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EDITORIAL

Dear Readers,

We have introduced the 9th Volume of the journal with our first issue published in May 2023.

I would like to thank to the authors, referees, members of the editorial board and editors who took part in the publication process of the journal. See you in our next issues.

Greetings and regards.

Asst. Prof. Dr. Duygu TÜRKOĞLU
University of Health Sciences Turkey
Department of Management and Organization

EDİTÖRDEN

Sevgili Okurlar,

2023 yılı Mayıs ayında dergimizin dokuzuncu cilt birinci sayısını sizlere sunmuş bulunuyoruz.

Yayın sürecinde yer alan yazar, hakem, yayın kurulu üyeleri ve editör arkadaşlarıma teşekkür etmek isterim. Sonraki sayılarımızda görüşmek üzere.

Selam ve saygılarımla.

Dr. Öğr. Üyesi Duygu TÜRKOĞLU
Sağlık Bilimleri Üniversitesi
Yönetim ve Organizasyon Bölümü

The Threshold Effect of Public and Internal Debt on Economic Growth: The Case of Kenya*

Kamu ve İç Borçların Ekonomik Büyüme Üzerindeki Eşik Etkisi: Kenya Örneği

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Abstract

This paper investigates the presence of the threshold effect of public debt and internal debt on economic growth in Kenya for the period 1970-2018. The Smooth Transition Regression model of analysis is used to analyze the effect of public and internal debt on growth. The findings of the study indicate that the threshold level of internal debt in Kenya is 17.3115% implying that domestic debt positively impacts economic growth when this threshold level is exceeded. The public debt threshold estimate is 33.29% and growth is positively affected when public debt exceeds this level. The results of this study imply that public and internal debt have a U-shaped relationship with the economic growth rate in Kenya and that the rate of economic growth is dependent on the amount of debt owed by the country. These results imply that there is a need for appropriate policy actions on more productive use of debt to ensure economic growth.

Keywords: Public Debt, Internal Debt, Economic Growth, Threshold Level of Debt.

Öz

Bu çalışma 1970-2018 dönemi için Kenya'da kamu borcunun ve iç borcun ekonomik büyüme üzerindeki eşik etkisinin varlığını araştırmaktadır. Kamu ve iç borcun büyüme üzerindeki etkisini analiz etmek için Smooth Transition regresyon modeli kullanılmaktadır. Çalışmanın bulguları, Kenya'da iç borç eşik seviyesinin %17,3115 olduğunu ve bu eşik değer aşıldığında iç borcun ekonomik büyümeyi olumlu etkilediğini göstermektedir. Kamu borç eşik tahmini %33,29'dur ve kamu borcu bu seviyenin üzerine çıktığında büyüme pozitif etkilenmektedir. Bu sonuçlar Kenya'da kamu ve iç borcun ekonomik büyüme ile U-şeklinde bir ilişkiye sahip olduğuna ve ekonomik büyüme oranının ülkenin borç miktarına bağlı olduğuna işaret etmektedir. Bu sonuçlar, ekonomik büyümenin sağlanması için borcun daha verimli kullanılmasına yönelik uygun politikalara ihtiyaç duyulduğuna işaret etmektedir.

Anahtar Kelimeler: Kamu Borcu, İç Borç, Ekonomik Büyüme, Borç Eşik Değeri.

* This paper has been derived from the master's thesis of the first author titled "Three Essays on Debt, Income Inequality and Economic Growth" conducted at Eskişehir Osmangazi University under the counseling of the second author.

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The Threshold Effect of Public and Internal Debt on Economic Growth: The Case of Kenya

Debt is important for developing countries owing to their constrained number of creditors, inefficient resources, and inadequate investments which are unable to finance their budget deficits (Babu et al., 2015). On the other hand, excessive borrowing could lead to crowding out, low investment, slowed growth and reduced productivity in these economies. (Kasidi & Said, 2013; Matiti, 2013; Umaru et al., 2013). The impact of debt, both public and internal, on growth rate varies from one country to another depending on their initial debt accumulation and how the debt is used. In recent years, Kenya's public debt has been on the rise reaching 61.1% of GDP in 2019 (Ministry of Finance, 2019, p.13) up from 43.8% in 2007 (Ministry of Finance, 2008, p. 5). Kenya's external debt is sourced from institutions like IMF, World Bank, from other donor countries like China and France while internal debt is mainly obtained from the sale of treasury bills and bonds. These debts have been used to finance various structural projects in the country like Standard Gauge Railway (SGR) which seeks to improve transportation in the country and building of other public roads and stadia. However, the rapid increase in public debt levels raises questions among many Kenyans who are not quite sure about the implications placed by the high debt amounts on them and their future generations. While some believe that the investments will pay off and improve the country's economic condition, others believe that their future generations will have to deal with increased living costs. Therefore, it is considered that it is important to perform a threshold analysis on Kenyan public debt data in order to determine the debt threshold level and its possible impact on the economic growth rate.

Numerous studies examine the effect of a threshold value of debt on growth for both developing and developed countries (Caner et al., 2010; Mensah et al., 2019; Ndoricimpa, 2020; Reinhart & Rogoff, 2010; Topuz & Sekmen, 2019). These studies conclude, however, that the threshold value of debt varies from one country to another depending on a country's characteristics and the method of analysis used. Therefore, it seems that it is important to perform a threshold analysis on Kenya's public debt data in order to determine the debt threshold level and its possible impact on the economic growth rate. To the best of our knowledge, there are no previous studies conducted to confirm the existence of debt threshold in Kenya and therefore this study is expected to contribute to the existing literature.ⁱ Furthermore, it is necessary to examine public debt and internal debt because previous studies have neglected these two and focused mostly on external debt. Since external debt is not the only source of debt in Kenya, the effect of internal and public debt is also examined separately. Different from the previous studies about Kenya on debt and growth relationship, this study will use a different methodology which allows for a smooth transition of the variable coefficients across different regimes. This follows the results of the linearity test which indicated that the debt and growth relationship in Kenya is best captured using a nonlinear model. The current study provides an analysis of the threshold effect of public debt to GDP ratio on growth and the threshold effect of internal debt to GDP ratio on growth in Kenya for the period 1970-2018.

The study consists of six sections. The second and third section presents the relevant theoretical and empirical literature. The fourth section details the methodology. The fifth section includes data set and the analysis of the results and the last section includes the conclusion and policy evaluations.

Theoretical Literature on Public Debt and Growth

Adam Smith addresses the issue of public debt in the last chapter of his book 'An inquiry into the nature and causes of the wealth of Nations' where he states that public debt and taxes are necessary evils because an economy should ideally operate a balanced budget. Households and businesses in many economies are already struggle with high tax rates and should not be overburdened with increased debts. The debts contracted today are just postponed taxes because of future repayment obligations

alongside the high-interest payments. Debts are seen to be a way in which funds are transferred from the productive class of the society to the less productive class and this reduces economic growthⁱⁱ. The government when given easy access to debt whenever money is needed will soon stop saving on account of the available lenders (Smith, 1776, pp. 910-911). On the other hand, John Stuart Mill argues that debt should be taken only if it will be invested in productive activities or taken from the savings available in the economy so as not to reduce the investment levels. Loans are therefore not entirely bad, and they only become 'evil' once they lead to very high interest rates and by an extension lead to the exclusion of the private sector from actively participating in growth activities. Economies should thus embark on debts if they have surplus amounts of funds with which to settle the debts. This would be useful in preventing over taxation and its associated negative effects on disposable income and welfare (Mill, 1885, p. 687).

David Ricardo's views are not entirely different from those of Adam Smith. He argues that debt among other factors can cause a disturbance to an otherwise flourishing economy that is at equilibrium. Debt is considered an 'evil' that interferes with businesses and the economy as a whole. Unlike Adam Smith who argues that an economy should take debts in the event of war, Ricardo thinks that people should be taxed highly to settle the burden that comes with war rather than resorting to debts. Another undesirable effect of public debt is that it leads to capital flight as it causes the movement of many capitalists from their native homes to invest and live abroad for fear of future high taxes which will cripple their businesses. He mostly argues for taxation as a means of raising revenue in place of debts (Churchman, 2001).

John Maynard Keynes has a different view from the classical economists because he views debt as a fiscal stabilizer that revamps the economy, especially during recessions by boosting aggregate demand. According to the Keynesian school of thought, the economy usually grows through the multiplier effect whereby one person's expenditure is seen as the source of another person's income, and in this way, the economy is rejuvenated when consumption and expenditures increase. When debts are contracted, it is possible to increase people's income and by extension their consumption, and as a result, growth is experienced in the economy. Keynes argued that tax is not as effective as debt in rejuvenating the economy because taxation reduces disposable income thereby reducing consumption. Keynes, therefore, suggests that debt is not entirely bad as posited in the classical school of thought as it may encourage growth.

The debt overhang hypothesis which is put forward by Myers (1977) is formulated to explain a firm's financing options but has since been extended to explain the options in financing an economy through debt. By applying this concept to high indebted countries, Krugman (1988) shows that when a country cannot finance its debt obligation, the debt is likely to be reprofiled or defaulted. High indebtedness is likely to lead to reduced economic growth occasioned by low investment due to the crowding-out effect and high debt servicing. A country is thus said to have reached debt overhang when it is spending much of its income on debt repayment rather than on activities that encourage economic growth. Also, debt overhang is likely to affect the total factor productivity negatively further reducing growth rates (Hwang et al., 2010).

Recently, aside from the theories discussed above, a new school of thought has emerged which redefines the debt and growth relationship as being nonlinear and dependent on the level of debt to GDP ratio in the economy. This school of thought became popular after the financial crisis of 2009 and since then many studies have been conducted to find the threshold debt level for different economies. After Reinhart and Rogoff (2010) published their seminal work in which they showed that only a debt to GDP ratio of 90% and above impacted negatively on the growth of selected economies, many studies have since used it as a benchmark to arrive at different threshold levels for various economies.

Empirical Literature on Public Debt and Growth

The national debt values in many countries, both developing and developed, have been on the rise since the early 1980s. This was after the great recession of the 1970s where countries were borrowing to offset the undesirable effects of the recession. The growth in debt, however, has been accompanied by economic growth in some countries and periods of stagnation and slow growth in others (Watson & Regling, 1992). Previous studies analyzing the relationship between public debt and economic growth have been unsatisfactory and failed to reach a clear conclusion. Authors have provided mixed evidence with some reporting the positive impact of debt on growth, others negative impact, non-existence of any relationship, and yet others the existence of a non-linear relationship between debt and growth. These results depend on the sample size, sample period, and method applied in the study.

