total	64
Year	1st year	16
	2nd year	16
	3rd year	16
	4th year	16
	Total	64
High School of Graduation	Anatolian High School	21
	Sports High School	17
	Vocational High School	26

When the Table 1 is examined a total of 64 students, 32 female and 32 male who are the graduates of Anatolian High School (f:21), Sports High School (f:17), Vocational High School (f:16), and who are studying in the Faculty of Education (f:32) and School of Physical Education and Sports (f:32), first year (f:16), second year (f:16), third year (f:16) and fourth year (f:16) with an average age of 21.6 participated in the study.

*The Second Study Group:* In order to identify misconceptions, interviews were held with a total of 41 participants who were thought to have misconceptions about the concept of ‘exercise’ (PESM7, PESF10, PESF11, PESM11, FEF1, FEF10, FEF9, FEM11, FEF15, FEM16, FEF12, FEF14, FEM14, FEF3, PESM3, PESF9, FEF4, PESM1...etc.).

### ***Data Collection Method***

In this study using the "independent word association form" and "semi-structured interview form" as data collection tools, the cognitive structures and misconceptions of the participants regarding the concept of "exercise" are presented in detail. Information on data collection tools is provided below.

*Independent Word Association Form:* Especially in recent years, it is seen that independent word association test has been used in order to detect cognitive structure and misconceptions related to concepts in different fields (Ekici, Gökmen and Kurt, 2014; Işıklı, Taşdere and Göz, 2011; Kaya and Akış, 2015; Kurt and Ekici, 2013). Independent association test is one of the most common techniques related to concepts, used to analyze the cognitive structure of individuals and their inter-conceptual relations, that is, to analyze the information network, and to determine whether the relationships between the concepts in its long-term memory are sufficient (Hovardas and Korfiatis, 2006). The concept is presented to people as a stimulus and the

participants express the thoughts in their minds. In the study, the concept (exercise) was presented to the participants as a stimulus and they were asked to give the reactions that they matched in their minds.

Independent word association test consists of two steps. In the first step the participants are asked to write ten words that the stimulus word (exercise) brings to their minds in a certain period of time. This time is about 40 seconds for this study (Ekici et al., 2014 as cited in Gussarsky and Gorodetsky). The reason why the concepts are written one after the other is to prevent the risk of producing a different word related to the word that the concept evokes. Therefore, the concept has been repeated continuously. In the second step, within a period of 20 seconds, participants are asked to form a meaningful sentence from the words written about the concept that is stimulating. The aim is whether the participants can establish a meaningful relationship between words and whether there is a misconception in the definition they express.

*Semi-Structured Interview Form:* The semi-structured interview form, proposed by Bogdan and Biklen (2003), which allows participants to express their thoughts on a particular subject freely, was used to provide in-depth information in the research. The semi-structured interview technique is a technique that allows some changes in the interview in new situations that may not have been considered before and may arise during the interview. Before the interview form was created, a literature review was made on the subject and questions were prepared according to the purpose of the study. The questions in the interview form are given below:

- What do you think is the concept of (exercise)? What can you say about this concept?
- Are you sure of this definition you made?
- Why do you think in this way?
- Are you sure about your reason?

During the data collection process, attention was paid to participants' studying in different departments (Physical Education and Sports Teaching and Sports Management), and voluntary participation. Before starting the data collection process, the criteria of the participants to be included in the study group were determined. The data were collected in the place and timeframe that are suitable for the participants. By giving the necessary information on the subject, the participant was made to feel comfortable and prevented from

feeling questioned. It is stated that the study has two steps. As a result of the content analysis conducted, interview technique was used to test the cognitive structures of the concept with the participants who have the potential to have a misconception.

### ***Data Analysis***

Content analysis technique was used in the analysis of the data. Content analysis is the conceptualization of the collected data, and then the logical arrangement according to the emerging concepts and determining the theme that explains the data accordingly (Cohen, Manion and Morrison, 2007). The purpose of the content analysis is to identify and evaluate common information that is important for the study question in the large number of texts.

First of all, participant papers were examined in the analysis process, process steps such as, the papers that do not serve the purpose and are left missing are not subjected to analysis, obtaining the categories of the participants' papers (from PESM1 to PESM16, from PESF1 to PESF16, from FEM1 to FEM16 and from FEF1 to FEF16) taking into account the responses of the participants, distributing the responses based on codes into categories, operations regarding the validity and reliability of the findings obtained, creating a table of the data and interpretation of data were carried out.

The codes above refer to:

- PESM: Physical Education and Sports Academy-Male
- PESF: Physical Education and Sports Academy-Female
- FEM: Faculty of Education-Male
- FEF: Faculty of Education-Female

In addition, in order to get more detailed information about the concepts, the interview form created with the feedback of the experts as a result of the literature review was used.