In support of this view, many empirical studies suggest that debt cannot improve economic growth. Ehikioya (2012) indicates that domestic debt has a negative effect on economic growth in Nigeria for the period 1980-2009. Munzara (2015), Kasidi and Said (2013), Rais and Anwar (2012) use external debt data and examine the impact of external debt on the growth process for Zimbabwe, Tanzania, and Pakistan, respectively. A negative relationship is claimed to exist between the variables and therefore policies to mobilize more resources and reduce overdependence on external aid should be encouraged in these countries. Similarly, the findings of Umaru et al. (2013) indicate that external debt has a negative effect on the economic growth rate, but domestic debt impacts positively on economic growth. Therefore, the authors claim that domestic debt is a more reliable source of funds in Nigeria as compared to external debt. Babu et al. (2015) state that the role of domestic debt on GDP growth in East Africa is positive using data for the period 1990-2010. Owosu-Nantwi and Erickson (2016) also argue for the existence of a positive relationship between public debt and economic growth in Ghana based on results from data for the period 1970-2012. Similar to our study, Mwaniki (2016), Ngugi (2016), and Kimtai (2019) examine this relationship for Kenya and show that domestic debt positively affects growth and external debt negatively affects growth. However, Kimtai (2019) finds no evidence of a significant relationship between external debt and growth. On the other hand, Umaru et al. (2013) point out that the impact of external debt on growth is positive in the long run for transition economies for the 1991-2010 period. Therefore, it can be said that the positively sloping side of the debt-Laffer curve is valid for transition countries. Unlike other studies, Pegkas (2018) focuses on the issue of the break effects between debt and economic growth in Greece. Authors claim that this relationship depends on the debt breaks. When structural breaks models are observed, and evidence is found in favor of a negative relationship between debt and growth. Matiti (2013) concludes that external debt is a cheaper source of finance than domestic debt in Kenya.

The proponents of the existence of a non-linear relationship between debt and growth become popular after the 2008 recession. The existence of an inverted U relationship between debt and growth is observed in some countries. While before debt values reach the threshold value the relationship is positive and when the debt to GDP ratio exceeds the threshold level is negative. This threshold value changes from one country to another.

Doğan and Bilgili (2014) in an analysis of the nonlinear impact of external debt on growth uses the data set for the period 1974-2016 for Turkey. The results indicate that debt and growth do not follow a linear pattern of relationship and this changes for different regimes of debt. Other variables like investment and human capital were found to affect growth positively in all the regimes. Markov switching regime model was used in the analysis.

Although limited, there are studies on the threshold effect of debt on growth, especially for low-income developing countries. Ndoricimpa (2020) ascertains a threshold level of 62-66% for the African countries. On the other hand, Chudik et al. (2015) fail to establish the existence of a single threshold

value for all the 40 countries analyzed in their study. This is because countries are all different with special characteristics and economic conditions responsible for their debt positions.

In a study aimed at analyzing the threshold debt level that discourages growth in Africa, Mensah et al. (2019) find that most countries in Africa have a threshold value of between 20-50% of debt to GDP ratio. This study is important because it represents the threshold effect of African countries which is lower than the 90% threshold value established for developed countries by Reinhart and Rogoff (2010). Caner et al. (2010) establish the threshold level which is at 64% debt to GDP ratio for developing countries. Veiga, Ferreira-Lopes and Sequeria (2016) find that Sub-Saharan countries achieve the highest growth rate when the public debt to GDP ratio is about 30-60%. These papers help put forward the idea that the threshold effect of debts exists for both developed and developing countries.

Other researchers like Topuz and Sekmen (2019) and Chudik et al. (2015) highlight the fact that public debt could have a negative impact on growth both below and above the threshold. The latter study uses 40 countries including both developed and underdeveloped economies while the former uses data belonging to OECD countries. These results point out that there is no one size fit all for all the countries for the public debt to growth relationship.

In a more specific study on South Africa, Baaziz et al. (2015) analyze the effect of public debt to GDP ratio using the Smooth Transition method. The results indicate the presence of the debt threshold at 31.37% of debt to GDP ratio. Beyond this point, debt has a negative effect on GDP. A similar study was conducted for a panel of countries by Ueshina and Nakamura (2019) using the endogenous growth model. The authors analyze the debt in different levels including household level, debts owned by firms, and government debts. The inverted U relationship is found to exist when the government finances public investment through issuing of new bonds. But the bonds should not exceed the current public investment level.

Eberhardt and Presbitero (2015) find heterogeneous public debt and growth relationships among countries with some countries exhibiting the existence of an inverse U-shaped relationship between public debt and growth with others having U shaped relationship between public debt and growth. Presbitero (2012) finds that for developing countries, when the threshold value of public debt is below 90%, a negative debt to growth relationship is observed.

Egert (2013) conducts an analysis to prove the postulation of Reinhart-Rogoff's study. Four different thresholds were chosen at 30 percent debt level, between 30 and 60 percent, between 60 and 90 percent, and above 90 percent. The linear models for the different regimes were obtained but they failed to prove the 90 percent threshold level proposed by Reinhart-Rogoff.

Studies by Okiro and Murungi (2018) and Mweni (2014) provide no conclusive evidence on the existing relationship between public debt and economic growth indicating that debt and growth relationships are not a one size fit all, the relation varies from one country to another depending on the country's policies, level of development, and what use the debt amount is subjected to. Similar results are obtained by Lof and Malinen (2013) in an analysis of 20 developed countries for the period 1954-2008 using the VAR model. In a causality analysis, Njoroge (2015) finds no evidence of the existence of a causal relationship between public debt and economic growth for Kenya.

Methodology

The relationship between debt and economic growth is analyzed using the Smooth Transition Regression model.ⁱⁱⁱ The term "smooth transition" first is suggested by Bacon and Watts (1971). The authors suggest a model in which the transition from one extreme linear regime to another is smooth. The STR model, which provides the opportunity to determine nonlinearity, and the basic framework of this model are presented in detail by Terasvirta (1998).

The standard nonlinear STR model is as follows:

$$y_t = x_t' \varphi + (x_t' \theta) G(\gamma, c; s_t) + u_t \quad (t = 1, \dots, T) \quad (i)$$

Where $x_t = (1, x_{1t}, \dots, x_{pt})' = (1, y_{t-1}, \dots, y_{t-k}; z_{1t}, \dots, z_{mt})'$ $p = k + m$ is a vector of explanatory variables, while $(\varphi = \varphi_0, \varphi_1, \dots, \varphi_p)'$ and $(\theta = \theta_0, \theta_1, \dots, \theta_p)'$ are parameter vectors. u_t is the error term. $G(\gamma, c, s_t)$ is a continuous function of the transition variable s_t . The STR model allows for switching between regimes but is limited to one or two regimes only. The choice of variables to include in the model is backed up by economic theory while the threshold value is not chosen by the researcher.

There are different definitions for G in the literature. One of them is as follows:

$$G_1(\gamma; c, s_t) = (1 + \exp\{-\gamma(s_t - c)\})^{-1}, \quad \gamma > 0 \quad (ii)$$

Equations (i) and (ii) above jointly define the Logistic STR model of the LSTR1 model. The parameters of the LSTR1 model change monotonically as a function of s_t . Parameter γ controls the slope while c is the determined location parameter and indicates where the transition occurs. When $\gamma = 0$, the transition function is $G_1(\gamma; c, s_t)$ equal to $1/2$, and thus the STR model (i) includes the linear model. On the other hand, when $\gamma \rightarrow \infty$, the LSTR (1) model approaches the switching regression model with two regimes having equal variances. On the other hand, if the transition function is as follows:

$$G_2(\gamma, c; s_t) = (1 + \exp\{-\gamma(s_t - c_1)(s_t - c_2)\})^{-1}, \quad \gamma > 0, \quad c_1 \leq c_2 \quad (iii)$$

Equations (i) and (iii) above jointly define the Logistic STR model of the LSTR2 model. When $\gamma \rightarrow \infty$ in the LSTR (2) model, the result is another switching regression model with three regimes such that the outer regimes are identical, and the mid regime is different from the other two. An alternative to the LSTR (2) model is called the exponential STR (ESTR) model. It is (i) with the transition function:

$$G(\gamma, c; s_t) = 1 - \exp\{-\gamma(s_t - c)^2\}, \quad \gamma > 0 \quad (iv)$$

Modeling of an STR model consists of three stages namely specification, estimation, and evaluation. In the specification, a linearity test is conducted on the variables to determine whether their relationship is best specified using a linear model, STR model with one regime, or STR model with two regimes. As already stated above, the choice of variables is influenced by economic theory as only those variables which have been consistently shown to affect growth are included but the value of the threshold and number of regimes is determined in the model (Terasvirta et al., 1994). Another way in which the appropriate regime can be chosen is with Taylor expansion under the null $\gamma = 0$. This specification produces the function below (Terasvirta, 1998, p. 514).

$$y_t = x_t' \delta_0 + (x_t' s_t)' \delta_1 + u_t^* \quad t = 1, \dots, T \quad (v)$$

where: $u_t^* = u_t + (x_t' \theta) R_1(\gamma, c; s_t)$, δ_1 is a $(p + 1) \times 1$ parameter vector.

For univariate models, the appropriate lag selection is important for the reliability of results. If the linearity relationship fails to be rejected in this step, then the nonlinear model cannot be specified and so the researcher proceeds with an appropriate linear model selection. If, however, the linearity relationship is rejected, an appropriate nonlinear model is then specified.

The specification of an LSTR (1) or LSTR (2) model can also be dependent on equation (v). the coefficient vectors $\delta_j, j = 1, 2, 3$ are functions of the parameters of the original STR model and these vectors depend on the type of the model. When $c = 0, \delta_2 = 0$, and the model is LSTR (1). When $\delta_1 = \delta_3 = 0$, the model can either be LSTR (2) or ESTR model. The model can still be classified as LSTR (1) model when δ_2 is closer to the null vector than δ_1 and δ_3 . The summary of this alternative test is presented below:

- a) Test the hypothesis $H_{04}: \delta_3 = 0$
- b) Test the hypothesis $H_{03}: \delta_2 = 0 / \delta_3 = 0$
- c) Test the hypothesis $H_{02}: \delta_1 = 0 / \delta_3 = \delta_2 = 0$

In the above hypotheses, if (b) yields the strongest rejection based on the probability values then LSTR2 or ESTR model is preferred. LSTR (1) is preferred in the remaining cases (a) and (b) above having stronger rejection values based on their respective probabilities. This alternative procedure is specified by Terasvirta (1994) and is equally effective in deciding the more appropriate model between LSTR (1) and LSTR (2). H_{04} is tested by F_4 , H_{03} by F_3 , and H_{02} by F_2 . Based on the results, the appropriate model is selected, and estimation is then conducted by use of conditional maximum likelihood estimation. Different parameter values are chosen and the one which minimizes the residual sum of squares is then presented. The appropriate model is specified based on the chosen values of c and γ .

Data and Empirical Results

In this study, Annual data is used for the period 1970-2018. The dependent variable is the annual GDP growth rate while public debt to GDP ratio and internal debt to GDP ratio are the threshold variables.^{iv} The other control variables that are used include human capital, trade openness, inflation, and investment rate are factors that affect growth^v. Table 1 presents a brief description of the data and the sources.

Table 1

Summary Statistics and Data Source

Variable	Data definition and Sources	Obs	M	SD	Min	Max
GDP growth rate (GDP gr rate)	The annual percentage growth rate of GDP/ WDI data	49	4.593	4.16	-4.65	22.17
Public Debt (PD_GDP)	Public Debt (%GDP)/ KNBS data	49	53.16	20.32	26.81	120.60
Internal Debt (ID_GDP)	Internal Debt (%GDP)/ KNBS data	49	22.58	6.417	12.49	39.49
Inflation (Inf)	Inflation data in percentages/ WDI data	49	11.76	8.07	1.55	45.97
Investment (Inv)	Investment (%GDP)/ Theglobeconomy.com	49	20.61	3.33	15.00	29.79
Trade Openness (TO)	Trade openness (sum of exports and imports as a function of GDP)/ The globaleconomy.com	49	56.64	8.38	36.15	74.57
Human Capital (SSE)	Human economic capital (Secondary school enrolment %gross)/ The globaleconomy.com	49	40.98	15.21	16.43	70.30

Before examining the STR model, unit root test is applied to determine the stationary of variables. Following this purpose, the conventional unit root test, ADF, is conducted together with the Zivot Andrews breakpoint unit test, and KPSS. This is because the ADF unit root test has been criticized for not being able to distinguish between persistent stationary process from non-stationary process clearly. Subjecting the variables to more than one-unit root test is important in overcoming the shortcomings of each test. These tests are applied for all variables. The results are presented in Table 2:

Table 2*Unit Root Test Results*

Variable	Test statistic	Level		First Difference	
		Intercept	Intercept and Trend	Intercept	Intercept and Trend
GDP_gr_rate	ADF	-5.54***	-5.69***	-11.96***	-12.03***
	ZA	-3.65	-4.65	-6.30***	-6.37***
	KPSS	0.2070	0.1656**	0.2249	0.1634**
PD_GDP	ADF	-1.8683	-1.7720	-6.8585***	-6.8346***
	ZA	-2.8907	-4.2129	-8.2614***	-8.1749***
	KPSS	0.2184	0.1913**	0.1168	0.0668
ID_GDP	ADF	-2.4524	-2.4317	-8.1951***	-8.1158***
	ZA	-5.186**	-6.9746***	-9.3019***	-9.4139***
	KPSS	0.2205	0.1478**	0.0853	0.0632
Inf	ADF	-3.97***	-4.07**	-7.28***	-7.28***
	ZA	-5.10**	-5.419**	-8.18***	-8.0782***
	KPSS	0.4032*	0.2482***	0.0208	0.0093
TO	ADF	-2.2899	-3.2297	-7.9714***	-7.9425***
	ZA	-4.1750	-4.2652	-6.5844***	-6.5722***
	KPSS	0.5380**	0.0778	0.1285	0.0818
Inv	ADF	-3.79***	-4.41***	-10.08***	-9.97***
	ZA	-6.2332***	-6.4042***	-7.0395***	-6.9665***
	KPSS	2.1609***	0.3651***	0.0208	0.0190
SSE	ADF	-0.0549	-1.7534	-7.6540***	-7.9425***
	ZA	-3.0624	-3.1028	-8.2547***	-8.1922***
	KPSS	0.8570***	0.1150	0.0966	0.0704

Note. ***, **, and * indicate statistical significance level at 1%, 5% and 10%, respectively.

The results of the unit root tests conducted in Table 2 indicates stationarity for most of the variables. Inflation and Investment are found to be stationary at level for all the tests conducted. GDP growth rate is stationary for ADF and KPSS. Public debt is found to be non-stationary in the tests except for KPSS. Internal debt and human capital are stationary for ZA and KPSS while trade openness data is stationary for KPSS only. Taken together, these results prove that all the variables were found to be stationary in at least one test.

STR Regression

Before the application of an STR model, a linearity test should be conducted to ascertain whether public debt and GDP growth rate are best defined by a linear or nonlinear relationship. The results are presented in Table 3.

Table 3*Linearity Test on the Transitional Variables*

F stat	PD_GDP	ID_GDP
	P- value	P- value
F	4.7855e-04	7.7901e-05
F4	1.5821e-02	5.2807e-02
F3	2.0882e-01	5.8258e-03
F2	1.0750e-03	1.0734e-03

Based on the results obtained in Table 3 the F values reject the linearity relationship for both internal and public debt Both public debt and economic growth relationship and internal debt and economic growth relationship in Kenya for the period under study is nonlinear and best described by an LSTR (1) model which is preferred when F2 and F4 are more strongly rejected. The model is thus estimated as shown in Table 4:

Table 4*Results for the LSTR Model*

Variable	PD_GDP growth		ID_GDP growth	
	Coefficient of Linear Part	Coefficient of nonlinear part	Coefficient of Linear Part	Coefficient of nonlinear part
GDP_gr_rate(t-1)	-1.2541* (0.7068)	2.2976* (1.3083)	-0.9686* (0.5821)	1.7401* (1.1116)
Inf(t)	-1.5164*** (0.3390)	1.8116*** (0.600)	-0.9286** (0.3278)	0.8752* (0.4722)
PD_GDP(t)	-2.1670** (1.0637)	1.4856** (0.7233)	-	-
ID_GDP (t)	-	-	-8.2886*** (2.7307)	6.4160*** (2.5241)
SSE	-0.4025* (0.2330)	0.6667* (0.4072)	-0.1417 (0.2360)	0.3243 (0.3546)
Inv	0.1910 (0.7827)	0.00617 (1.0946)	0.3384 (0.6621)	-0.0949 (1.0474)
TO	-0.5895 (0.5397)	0.9147 (0.7034)	-0.7625** (0.3873)	1.1621** (0.5178)
Intercept	94.833*** (27.1648)	-52.8909 (0.000)	164.21*** (41.2454)	-120.84*** (12.6636)
Gamma		0.7839*** (0.1467)		1.000*** (0.1651)
C		33.2938** (0.0269)		17.3115*** (1.9965)
R ²		0.8203		0.7463

Note. Significance levels are '***', '**' and '*' for 1%, 5% and 10% respectively. Standard errors in parentheses.

From Table 4 it seems that a threshold value of 33.29% public debt to GDP ratio and 17.31% internal debt to GDP ratio has been obtained. The smoothing parameters have been obtained as 0.7839 and 1.00 respectively indicative of a smooth transition from the lower regime to the upper regime. The public debt threshold lies within the 20-50% range put forward by Mensah et al. (2019) for developing

countries and is comparable to the 31.37% threshold for South Africa by Baaziz et al. (2015). The internal debt threshold value is similarly comparable to the 13.6% internal debt threshold obtained for Nigeria by Eboime and Sunday (2017). These threshold values are however significantly different from the threshold values of 62-66% for African countries obtained by Ndoricimpa (2020).

The coefficient estimate of the public debt variable is found to be negative and significant in the lower regime but positive and significant in the upper regime. The coefficient of internal debt is also negative and significant in the lower regime but positive and significant in the upper regime. No evidence is found to support the existence of an inverse U-shaped public debt and growth relationship and internal debt to growth relationship in Kenya. The results of this study imply that public debt to GDP growth in Kenya and internal debt to GDP growth in Kenya all have a U-shaped relationship with the rate of growth of the economy. The reason for achieving the U-shaped relationship may be due to weak institutional factors as noted by Butkus and Seputiene (2018). With good institutions, government expenditures are used appropriately, and growth can be realized even at lower debt levels thus preventing the need of depending on more debt for growth (Masuch et al., 2016, p. 2).

For both models, the first lag of GDP has a negative impact in the lower regime but a positive impact on growth in the upper regime both of which are significant. Inflation has a negative impact in the lower regime and a positive significant impact on growth in the upper regime the rate of secondary school enrollment has a negative impact on growth in the lower regime but a positive impact on growth in the upper regime albeit the impact is only statistically significant in the public debt model. This goes against the expected positive impact of human capital on growth in both the lower and upper regimes. Investment has a positive impact on growth in all the regimes of the two models except the upper regime of the internal debt model although these impacts are statistically insignificant. The finding could be because high public spending by the government crowds out investment and hence the insignificant impact on growth. Trade openness has a negative impact on growth in the lower regime and a positive impact in the upper regime for both models. This impact is only significant in the internal debt model. The positive impact is attributed to increased total factor productivity especially as a result of improved technology and movement of capital associated with trade openness.

Figure 1

Transition Function of LSTR (1) Model for Public Debt to GDP Ratio

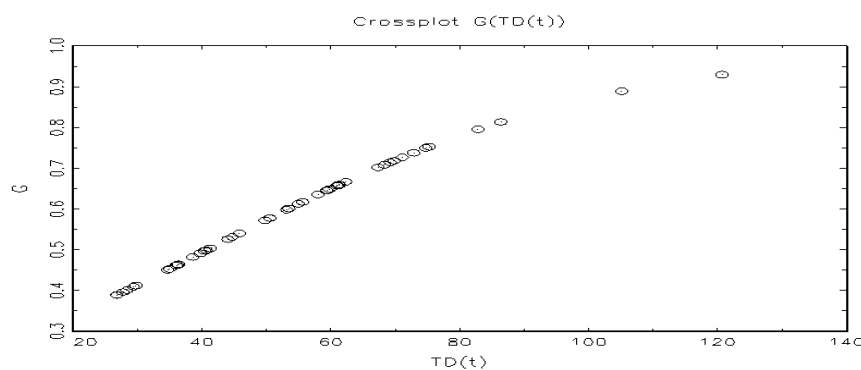
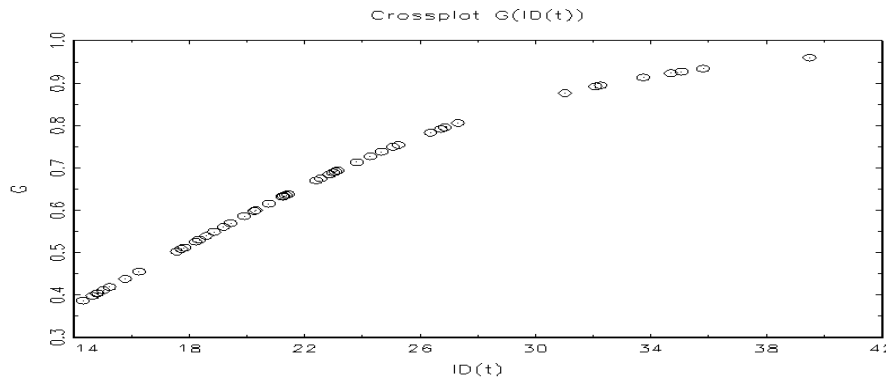


Figure 2

Transition Function of LSTR (1) Model for Internal Debt to GDP Ratio



Figures 1 and 2 show that the observed thresholds are smooth over the respective regimes. This implies that the impact of debt on growth is not immediate but is observed over time.

To confirm the results above, misspecification tests were conducted, and the results are as shown in Table 5.

Table 5

Misspecification Tests

Test	H_0	PD model	ID model
		P-value	P-value
LM	No Autocorrelation	0.3962	0.5163
ARCH	No ARCH effects	0.3892	0.8311
JB	Residuals are normal	0.8072	0.3335

The results from Table 5 indicate that the model is well specified, and the residuals are normal and not suffering from heteroscedasticity or autocorrelation.