When the literature is examined, researchers state that the three-phase test should be used to detect misconceptions. Three-step tests can provide more accurate results compared to tests in other structures, because they can clearly reveal the answers given by the individuals, their explanations and how confident they are. Since in three-phase tests, it can be concluded that there is a misconception when each stage is answered in favor of the misconception. It is considered as scientific information, if the participant confidently gives the correct answer at every stage, if the statement 'I am not

sure' is used, all the answers given in the first and second stages are considered as lack of information regardless of their accuracy. If the participant defines the concept correctly and makes a comment parallel to the error in the reason part, it is concluded as false positive, if s/he expresses the error in its definition and emphasizes with the correct explanations in the reason part, it is concluded as false negative (Eryılmaz and Sürmeli, 2002; Hasan, Bagayoko and Kelley, 1999; Hestenes and Halloun, 1995; Hestenes, Wells and Swackhamer, 1992). For this reason, the interview form used in the study was created in parallel with the three-phrase tests and in the interview form, in order to determine the misconceptions of the participants, they were asked to explain what the concept of "exercise" means, whether they are sure of the definition and why. In the analysis of the interview form, the steps of the process followed in the other data collection tool are included.

Before starting the data analysis, categories, indicators and functional definitions related to the concepts were determined. Indicators included in the identified definitions guided the researchers in expressing the concept of exercise under the correct category during the data analysis process. In Figure 1, the indicators regarding the concept of exercise are presented.



**Figure 1**

In Figure 1, the indicators that are frequently mentioned in the definitions of the concept (being systematic / planned, energy expenditure, repetition and frequency, having specific severity and intensity, physical therapy and rehabilitation, physical fitness) exercise are shown.

## **Reliability**

Yıldırım and Şimşek (2008) state that there is an internal and external reliability method in qualitative research. External reliability is, briefly, a detailed description of the entire planning of the study. Internal reliability is the analysis and interpretation without leaving the information specified within the theoretical framework of the study, to include another researcher in the research in order to be viewed from a different perspective, to protect the collected data reliably, to be impartial in every stage of the study, not to be directed according to the opinions of the participants and to pay attention to the sample size according to the purpose of the research. In order to increase reliability Miles and Huberman's (1994) formula 'reliability = number of agreements / total number of agreements + disagreements' was used in this study. The reliability coefficient was found 91 by two different encoders. As a result of the studies on the codes and explanations with disagreement, the codes that both coders reached a common opinion were written.

## **FINDINGS**

In the study, which was carried out in order to determine students' misconceptions about the concept of exercise, first of all, the potentials of participants to have misconceptions about these concepts were determined with the "independent word association test". Secondly, a semi-structured interview form was used. As a result of the independent word association test analysis, the existing errors of the participants, who were considered to have misconceptions, were examined. The findings are presented below:

**Table 2.** Elements in the Definitions of Students Regarding the Concept of Exercise

<i>Element</i>	<i>f</i>	<i>Element</i>	<i>f</i>	<i>Element</i>	<i>f</i>
health	20	flexibility	6	walk	3
warming	13	losing weight	6	disability	2
sport	11	life style	5	durability	2
training	11	time	5	education	2
running	10	tiredness	5	fat	2
stretching	10	cooling down	4	gym	2
physical activity	9	athlete	3	oxygen	2

movement	8	breath	3	power	2
nutrition	8	coach	3	promptness	2
regularity	8	exercise	3	relaxation	2
plan	7	program	3	severity	2
energy expenditure	6	spare time	3	skeleton	2

From the findings obtained in the independent word association test related to the exercise concept in Table 2 it has been seen that this concept includes definitions such as 'health, warm-up, training, sports etc.' by the students. When these factors are taken into consideration, it has been determined that participants can examine the concept of exercise with a single outcome and under two themes irrelevant to the concept. The categories and student expressions containing these two themes are shown in Table 3.

**Table 3.** Themes Regarding Students' Definitions Regarding Exercise Concept

<i>Categories</i>		<i>Student Expressions</i>
Having the Potential of Misconception about the Concept of Exercise		“They are the movements we do for a healthy body (FEM1)”.
	Defining the concept with a single outcome	“Exercise is the activity we do regularly for a healthy living (FEM3).”
		“Workouts that enable the development of various motoric features by making certain movements for a beautiful appearance is called exercise. (FEM10).”
		“They are the movements that the body constantly performs by increasing its capacity of flexibility. (FEF13).”

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	“It is all of the activities that man does without waiting for a power performance in daily life. (PESM7).”
	“Exercise is the activity that goes into oxygen limitation by spending energy during the training process (PESF10).”
	“Exercise is the activities in training in a sport (PESF11).”
	“Exercise is doing sports and spending good leisure time (PESM11).”
Defining	“It is the stretching work done before starting training (FEF1).”
irrelevant to	“Every movement is called exercise (FEF8).”
the concept	“Exercise is movements that can be done anywhere, without the condition of an environment (FEF10).”
	“All of the movements performed with relaxation and spending leisure time of a person are called exercise. (FEF9).”
	“They are the rests after training (FEM11).”
	“Exercise is done for some people to lose weight (FEF15).”

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In Table 3 the categories obtained as a result of content analysis related to the definition of the concept of exercise and the the participants' expressions about the concept are given. When the information in the table is taken into consideration, it is seen that the concept of exercise is expressed in two categories, with a single outcome and irrelevant to the concept. In addition, exemplary expressions of the participants' misconceptions regarding the exercise concept are presented in the table above. It is determined that the participants made incomplete, incorrect or unrelated definitions in explaining the concepts.

In the independent word association test, the participants were interpreted as having a cognitive structure that is far from conceptual and reality based on their expressions about the concept of “exercise”. However, the fact that the participants made explanations about the concept in this way does not show that it is a misconception. The error is determined as a result of the participants' having an unscientific perception about the concept and defending this view together with their reason. Therefore, in order to examine the cognitive structure of the participant in more detail, the interview

technique for the concept was used. In the data collection analysis carried out for this purpose, the examples of the interviews with the participants obtained for the concept of exercise are included.

The findings about the misconceptions and explanations determined as a result of the definitions and reasons that the participants made confidently about the concept of exercise are presented below:

*Exercise is to minimize athlete injury and regulate mental health. Because that's why I exercise (FEM16).*

*These are movements that can be done anywhere that does not require a certain time and place. Because this is the first thing that comes to my mind with exercise (FEF10).*

*Exercise is taking the nutrients necessary for the human body. Because this is necessary for a healthier life (FEF12).*

*Exercise is spending your leisure time well. Because I think it has a different meaning from the concept of sports (PESM11).*

*Every activity is exercise. Because all of the physical movements we do in daily life mean exercise (FEM11).*

*Exercise is the activities that one does with the aims of health, socialization, leisure time, etc. for a certain amount time. Because it does not have a goal that requires a definite result. It occurs for these purposes (FEF14).*

*These are the activities we do in the branches we are interested in with our body. I think so because it is made mostly to move our body (FEM14).*

*It is the happiness that created by different movements. Because I'm happy when I exercise (FEF3).*

*They are daily routines. Because exercise is all of the activities performed during the day (PESM7).*

*It is doing sports movements. Because exercise is done only with sports (PESM3).*

*Exercise is a lifestyle. Because if individuals perceive this as a life style, they feel more fit, happy and healthy (PESF9).*

*Exercise is a scheme that allows one to be more efficient in terms of health. Because exercise makes people healthy (FEF4).*

*It is all the work done to be better for any sport. Because we need to exercise while preparing for the competitions in all sports (PESM1).*

Findings on the examples of lack of information and their explanations detected as a result of the students' not being sure about the definitions they made about the concept of exercise are shown below:

*Exercise is movements in leisure time or daily. Because I think exercise is a leisure activity. But I'm not sure (FEF2).*

*Exercise is the training of the body. Because that's how it came to my mind for now, but I'm not sure if it sounded right or wrong (FEM15).*

*Doing various activities for physical development is called exercise. Because physical development are provided with the activities. But now I am not sure (PESM10).*

*It is both preparation for sports and having certain movements done for a specific purpose. It is like losing weight. Because when I hear the Word exercise, I think of repetitive and continuous purposeful movements but I'm not sure (FEF5).*

*Exercise is the sport for getting the body in shape. I am not sure but I know that every exercise is a sport (PESF1).*

The findings regarding the examples and explanations participants possess as a result of explaining the reasons and indicators about the concept of exercise with confidence are given below:

*It is the body movements that are done for the musculoskeletal system to gain health. Because it is necessary to move for health. For this, planned and purposeful movements are exercises (FEM9).*

*Exercise is the movements to strengthen the muscles in order to get back to the old form as a result of the injury or*

*not to be injured. Because when I was injured before, I received physical therapy and restored my health with exercises (FEM13).*

*It is the movements that are effective in the development of beautiful appearance and motoric features that physically and spiritually relieve the person, providing a healthy and quality life. Because the gains I got as a result of the exercise prescriptions I got were this way, I defined it this way (FEM10).*

*Exercise are the activities performed to improve or maintain the physical condition and gain health. I am aware of it because I do exercise and I have defined it in this way (FEF15).*

*It is the integrity of the movements that are made regularly in a planned way with a certain purpose to lead a healthy life. Because in my life I do the exercise for this purpose (PESF13).*

## **CONCLUSION AND DISCUSSION**

In the study, expressions that are thought to have the misconception that arise in the definitions made by the students about the concept of exercise were obtained through the independent word association test. The participants' misconceptions about the concept of exercise were determined through a interview which is the second phase of the study.