Conclusion

This study aims to examine whether the public and internal debt have a threshold effect on the economic growth in Kenya for the period 1970-2018. The STR model is used for this purpose. The findings indicate that the threshold level of domestic debt is estimated at 17.3115% and internal debt has a positive effect on economic growth above this threshold. The public debt threshold level is determined at 33.29% and has a positive effect on economic growth when this level is exceeded. Below the threshold values, public debt and domestic debt harm economic growth. This can be attributed to institutional factors. With weak institutions, public sector funds including debts are not properly managed and so the low public debt to GDP ratio ends up in corruption and repayment of other initially existing debts thereby negatively affecting the economy. Creating the need for more debts before economic growth is realized. The negative impact of debt on growth is in line with the views put forward by Adam Smith who views debt as a necessary evil. This is because debt redistributes money into the hands of the unproductive rich officials from the productive classes of the society.

The positive impact of higher public debt to GDP ratio can be attributed to the debt being used productively in funding public investments. This conclusion indicates that the public debt can contribute economic growth of the country only if invested productively. Furthermore, these findings estimated

for Kenya are in line with the Keynesian view where debt is defined as a source of government income and can have a positive impact on the economy through the multiplier effect. It also supports the view by Georgieva (2019) that debt by itself is not bad but the negative or positive impact that it has on the growth rate depends on the uses of the debt. If the debt is used to finance recurrent expenditure, for consumption or is misused by government officials, then its impact on economic growth is likely to be negative. The positive impact of public debt and internal debt on growth does not however imply that Kenya can rely on public debt as a source of funding without limit to the debt to GDP ratio. Alternative sources of funding should be preferred by authorities. Overreliance on the method of debt financing can lead to higher debt distress.

When these results are evaluated, appropriate policy recommendations can be made to ensure the proper use of public debt. The main goal should be to keep the debt at a sustainable level and to reduce the misuse of public debt by government officials. Clear guidelines defining how debt is obtained and used can help to channel debt in financing more productive activities like research and development. Similarly, a more transparent and frequent debt finance supervision could be useful in curbing misuse of funds by government officials. It is envisaged that the implementation of these policies will contribute to sustained growth without debt default. However, since the threshold levels obtained for Kenya are quite low, these results suggest that the threshold value of the public and internal debt may be more than one. Therefore, the relationship between these variables can also be studied by the use of alternative approaches that allow for the determination of more threshold levels. From this point of view, the results of this study are a guide to future similar studies.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study is not applicable.

Author Contributions

All authors have contributed equally to the manuscript.

Declaration of Conflicting Interests

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Notes

ⁱ Country-specific studies that have been conducted in the past include Baaziz et al. (2015) who found a debt threshold of 31.37% for South Africa and Omotosho et al. (2016) who found a debt threshold of 73.7% for Nigeria.

ⁱⁱ Adam Smith and by extension the classical economists are supply-side economists. They argue that overtaxing the productive class is counterproductive which stifles economic growth.

ⁱⁱⁱ Terasvirta (1994) can be followed for detailed information on the STR model. This model has been applied by previous studies examining public debt threshold and economic growth including Baaziz et al. (2015) and Ndoricimpa (2020).

^{iv} Two models are estimated: one of them indicates the threshold public debt level and the another indicates the threshold internal debt level.

^v Previous studies such as (Babu et al., (2015), Muinga (2014), and Ndoricimpa (2020)) suggest that these variables affect growth and are suitable options for control variables.

Basic Need Satisfaction and Self-Forgiveness: The Mediating Role of Emotion Regulation Difficulties*

Temel İhtiyaç Doyumu ve Kendini Bağışlama: Duygu Düzenleme Güçlüğü'nün Aracı Rolü

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Abstract

Though the concept of self-forgiveness has received much attention within the empirical literature lately, the explanations of the antecedents of the construct still remain limited. The purpose of the current study is to broaden the limits of self-forgiveness and to provide a better understanding regarding the process. In this study, the relationship between basic psychological needs and self-forgiveness through the mediating role of emotion regulation difficulties was examined. The model provides a novel perspective for understanding self-forgiveness through the Self-Determination Theory. The sample consists of 451 university students (365 females and 86 males) between the ages 19 to 28 who completed questionnaires assessing tendencies of self-forgiveness, basic need satisfaction, and emotion regulation difficulties. Results indicate that emotion regulation difficulties partially mediate the relationship between basic need satisfaction and self-forgiveness. Consistent with our model, results reveal that as the satisfaction of the basic psychological needs increases, emotion regulation difficulties diminish, which results in an increase in self-forgiveness.

Keywords: Self-Forgiveness, Basic Need Satisfaction, Self-Determination Theory, Emotion Regulation Difficulties.

Öz

Kendini bağışlama kavramının son zamanlarda görgül araştırmalarda çok dikkat çekmesiyle birlikte, kavramın öncüllerine dair açıklamaların sınırlı kaldığı görülmektedir. Mevcut çalışmanın amacı, kendini bağışlama sürecinin anlaşılmasına katkı sağlamaktır. Bu çalışmada, temel psikolojik ihtiyaçlar ile kendini bağışlama arasındaki ilişkide duygu düzenleme güçlüğü'nün aracı rolü incelenmiştir. Bu modelin, Kendini Belirleme Kuramı aracılığıyla kendini bağışlamayı anlamak için yeni bir bakış açısı sağlayacağı düşünülmektedir. Çalışmanın örneklemini, yaşları 19-28 arasında değişen 451 üniversite öğrencisinden (365 kadın ve 86 erkek) oluşturmaktadır. Katılımcılardan kendini bağışlama eğilimlerine, temel ihtiyaç doyumuna ve duygu düzenleme güçlüğüne yönelik ölçümler alınmıştır. Sonuçlar, duygu düzenleme güçlüklerinin temel ihtiyaç doyumuna ile kendini bağışlama arasındaki ilişkiye kısmen aracılık ettiğini göstermektedir. Beklendiği şekilde, temel psikolojik ihtiyaç düzeyindeki artış duygu düzenleme güçlüğü'nün azalmasını ve bu yolla kendini bağışlama eğiliminin artmasını açıklamaktadır.

Anahtar Kelimeler: Kendini Bağışlama, Temel Psikolojik İhtiyaçlar, Kendini Belirleme Kuramı, Duygu Düzenleme Güçlüğü.

* This paper has been derived from the master's thesis of the first author titled "Basic Psychological Needs and Self-Forgiveness: The Analysis of the Mediating Role of Difficulties in Emotion Regulation, Guilt and Shame" conducted at Maltepe University under the counseling of the second author.

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Basic Need Satisfaction and Self-Forgiveness: The Mediating Role of Emotion Regulation Difficulties

In the field of psychology, self-forgiveness has been labelled as the stepchild of interpersonal forgiveness (Hall & Fincham, 2005). The concept of self-forgiveness has taken place among philosophical, theoretical and empirical discussions. In the psychology literature, Enright (1996) defined forgiveness as the “willingness to abandon self-resentment” (p. 116), Bauer et al. (1992) explained the construct as making peace with oneself and feeling at home again. Hall and Fincham (2005) described the process on a more motivational basis, in which one becomes “more motivated to act benevolently towards the self” (p. 622) and less motivated to self-punish.

Although several definitions have been proposed and the process of self-forgiveness have been more elaborated on, research remains restricted. In the current study, self-forgiveness is examined based on a novel model involving basic need satisfaction and emotion regulation difficulties, in which emotion regulation difficulties is predicted to be the mediator between basic need satisfaction and self-forgiveness.

Self-Forgiveness

In psychology, the common view on self-forgiveness is that it is a process rather than a simple construct. Bauer et al. (1992) explained self-forgiveness as a phase that includes self-awareness, feelings of discomfort that comes with the realization of one’s own mistakes, taking responsibilities for one’s wrongdoings and making amends that will lead to a feeling of “being at home” and making peace with oneself. Moreover, Flanigan (1996) explained self-forgiveness as an interpersonal issue which creates a closed door between the self and others that would lead to an isolation from others in the beginning as a result of a committed wrongdoing.

Furthermore, in order to conceptualize self-forgiveness as a psychological construct Enright (1996) have proposed a triad model of forgiveness which includes interpersonal forgiveness, self-forgiveness and receiving forgiveness from others. Moreover, Hall and Fincham (2005) made a significant contribution since they have proposed the first empirical model of self-forgiveness. This model solely focuses on the self-forgiveness process which consists of emotional determinants such as shame, guilt and empathy; social-cognitive determinants such as attributions; offense related determinants such as the severity of offense, perceived forgiveness and conciliatory behavior. Accordingly, when one commits a transgression, guilt is the emotion that would help them wonder about the incident by putting oneself in the others’ shoes, since guilt is an “others-oriented” emotion. The sense of responsibility leads to conciliatory behaviors such as apologizing, which then leads to a decrease in guilt (Hall & Fincham, 2008; Witvliet et al., 2002; Zechmeister & Romero, 2002), and through perceived forgiveness from others and from the divine, one acquires self-forgiveness.

On the other hand, Ranganadhan and Todorov (2010) argued that shame is one of the most important predictors of self-forgiveness due to its role in relaying more focus on the self rather than on the behavior, hence resulting in self-blame and isolation from others (Fisher & Exline, 2006; Macaskill, 2012; McCann, 2009). Further studies show that self-forgiveness is positively correlated with well-being (Avery, 2008), emotional clarity and expression (Hodgson & Wertheim, 2007; Kozan et al., 2017), psychological well-being (Davis et al., 2015), guilt-proneness (Carpenter et al., 2016), dealing with negative emotions (Liao & Wei, 2015), age (Carpenter et al., 2019) and negatively correlated with difficulties in emotion regulation (Worthington & Wide, 1999), shame-proneness (Reamillo, 2015).

As self-forgiveness literature reveals, two major self-conscious emotions play a crucial role in the process; shame and guilt, which are referred to as negative emotions. Shame plays a non-adaptive role

due to its an attack on one's self (Flanigan, 1996). Rather than focusing on the situation, the person focuses on the self, questions their competencies and lacks the will and power to maintain healthy relationships. Also, shame has been found to be positively associated with punishing and excusing oneself; thus, negatively related to self-forgiveness (Griffin et al., 2016). On the other hand, the feeling of guilt is important in terms of empathy with the other party, taking responsibility and making amends which initiates the process of self-forgiveness (Covert et al., 2003; Flanigan, 1996). Additionally, guilt is negatively related with excusing oneself from taking responsibility, thus positively related to self-forgiveness (Griffin et al., 2016).

Additionally, research draw attention to the problems related to the conceptualization of self-forgiveness. Hall and Fincham (2005) evaluated *pseudo self-forgiveness* which results from thinking that one did not act in a wrong way, evaluating the situation only depending on external factors, and avoiding taking the responsibility on their part. Other studies have also revealed similar results. For example, Zechmeister and Romero (2002) found that people who tend to forgive themselves, tend to blame the person for whom the misdeed is committed, seeking ways to confirm their behavior. In addition, perpetrators who forgive themselves frequently reported that the victim has caused the problem. Moreover, people with narcissistic tendencies seem not tend to accept the guilt (Gramzow & Tangney, 1992) and therefore they may not take the adequate responsibility on their part, which then results in pseudo self-forgiveness. Strelan (2006) found that self-forgiveness is positively associated with both narcissism and self-worth. The fact that people with narcissistic tendencies have difficulty taking responsibility supports the idea of pseudo self-forgiveness.