When the cognitive structures formed in the minds of the participants regarding the concepts are examined it was seen that 29.26% of them had scientific knowledge owing to the fact that they both gave a confident definition of the concepts and expressed it with the right reason and 58.55% of them were found to have misconceptions on account of their descriptions that are far from being scientific. It was determined that 12.19% of the students had a lack of knowledge due to the fact that they are unsure about the concept.

As a result of independent word association test related to the concept of exercise, 41 students whom thought to have a misconception were identified. As a result of the interviews made about the concept of exercise in order to determine the cognitive structures and misconceptions that occurred

in the minds of the participants, it was concluded that some participants (PESF15; PESM14; PESF10; PESM8; PESM15; FEM13; PESF13; FEM10; PESM16; FEF15; PESF16; PESF14) had scientific knowledge as no mistake was found due to their confident definitions about the concept. It was found that some of the participants (PESF1; FEF5; PESM10; FEM15; FEF2) had a lack of information as they are unsure about the definition of the concept of exercise. It has been determined that other participants had misconceptions as a result of making generalizations in their definitions regarding the concept, and they both made unscientific definition and defend it due to their defective and incomplete information.

As a result of the interviews with participants about the concept of exercise it was seen that some participants made such definitions: "Exercise is the sport for healthy life" by PESM2, "It is the healthy sport for getting the body in shape." by PESF1, "It is the sport for healthy life." by PESM4, "It is the sports movements." by PESM3, "Exercise is the activities performed in training." by PESF11 and "They are training done with certain rules and in discipline." by FEF6. It is thought that the participants' not having sufficient cognitive structure regarding the concept of exercise (Coştu et al., 2007), was the result of not establishing a relationship between different concepts and not associating them with everyday life. This shows that participants have the misconception as exercise is not a sport or training. Sports is a term that includes elements such as advertisement tool, financial gain, competition and rivalry, rules, referee, professionalism, audience (Kale, 2007; Konukman and Sezen, 2000; İnal, 2014). Training is a education process used to maximize the performance of athletes expressing the concept of sports (Sevim, 2007). It is thought that this misconception about the concept of exercise in the participant may be caused by reasons such as the expressions used in spoken language differ from the scientific literature (Bostan, 2008), individuals' being affected by the environment in which they live, individuals who have misconceptions in and around them make false explanations (Yağbasan and Gülçiçek, 2003), and false ideas and information given by mass media.

It was seen that some participants made such definitions about the concept of exercise as follows; "Exercise is basic movements such as running, cycling and walking." by PESM5, "Every physical activity done is exercise." by FEM11 and "Exercise is a daily routine" by PESM7. These statements of the participants show that they have misconception regarding the concept of exercise since these definitions made by students express the concept of

physical activity. Physical activity is all the body movements that result in energy expenditure.

Physical movement which is performed with energy consumption by using our muscles and joints in daily life can be defined as activities that increase heart and breathing rate and result in fatigue with different intensity (Korkusuz, 2009). Exercise, on the other hand, is an activity that is planned, structured and needs to be repeated in order to achieve, develop or maintain physical condition and is a subset of physical activity (Haskell and Kiernan, 2000). It is thought that this misconception of the participants about the concept of exercise is the result of not having sufficient cognitive structure, and the different concepts which are not associated with each other and not associated with daily life.

It was determined that these participants had the misconception of the concept as they defined the concept of exercise as follows; "Exercise is the movements that a person does in leisure time." by FEF9, "Exercise is spending leisure time well." by PESM11. Since exercise is not a recreation or a recreative activity. Exercise is a planned, structured and repetitive activity to achieve, develop or maintain physical fitness (Caspersen et al., 2000; Haskell and Kiernan, 2000; Özer, 2013; Wilmore and Costill, 1994).

In conclusion, the fact that students have more misconceptions show that they have incomplete or incorrect statements in their prior knowledge or mind as they use the concepts that are meaningfully different because they do not use theoretical knowledge and use them interchangeably with the idea that they have the same meaning. In addition, it can be concluded that individuals have the mistake as the concepts used in spoken language and mass media differ from the scientific literature.

According to the findings of this study, the following suggestions are included;

- The difference between the use of a concept in daily life and its scientific meaning must be explained to the students during the education period.
- Before starting education, the pre-concepts and misconceptions that occur in students' minds should be identified and their education programs should be shaped accordingly.

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