After a careful review of the scientific literature, it could be summarized that self-forgiveness is associated with positive outcomes such as psychological adjustment, and people who have difficulty forgiving themselves, also have difficulties dealing with negative emotions and are more prone to internalizing problems. In this respect, examining the factors that increase the level of forgiveness is crucial. Although the process of self-forgiveness has been subject to empirical research, the models that have been proposed so far have revealed mixed results. Therefore, there is more to be examined regarding self-forgiveness. In order to assign a new perspective on the concept of self-forgiveness, the current study relays attention on the Self-Determination Theory (Deci & Ryan, 2000) which highlights the critical role of inner resources to pursue growth and regulation through the basic need satisfaction in order to attain self-motivation which may be significant for self-forgiveness.

Basic Need Satisfaction

Self Determination Theory (SDT) (Deci & Ryan, 2000; Ryan & Deci, 2017) is a meta-theory focusing on the significance of intrinsic motivation and how human behavior is determined by these internal factors. The focus of the theory is the development and progress of human beings in cognitive, social and behavioral areas, based on the assumption that human beings are internally motivated to learn and progress. In order to maintain the developmental balance, the three basic psychological needs should be satisfied; autonomy, competence and relatedness. The core of the theory signifies the crucial role of basic need satisfaction to attain higher self-motivation. Thus, the satisfaction of the basic psychological needs is crucial for well-being and high functionality, and the needs are universal and innate. Moreover, the degree of satisfaction of the psychological needs may vary depending on the social context. As these needs are satisfied, the level of personal growth, integrity and well-being increase.

Autonomy is to navigate one's own behavior by their free-will and personal choices (Deci & Ryan, 2000; Ryan & Deci, 2010). Competence is defined as the ability to stay connected to one's environment and developing mastery in certain tasks. Relatedness is a bidirectional need, defined as the need for being connected with others. Research shows that the satisfaction of the basic psychological needs is

allied with life satisfaction and well-being (e.g., Deci et al., 2001; Ryan & Deci, 2000). Further positive outcomes are self-control (Moller et al., 2006), less defensive responses in stressful situations (Yıldırım, 2021), self-esteem (Deci et al., 2001; Demirtaş et al., 2017), vitality (Bryan, 2014), meaning in life and positive affect (Tang et al., 2020), adaptive emotion regulation skills (Benita et al., 2020; Shalchi & Shahna, 2018), emotion regulation difficulties (Han & Lee, 2017), and forgiveness (Lawler-Row & Piferi, 2006; Yıldırım, 2016).

Furthermore, SDT also examines basic need satisfaction on a more motivational and regulatory basis. Ryan and Deci (2000) described “authentic motivation” which refers to a more self-endorsed type of motivation that involves personal interest and confidence in one’s actions, resulting in creativity, persistence and higher self-esteem. Authentic motivation is categorized as a type of intrinsic motivation; which is also shaped by emotional acknowledgment and the ability to make choices. Thus, as basic psychological needs are satisfied, one’s authentic motivation increases which is directed by free will. Research particularly highlights the role of meeting the need for autonomy. Accordingly, as the need for autonomy is satisfied, one’s choices and behaviors are directed based on their own preferences, and therefore they can take responsibility for their actions (Chirkov et al., 2003; Deci & Ryan, 2000).

Scientific literature signals that these innate and universal needs are related to many positive psychological constructs. Although the process of self-forgiveness is distressing, one could visualize the process through the lenses of basic psychological need satisfaction. As the need satisfaction increases, self-forgiveness, which is also related to psychological adjustment (e.g., self-esteem, well-being, life satisfaction), would be expected to increase, through the diminishing role of emotion dysregulation. In other words, the more one’s basic psychological needs are satisfied, it is highly expected for them to manage their own behaviors, take responsibility for their actions and overcome stressful situations by their effective problem-solving skills, which would also be expected to increase tendency to self-forgive.

The Mediating Role of Emotion Regulation

The purpose of this study is to examine the mediating role of emotion regulation difficulties in the relationship between the satisfaction of the basic psychological needs and self-forgiveness among university students. It is hypothesized that as one’s basic psychological needs (i.e., autonomy, competence, and relatedness) are met, the individual's difficulty in emotion regulation will decrease and as a result self-forgiveness will increase. Today, it is well known that the choice of regulative strategies plays a significant role in how one forms and maintains a relationship with others, how one communicates to others and how one experiences clinically diagnosed disorders (Gratz & Roemer, 2004; Gross, 2002). According to Gross’s (2001) Path Model, there are five distinct emotion regulation strategies such as situation selection, situation modification, attentional deployment, reappraisal, and suppression. Nonetheless, this model lacks details regarding maladaptive strategies leading to emotion regulation difficulties.

Furthermore, Garnefski et al. (2001) conceptualized emotion regulation by grouping them into two distinct categories as adaptive and maladaptive strategies. Accepting personal experiences, taking actions and concentrating on planning, to focusing on positive events, to compare different perspectives and to assign positive meaning to the unfortunate experience have been grouped as adaptive regulatory actions. Gratz and Roemer (2004) argued that emotion regulation requires awareness and acceptance of emotions, engaging in goal directed behavior and avoidance of impulsive behavior, using adaptive strategies that are suitable across situations; if one experiences difficulties among any of these domains, this would indicate a possibility to experience emotion regulation difficulties.

Recent research show that experiencing emotion regulation difficulties is negatively linked with the satisfaction of the basic psychological needs, meaning that when need satisfaction increases, emotion regulation difficulties diminish (Emery et al., 2015; Martín-Albo et al., 2015; Shalchi & Shahna, 2018). Research additionally reveal that emotion regulation difficulties are associated with low self-esteem (Loess, 2015), low levels of self-compassion (Aktaş, 2017) and diminished ability to deal with stressful situations (Sünbül, 2016). Therefore, it is suitable to take into account the role of emotions in self-forgiveness since being able to manage emotions and being aware of one's emotions play an important role in the process of self-forgiveness (Hodgson & Wertheim, 2007). Thus, experiencing high levels of emotional difficulties, such as less awareness of emotions or suppression, is expected to hinder self-forgiveness.

Within the scope of this study, emotion regulation is thought to be a significant part in the relationship between basic psychological needs and self-forgiveness. Researchers have conducting various researches and developed theories about how emotions occur, which factors determines emotions, which emotions are adaptive or not, and how each emotion is regulated. Emotions are the most important factors that lead to physiological and psychological changes, including behavior and thoughts, so emotions are known to have a significant power over behavior (Gross & Barret, 2011). There are also some difficulties brought by some emotions that differ depending on the person, situation and emotion. In addition, emotion regulation also affects life experiences (Garnefski et al., 2001; Gross, 2001). Studies show that emotion regulation difficulties are associated with psychopathologies like panic disorder, anxiety disorder, depression, and dependent personality disorder (Sheppes et al., 2015).

In the current study, it is hypothesized that as a result of autonomy need satisfaction, one will be able to take adequate levels of responsibility for their own wrongdoings resulting in an increased level of awareness and acceptance of their negative emotions and behaviors. This phase that involves awareness and acceptance is also expected to motivate one to solve the problematic situation through competence satisfaction. In addition, as relatedness is a bidirectional path in which one cares for their relationships and expects to be cared by others, the satisfaction of the need is expected to make one more motivated to correct their wrongdoings towards others in order to maintain a healthy relationship. Thus, the more appeased the basic psychological needs are, it is expected to result in a decrease in emotion regulation difficulties; which in turn will foster a more adaptive way for dealing with negative emotions, therefore increase self-forgiveness; that results in a less punitive way for dealing with personal mistakes. Since self-forgiveness has been a rarely studied construct, the current study may be one of the pioneering studies in the self-forgiveness literature and will illuminate future studies on factors that may play a crucial role in determining the level of self-forgiveness and also during the process.

Method

Participants

This study was conducted at Maltepe University, located in Istanbul, Turkey. Convenience sampling was used in this study to collect data. Questionnaires were distributed to 471 undergraduate students, but 20 participants' data were removed from the data set based on the univariate and multivariate outlier analysis. The final sample consisted of 451 students between the ages of 19 to 28 ($M_{age}=21.22$, $SD=1.57$). The sample consists of 365 females (80.9%) and 86 males (19.1%); predominantly single (97.8%), unemployed (90.2%) and living in dorms (79.8%).

Measures

Heartland Forgiveness Scale

The Heartland Forgiveness Scale was developed by Thompson et al. (2005) and adapted by Bugay and Demir (2010). The scale is an 18-item, 7-point Likert type scale (1=*almost always false*, 7= *almost always true*) aimed at measuring dispositional self-forgiveness. This self-report questionnaire consists of three subscales: forgiveness of self, forgiveness of others and forgiveness of situations. Internal consistency of the subscale for forgiveness of self was reported as .75. The internal consistency of the Turkish version of the Heartland Forgiveness Scale was reported high ($\alpha = .81$), and the internal consistency of the subscale for forgiveness of self was reported as .64. For the purpose of this study, only the subscale for forgiveness of self was used. High scores received from the measure indicate high proneness to self-forgiveness. In the current study, internal consistency of the subscale was found to be .58.

Basic Psychological Needs Scale-Revised Form

This scale was developed by Yildırım (2015) based on other measures of need satisfaction (Gagné, 2003; Sheldon & Hilpert, 2012) by adding culture specific items. The measure is a 26-item, 7-point Likert type scale (1=*completely false*, 7=*completely true*). The total internal consistency of the scale is high ($\alpha = .91$). The internal consistencies for the dimensions of relatedness, competency and autonomy were reported as .86, .87 and .88, respectively. High scores obtained on each dimension indicate high satisfaction. In the current study, internal consistency of the scale was found to be .92.

Difficulties in Emotion Regulation Scale

The original Difficulties in Emotion Regulation Scale was developed by Gratz and Roemer (2004) to measure the degree of emotional difficulties and tendencies. This 36-item scale is a 5-point Likert type scale and answers vary between 1= *almost never* and 5= *almost always*. The scale is made up of 6 different dimensions; nonacceptance, goals, impulse, awareness, strategies and clarity. 12 items are reversely coded. The internal consistencies of the subscales were reported to vary between the range of .80 and .89. The high scores obtained from the scale indicate high emotional difficulties.

The Turkish version of the scale was adapted by Rugancı (2008) in which the dimensions and factor structure were kept the same as in the original scale. Internal consistency was reported to be high ($\alpha = .94$) and test-retest reliability was reported to be .83. In the current study, internal consistency of the scale was found to be .90.

Procedure

Participants were informed about the subject and the purpose of the study in advance, both verbally and in a written format. They were informed about their right to resign at any time during the study. Participation was based on informed consent and anonymity. Procedure lasted between 15 to 25 minutes.

Data analysis

In order to examine gender differences, independent sample *t*-tests were conducted. Bivariate correlations were also calculated to explore the associations among the variables of interest in the current study. Overall scores obtained from the questionnaires were analyzed. To test the mediating role of difficulties in emotion regulation in the relationship between basic need satisfaction and self-forgiveness, the PROCESS macro for SPSS (Hayes, 2013) was used. This macro is used within social

sciences for estimating mediation and moderation among variables. The program offers regression pathways and mediation templates for researchers in order to test the direct and indirect effects of single and/or multiple mediators.

Results

Preliminary Analyses

Prior to mediation analysis, independent sample t-tests were conducted to investigate gender differences. The results demonstrated that there were no gender differences for basic need satisfaction ($t_{(449)} = .18, p = .861$), emotion regulation difficulties ($t_{(449)} = -.91, p = .364$), and self-forgiveness ($t_{(449)} = .83, p = .407$).

Correlation analysis revealed a positive relationship between self-forgiveness and basic need satisfaction ($r = .25, p < .01$). Moreover, a negative relationship was obtained between emotion regulation difficulties and self-forgiveness ($r = -.36, p < .01$). As people experience less emotional difficulties, their tendency to self-forgive increase. Lastly, a negative relationship between basic need satisfaction and emotion regulation difficulties was observed ($r = -.30, p < .01$). The results indicate that as the satisfaction of basic psychological needs increase, the experience of the regulatory difficulties decreases (See Table 1).

Table 1

Correlations among Variables

	1	2	3	<i>M</i>	<i>SD</i>
1. Self-forgiveness	1			27.91	5.68
2. Basic need satisfaction	.25*	1		144.83	20.34
3. Emotion Regulation Difficulties	-.36*	-.30*	1	91.72	20.58

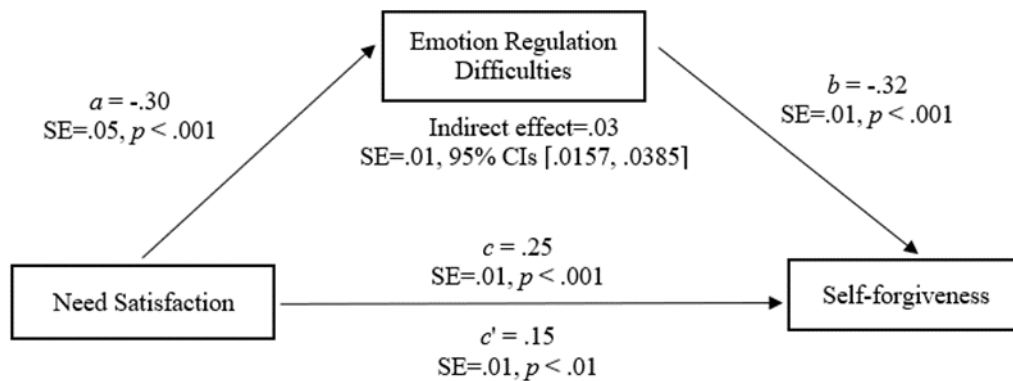
* $p < .01$

Mediation Analysis

To test the mediating role of emotion regulation difficulties in the relationship between basic need satisfaction and self-forgiveness, PROCESS macro (Hayes, 2013) was used. The mediation results were evaluated by the confidence intervals and by the Bootstrapping of 5000 resamples (Preacher & Hayes, 2008). The total effect of basic need satisfaction on self-forgiveness was positively significant ($\beta = .25, t_{(449)} = 5.37, SE = .01, 95\% \text{ CI } [.0435, .0937]$). In addition, as can be seen in Figure 1, need satisfaction negatively predicted emotion regulation difficulties ($\beta = -.30, t_{(449)} = -6.59, SE = .05, 95\% \text{ CI } [-.3903, -.2110]$). Emotion regulation difficulties also negatively predicted self-forgiveness ($\beta = -.32, t_{(448)} = -6.97, SE = .01, 95\% \text{ CI } [-.1124, -.0629]$).

Figure 1

The Role of Emotion Regulation Difficulties as a Mediator between Basic Need Satisfaction on Self-Forgiveness



Note: c = total effect of need satisfaction on self-forgiveness, c' = direct effect of basic need satisfaction on self-forgiveness after accounting for the indirect effect of emotion regulation difficulties

Moreover, the indirect effect of basic need satisfaction on self-forgiveness through the mediating role of emotion regulation difficulties was also positively significant ($SE=.01$, 95% CI [.0127, .0385]), although the direct effect of basic need satisfaction was still significant ($SE=.01$, 95% CI [.0172, .0672]). In other words, as basic need satisfaction increases, self-forgiveness increases through a decrease in emotion regulation difficulties. This proposed model accounted for 15% of the variance ($F_{(2,448)} = 40.25$, $p<.001$), confirming emotion regulation difficulties as a partial mediator in the relationship between basic needs satisfaction and self-forgiveness.

Discussion

In the current study, SDT was used to establish a framework to explain the process of self-forgiveness. Emotion regulation difficulties were hypothesized to mediate the relationship between basic need satisfaction and self-forgiveness. Results indicated that emotion regulation difficulties partially mediated the relationship between basic need satisfaction and self-forgiveness. Accordingly, the satisfaction of the basic psychological needs (i.e., autonomy, competence, and relatedness) will yield a decrease in emotion regulation difficulties, which results in an increase in self-forgiveness.

Furthermore, level of self-forgiveness had not differed significantly according to gender. Several studies also support this finding (Bugay, 2010; Ranganadhan & Todorov, 2010). Miller et al. (2008) argued that during the process of self-forgiveness, one focuses more on the self which results in avoiding stereotyped gender roles; therefore, gender differences may not be playing a significant role in self-forgiveness. In addition, state and trait measures need to be differentiated; there may be a possibility that female and male differences in state measures may emerge since gender roles may arise in a specifically given scenarios.

Moreover, it was expected that basic need satisfaction would positively predict self-forgiveness; as one's needs are fulfilled, their ability to self-forgive would increase. Recent research has also supported the link between need satisfaction and forgiveness, although research remains restricted. Lawler-Row and Piferi (2006) have found that people who are more prone to forgive, are more autonomous, more competent, more accepting of themselves and can establish healthy relationships with others. Moreover, Yildirim (2016) found that as basic need satisfaction increased, so did self-esteem, which resulted in a tendency to be more self-forgiving. As SDT indicates, basic need satisfaction is also related to self-

motivation. As one's basic psychological needs are satisfied, their authentic motivation would be expected to develop. Taken from this perspective, self-forgiveness may be fostered if one's basic needs are satisfied as an antecedent. In other words, when one commits a wrongdoing, their authentic motivation may take place if their basic needs are fulfilled, and they would be able to take responsibility and make authentic choices regarding conciliatory behaviors which would make the self-forgiveness process more genuine, rather than pseudo.

Additionally, according to the mediation analysis, the role of emotion regulation difficulties as a partial mediator in the relationship between basic psychological need satisfaction and self-forgiveness was found to be significant. As expected, basic need satisfaction negatively predicted emotion regulation difficulties, which in turn resulted in an increase in self-forgiveness. The negative association in the relationship between basic need satisfaction and emotion regulation difficulties signals the importance of basic need satisfaction as an antecedent. According to Han and Lee (2017) basic need satisfaction and emotion regulation difficulties mediate the relationship between attachment insecurity and binge eating. This reveals that when the caregiver cannot be consistently responsive to a newborn's needs, basic psychological needs are not met. Therefore, elevated need for protection and unmet needs during early years in life, will lay a foundation for emotion regulation difficulties, and consequently unhealthy coping. For example, dissatisfaction or lack of fulfillment of these needs also known to be related with obsessive-compulsive disorder, eating disorders, depression and anxiety related problems (Ryan & Deci, 2017), difficulties maintaining self-control (Moller et al., 2006), and less adaptive styles of emotion regulation (Benita et al., 2020).

The satisfaction of each basic psychological need seems to preserve people from developing psychopathologies and psychological maladjustment. For example, autonomy is found to play a crucial role in developmental psychopathologies; thus, many intervention programs focus on autonomy support; also, autonomy is viewed as the regulation of the self and considered as a crucial element for psychological well-being for healthy functioning (Deci & Ryan, 2000; Ryan & Deci, 2010). In addition, Emery et al. (2015) found that the need for competence is essential to deal with difficult situations; and if this need falls short, one might be more prone to experience emotional difficulties. In another study, Martín-Albo et al. (2015) found a positive relationship between emotional repair and relatedness. Moreover, Shalchi and Shahna (2018) found that people whose basic need satisfaction are high, will be less prone to emotion regulation difficulties resulting in more adaptive interactions among family members. In line with the findings of previous studies, basic need satisfaction may contribute to psychological adjustment (i.e., self-forgiveness) by decreasing emotion regulation difficulties.

In summary, by satisfying the basic psychological needs, people may become more aware of their emotions and experiences, be more competent in accepting them, be motivated to take responsibility for their wrongdoings, to cope with negative emotions, and to maintain their relationships with others. Consequently, the process of basic need satisfaction and diminished emotion regulation difficulties may foster self-forgiveness for a committed wrongdoing.

Limitations and Implications

There have been some limitations to this study. First, self-forgiveness subscale revealed low internal consistency in the current study (.58). There are several scales that measure self-forgiveness on a dispositional level. For example, Mauger et al. (1992) have developed the Forgiveness of Self subscale (FOSS) and additionally Tangney, Boone, Fee, and Reinsmith (1999) have developed a scenario-based measure of self-forgiveness, Multidimensional Forgiveness Scale (MFS). Strelan (2017) argues that these dispositional self-forgiveness scales are often measure "self-regard", which lacks details about the acceptance of the wrongdoing, taking responsibility and behaving in a more conciliatory manner.

Moreover, Strelan (2017) also critiques Thompson et al.'s (2005) Heartland Forgiveness Scale (HFS) as measuring "absence of self-condemnation". Therefore, for the sake of the reliability of dispositional measures studies must be broadened. This indicates a need for more reliable measurement tools for self-forgiveness. It is important to conduct studies with different age and gender groups to increase the accuracy of the measure. Therefore, in the light of these observations a need for a more reliable measures for self-forgiveness seems necessary. There is indeed a need for the development of new measures.

Furthermore, the sample used in the current study was a convenience sample consisted of undergraduates from Maltepe University. The number of male participants is less compared to female participants. Therefore, this study should be re-conducted with different samples within different age ranges. In addition, gender factor should be more balanced in order to maintain generalizability. Using a correlational design is another limitation of the study. Correlational analysis does not reveal a cause-and-effect relationship. In addition, this research is based on self-report measures, which may be subject to bias.

Results indicate that the relationship between basic psychological need satisfaction and self-forgiveness is partially mediated by emotion regulation difficulties. In other words, emotion regulation does not account for all the relation between the variables. Future studies may also focus on age differences (Carpenter et al., 2019), personality (Rangganadhan & Todorov, 2010), attributional styles (Hall & Fincham, 2005) and moral emotions such as guilt and/or shame (Hall & Fincham, 2008) in order to clarify the process of self-forgiveness.

It is seen that research on self-forgiveness is limited in order to enlighten the scientific literature. As previously mentioned, self-forgiveness is known as the "stepchild" of forgiveness studies; and is still treated similarly in the Turkish literature. Defining self-forgiveness as a complex process indicates the necessity of condensation within this area. As self-forgiveness is defined as a "personal process"; it would be crucial to examine the self-forgiveness process, in terms of personality traits. It may also be thought that researchers' orientation towards self-acceptance and tolerance development will enlighten the self-forgiveness process more.

According to the results retrieved from this study, emotion regulation difficulties play an essential role in the relationship between basic need satisfaction and self-forgiveness. In the therapeutic field, experts may focus on patients' autonomy, competence and relatedness needs whom have difficulties in forgiving themselves, and they may also work with their patients on emotional regulation difficulties and focus on the change of non-adaptive emotion regulation strategies. In addition, difficulties in self-forgiveness may be related to traumatic events, so as for the patients whom have been clinically diagnosed with depression, anxiety disorder, eating disorders, obsessive-compulsive disorders, appropriate treatment programs may be developed.

Furthermore, basic psychological needs and self-forgiveness are associated with subjective well-being, psychological well-being, positive affect, adaptive emotion regulation skills, life satisfaction and high self-worth, positive self-perception of university students and positive attitudes towards others. Especially in educational institutions, it is important that guidance units put more attention on to positive self-perception through basic psychological needs. In addition, it can be thought that supporting basic psychological needs in workplaces will be beneficial in terms of emotion regulation skills, as well as for increased positive interpersonal communication.

Conclusion

Drawing from SDT, it appears that among undergraduates, as basic psychological needs for autonomy, competence, and relatedness are fulfilled, one is more able to make an authentic living, self-ruled choices and take responsibility. This would result in an increase in acceptance and awareness of emotions, diminished impulsive behavior and increased emotional expression. Hence, objective evaluation of the self, being able to take perspective, accepting responsibility and decreased emotion regulation difficulties will result in more self-forgiving and less harsh judgement of oneself.

Compliance with Ethical Standards

Ethical Approval

The research was carried out with the approval of the Ethics Committee of Maltepe University (approval no. 2018/07-11). Institutional and/or national research committee ethical standards and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards were followed in all study procedures involving human participants.

Author Contributions

The authors acknowledge joint responsibility for all research-related processes.

Declaration of Conflicting Interests

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Global Standardization for a Sustainable Future

Sürdürülebilir Bir Gelecek için Küresel Standardizasyon

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Abstract

Climate change is one of the crucial problems facing our world. Countries, international organizations and non-governmental organizations are making efforts to find solutions to climate change and problems related to climate change. Governance theories and the economic, social and environmental problems our world is facing have also increased the responsibilities of states. In this context, the states are expected to exhibit sensitive and responsible governance to global problems. Responsible governance is becoming more complex with environmental justice, responsible and sustainable production and consumption elements. Standardization plays an important role in finding solutions to climate change problems, reaching UN SDGs, and ensuring sustainable production and consumption. This article examines the green standardization and sustainable product standardization studies carried out to develop solutions to climate change problems and to provide a better future. This article also introduces the sharing economy to the reader for a sustainable future. This article demonstrates the importance of standards for ensuring responsible governance and achieving the UN SDG.

Keywords: Standardization, Governance, Sustainability, Sharing Economy, Climate Change.

Öz

İklim değişikliği dünyamızın karşı karşıya olduğu önemli sorunlardan biridir. Ülkeler, uluslararası kuruluşlar ve sivil toplum kuruluşları iklim değişikliği ve iklim değişikliğine bağlı sorunlara çözüm bulmak için çaba sarf etmektedir. Yönetişim teorileri devletlerin görevlerini çeşitlendirmiştir. Dünyamızın karşı karşıya olduğu ekonomik, toplumsal ve çevresel sorunlar da devletlerin sorumluluklarını artırmıştır. Bu kapsamda devletlerin küresel sorunlara duyarlı ve sorumlu yönetim sergilemesi beklenmektedir. Devletlerden beklenen sorumlu davranış biçimi çevresel adalet, sorumlu ve sürdürülebilir üretim ve tüketim unsurları ile daha karmaşık hale gelmiştir. Standardizasyon, iklim değişikliği sorunlarına çözüm bulunmasında, BM Sürdürülebilir Kalkınma Hedefleri'ne ulaşılmasında ve sürdürülebilir üretim ve tüketimin sağlanmasında önemli bir rol oynamaktadır. Bu makale dünyamızın karşı karşıya olduğu iklim değişikliği sorunlarına çözüm geliştirilmesi ve daha iyi bir gelecek sağlanması için yürütülen yeşil standardizasyon ve sürdürülebilir ürün standardizasyonu çalışmalarını incelemektedir. Makale ayrıca sürdürülebilir bir gelecek için paylaşım ekonomisini okuyucuya tanıtmaktadır. Makale, sorumlu yönetimin sağlanması ve BM Sürdürülebilir Kalkınma Hedeflerine ulaşılması için standartların önemine değinmektedir.

Anahtar Kelimeler: Standardizasyon, Yönetişim, Sürdürülebilirlik, Paylaşım Ekonomisi, İklim Değişikliği.

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Global Standardization for a Sustainable Future

One of the challenges of our time is climate change. Climate change has significant risks and severe impacts like increase in temperatures, droughts, floods, hurricanes. These effects have serious risks to environment. In order to reduce these effects of climate change, the increase in average temperatures should be limited to a 2°C (maximum).

Panel on Climate Change (IPCC) noted in their report that the human influence on the climate system is obvious and is extremely likely the main cause of the warming since 20th century. It is said that there will be catastrophic consequences for people and the planet if global warming cannot be kept below 2°C. There will be human-induced climate change affecting weather in 2021, too. These climatic events are causing hunger and displacement (United Nations Development Programme [UNDP], 2022a, p. 9).

While the whole world is affected, it is clear that the already weak and disadvantaged groups will be more affected by these results. According to the report of The World Meteorological Organization (WMO), global warming of 1.5°C is expected in coming 5 years. This will jeopardize the achievements of the Paris Agreement. Reaching the level of 1.5°C of global warming will increase many climate-related risks such as health, food safety, living spaces, water resources, security and economic growth and will have devastating effects (UNDP, 2022a, p. 9).

As seen during the COVID-19 pandemic process, disadvantaged groups are more affected by disasters occurring in the world or negative consequences such as pandemics. Millions of people have been pushed into poverty due to the COVID-19 pandemic (UNDP, 2022a, p. 9). Therefore, the measures to be taken both for the post-pandemic process and regarding climate change should primarily focus on the disadvantaged groups, be implemented without harming human rights, and highlight the principle of equality.

The main solutions are solutions such as increasing energy efficiency, using renewable energy sources and preventing deforestation. The quickest and least costly way to reduce carbon emissions is to take measures for energy efficiency. For this, it is necessary to manage the demand. According to the Energy Report of the World Wildlife Fund (WWF), global energy demand in 2050 is likely to decrease by 15% compared to 2005 without any reduction in global production projections. According to this report, it is possible to meet the energy demand from renewable energy sources in 2050 (WWF, 2022).

Laws can promote the fair and sustainable management of the environment by securing respect and protection. This will include water, land, biodiversity and forests (UNDP, 2022a, s. 18). Environmental rights and ensuring “environmental justice” should be seen as human rights. To protect these rights, all institutions should do their part, prepare the necessary legal regulations and plan the necessary actions. Only in this way will it be possible for us to live in a clean, sustainable and safe environment and to leave such an environment for future generations. Environmental rights and environmental justice are the rights of future generations and our duty to them.

Management theories are shaped in line with the needs of people and our world. The governance model, which started to be implemented more effectively in the 1990s, started to include the parties affected by the decisions in the policy processes. Thus, public policies began to take shape with the participation of all parties. In later years, the governance model has been moved to a different dimension with the international organizations determining the terms and conditions related to the public policies of the countries. In this governance model, which is presented to the literature under the name of cooperative governance, global actors like World Trade Organization (WTO), United Nations (UN) and European Union (EU) advocate national and global policies together with different partnerships (Algan, 2021). This governance model, which can be criticized as an intervention in public power, takes a different

turn, especially when it comes to environmental policies. The fact that global actors advocate the policy-making processes of states limits national decision-making. However, when it comes to the implementation of global decisions or global policies to develop solutions to environmental problems, especially the climate change problem that concerns our entire world, global actors must determine global policies. It is possible to see a similar situation in societies suffering from poverty before and after the COVID-19 pandemic, and in social problems such as the protection of human rights based on children's and women's rights.

The efforts of global organizations to implement their policies against global problems at the national and global levels are important steps to solving the problems facing the world. The concept of sustainable development developed by the UN and the Sustainable Development Goals (SDGs) determined accordingly are important examples of this. These goals are the development proposals for the future of our world and humanity. The efforts of countries and organizations to achieve these goals will make our world a more livable place. It is possible to see that the cooperative governance model has become different with these global contributions. Changing conditions and management models have also changed the duties expected from the state. Today, states are expected to exhibit responsible governance (Algan, 2022). Responsible governance is not only concerned with the services that the state will provide, but also with how these services will be provided.

Standards are important tools to contribute to the solution of climate change and environmental problems and to demonstrate responsible governance. Standards stand out not only with their contribution to the global economy but also with their contribution to the UN SDGs and their contribution to greener production. Standards, which make important contributions to sustainable products as well as green standardization, also provide technical information support to companies in new product development processes.

The sharing economy is a different model in which resources are shared in today's world with unlimited consumption. This model, which will reduce production and consumption, will not only contribute to the solution of environmental problems but also contribute to the increase of social welfare by sharing products.

This article examines the principles of responsible governance, including the concept of UN environmental justice. The article also reveals how standards contribute to the solution of environmental problems within the scope of responsible governance. In this context; standardization for the future, standardization for sustainable products and studies in the field of sharing economy are examined in the article.

Methodology

In the study, the responsible governance approach and principles were defined by scanning primary and secondary sources. In addition to these definitions, the concept of UN Environmental Justice has been examined through UN documents. After the UN SDGs were introduced with relevant UN resources, the work of global standards organizations was examined. This review is carried out by international, regional and national standards organizations; policy documents, regulations, procedures and it has been done by examining the recent studies.

All global standards prepared in these areas were reviewed while the sections on solutions developed for climate problems, sustainable standardization and sharing economy were prepared. In this context;

- International Standard Organizations (ISO, IEC),
- Regional Standard Organizations (CEN, CENELEC),

- National Standard Organizations (TSE, DIN, etc.)

and their standardization studies were examined. According to this analyse all the standards in these fields were listed and examined. As a result of this review, the classification of standards has been provided in the light of global organizations such as UN and other publications in the literature. Within the scope of this classification, it was ensured that the findings related to standardization for the future, sustainable standardization and sharing economy were discussed.

Responsible Governance with UN Environmental Justice

Governance models and changing economic and global conditions have increased the duties of the state. As a result of these developments, the duties of the state have not only increased but also the expectations from the state have changed. Responsible governance has emerged as the management model in recent years. In the responsible governance model, it is one of the most important features to ensure that all stakeholders of the society take part in policy-making processes and that public policies are created with social consensus. The social consensus principle requires that policy-making processes be open, transparent and accessible. Thus, openness, transparency and accessibility of documents and processes appear as other principles of the responsible governance model. While determining public policies, analyzing the social and economic effects of these policies, preparing policies by promoting social justice and social value are the other principles of the responsible governance model (Algan, 2022).

Public policies should be determined equally and fairly and should be implemented in the same way. This will enable the administrations to consider the minorities in the society and to display a more democratic administration. At this stage, public policies must support social justice. The policies to be determined should exhibit a fair approach to all segments of society, be applied equally and increase social trust (Algan, 2022). Another principle of the responsible governance model is the creation of global value. It is no longer possible to think only nationally or regionally. While determining public policies, governments are responsible for taking into account the interests of the world and creating global value.

The UN's concept of sustainable development, which was introduced to the global literature in 1987, refers to meeting the needs of society and considering future generations (Algan, 2022). The purpose of the UN SDGs is to set development goals for governments and organizations. These goals are a universal call to action to eradicate poverty, protect our world, and increase the peace and well-being of humanity. UN SDGs are; No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reduced Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life On Land, Peace, Justice, and Strong Institutions and Partnerships for the Goals (UN, 2015). Administrations should work to achieve these goals within the scope of responsible governance and should take these goals into account when determining their policies.

While our world is experiencing multiple climate change problems such as biodiversity, ecosystem loss and air pollution, it has also been struggling with problems such as increased inequalities and violation of human rights due to wars and economic crises in recent years. The COVID 19 pandemic has exacerbated these problems, and environmental injustice has increased as well as economic inequality and social injustice around the world. In addition to the injustices experienced in basic rights like accessing food and health services, there are also problems with women's and children's rights. At this point, the United Nations Development Program aims to develop the concept of environmental justice and to promote the rule of law with respect for human rights. This covers effective governance and an

integrated approach related to nature, climate and energy (UNDP, 2022a, p. 5). UNDP's environmental justice strategy covers climate and environmental justice, focusing on the respect and protection environmental rights (UNDP, 2022b, p. 6).

In the Anthropocene era, a new geological epoch in which a man competes with the forces of nature, the UN's strategy of "leaving no one behind" should be seen as the "right of future generations" to ensure climate justice, as the UN Secretary-General said. UN's environmental justice focuses on basic elements such as creating a legal framework, strengthening a human-based approach, increasing the effectiveness and accessibility of institutions that will protect the environmental rights of future generations, and increasing legal regulations on environment and climate issues. UN states that environmental rights should be seen as human rights. Therefore, all legal regulations and practices related to human rights should also be made regarding the environment (UNDP, 2022a, p. 10).

UN SDGs and environmental justice need to be taken into account when determining national and global policies. In this context, keeping environmental management at the forefront, developing policies that will solve climate change and environmental problems and establishing policies to ensure environmental justice and sustainable transition should be the principles of responsible governance. Administrations that want to demonstrate responsible governance within the framework of UN environmental justice should also protect climate justice, human rights and gender rights.

In this direction, responsible governance is a governance model in which environmental justice, social justice and global social benefit are prioritized in policy-making processes and the possible effects of the policies to be implemented are evaluated by all relevant parties and decisions are taken together. While applying the responsible governance approach, determining policies for the realization of the UN SDGs and prioritizing environmental justice and human rights will not only ensure the development of countries but also support global sustainable development.

Standardization for a Sustainable Future

Standardization plays a crucial role in economic life. Standards improve productivity, reduce information asymmetry, increase trust and boost international trade (Castka, 2020, pp. 1-2). In addition to this significance for the economy and the business world, standards are documents that determine environmental, safety and quality requirements for producers and consumers. These core features of the standards have become even more important over the years. Standards have become important tools for producing solutions to environmental problems, protecting nature and energy resources, and reaching UN SDGs. Standards are important tools to leave a more beautiful and resource-efficient world to future generations. Green standardization activities such as social responsibility standards, environmental standards and circular economy standards, and sharing economy studies contribute to UN SDGs (Algan, 2022).

The European Commission (EC) has announced how they will contribute to a greener world by determining a new strategy. With this strategy, the Commission declares that the standard needs are determined as a priority, legal arrangements are made for priorities and standardization activities are carried out within the scope of the European Green Deal. In the strategy, it is stated that studies will be carried out on ecodesign and sustainable products within the scope of sustainability (EC, 2022). International standards organizations and European Standards Organizations (ESOs) also express that they will do the necessary work for the realization of the UN SDGs in their strategies and activities. These organizations work to achieve sustainable development goals with all the standardization activities they carry out, from environmental standards to sharing economy standards.

Standardization for the Future

Green standardization sets roadmaps for the effective and correct use of resources and the realization of UN SDGs with environmental standards and circular economy standards. For example, within the scope of UN SDG 6 Clean Water and Sanitation, the European Committee for Standardization (CEN) has published the EN 15975 Security of drinking water supply series. These standards aim to ensure the safety of water resources.

Within the scope of UN SDG 7 Affordable and Clean Energy goal, European Standard Organizations (ESOs) prepare Eco-design and Energy Labeling standards. These European standards can be used as tools to manage energy use or carbon emissions and gradually improve the energy efficiency of products. For organizations committed to addressing their impact, conserving resources and improving the bottom line through efficient energy management, International Organization for Standardization (ISO) developed ISO 50001 Energy Management standard. ISO 50001 standard for energy management systems can help safeguard our future by making a positive difference.

While the ISO 19030 Ships and Marine technology series contributes to the UN SDG 9 Industry, Innovation and Infrastructure goal, the standard organizations prepare;

- ISO 37120 Sustainable cities and communities-Indicators for city services and quality of life (ISO, 2021),
- ISO 37101 Sustainable development in communities-Management system for sustainable development- Requirements with guidance for use (ISO, 2021),
- ISO 15392 Sustainability in buildings and civil engineering Works-General principles (ISO, 2021),
- ISO 16745 Sustainability in buildings and civil engineering Works-Carbon metric of an existing building during use stage series standards to achieve the UN SDG 11 Sustainable Cities and Communities goal (ISO, 2021).

For the UN SDG 12 target, ESOs prepare standards in the field of textiles and sets requirements for efficient and sustainable production. ISO/TS 17033 Ethical claims and supporting information-Principles and requirements technic specification sets out common ways to make a credible ethical claim.

To achieve UN SDG 13 Climate Action goal, standard organisations prepare;

- Greenhouse gases (ISO 14064 Greenhouse gases series),
- Carbon footprint (ISO/TS ISO/TS 14067 Greenhouse gases-Carbon footprint of products-Requirements and guidelines for quantification and communication),
- Smart transportation (ISO 37161 Smart community infrastructures-Guidance on smart transportation for energy saving in transportation services)
- Green finance (ISO 14030 Environmental performance evaluation- Green debt instruments series),
- Green logistics,
- Green buildings standards.

While ISO 22948, Carbon footprint for seafood- Product category rules (CFP-PCR) for finfish standard contributes to the UN SDG 14 Life Below Water goals; standards such as smart transportation and railways contribute to the UN SDG 15 Life On Land goal. Besides these efforts; standardization

activities such as ISO 14000 Environmental Management Systems standards, standardization activities in the field of Circular Economy (ISO 59004), and sustainable development standards both contribute to the UN SDGs and ensure the protection of our world.

These standardization activities listed under certain SDGs to follow a certain methodology above do not only serve those SDGs but also contribute to the realization of other SDGs. For example, the ISO 50001 Energy Management standard contributes to the realization of UN SDG 7 Affordable and Clean Energy, as well as the UN SDG 11 Sustainable Cities and Communities, UN SDG 12 Responsible Consumption and Production, and UN SDG 13 Climate Action.

The ISO 37120 Sustainable cities and communities- Indicators for city services and quality of life standard not only ensures the achievement of the UN SDG 11 Sustainable Cities and Communities goal; it also contributes to the goals of UN SDG 3, UN SDG 4, UN SDG 5, UN SDG 6, UN SDG 8, UN SDG 10, UN SDG 13 and UN SDG 16.

ISO 22948, Carbon footprint for seafood- Product category rules (CFP-PCR) for finfish standard also contributes not only to UN SDG 2 Zero Hunger; but also to UN SDG 11, UN SDG 12 and UN SDG 14.

With all these contributions, standardization activities and standards, within the scope of responsible governance, ensure sustainable development, efficient use of natural resources, increasing energy efficiency and creating solutions to environmental problems, leaving a better future for future generations.

Standardization for Sustainable Products

New product development is an important phase. New product development covers; discovery, prototyping, testing and introduction of new products. It is important to evaluate the demands of the market correctly and to present the product at the right time. The performance of companies in this process depends on many factors. These factors are brand reputation, budget possibilities and know-how asset. Standards form the basis of success in the product development processes of companies. Companies that work with standards and integrate them into their production processes gain a more competitive advantage in time-to-market performance, product/process interfaces and market acceptability. Standards play a very important role in the compliance of technological products with the legislation (Castka, 2020, p. 8). In this way, products produced following the standards create trust in private and public institutions. Also, companies use standards to engage with technologies (Castka, 2020, 8). Standards affect entire supply chains and innovation ecosystems. Standards affect national economies as they create reference points, create an environment of cooperation and determine trade relations. Companies should determine a strategic approach for standardization management. This approach covers every stage of production (Castka, 2020, pp. 1-3).

Sustainable products are products that provide environmental, social and economic benefits. They are very important not only for companies but also for consumers. Sustainable manufacturing aims to produce products which are compatible with environment. A sustainable product is made out of renewable resources and it uses a small amount of energy.

Standards provide numerous contributions to companies in the development of new green technology products. Products aiming to protect nature generally require innovation and advanced technology. The involvement of manufacturers of such products in the standardization processes will provide them with technical information and know-how. The contributions of these manufacturers to the standards will also benefit other manufacturers and increase the quality of the standards.

Companies have to consider UN SDGs while producing their products. The most practical way to contribute to the SDGs while producing is again the standards. In addition to the standardization activities mentioned above;

- ISO/TS 34700 Technical specification for animal welfare management (ISO, 2021),
- ISO 34101 series on sustainable and traceable cocoa (ISO, 2021),
- ISO 14034 Environmental management-Environmental technology verification (ISO, 2021),
- ISO 23828 Fuel cell road vehicles- Energy consumption measurement- Vehicles fuelled with compressed hydrogen standards also support SDGs (ISO, 2021).

These standards help firms to verify their environmental gains, provide green and sustainable finance and comply with new environmental technologies. The fact that companies manage their processes by complying with the requirements of standards such as ISO 14007 Cost-benefits analysis and ISO 14008 Climate finance in their production processes will contribute to both companies and SDGs (ISO, 2021).

It is necessary to ensure the sustainability of products, achieve the UN SDGs and prevent climate change (Filho, 2018). Standards play a major role in the development and sustainability of products. Standards ensure compliance of products with legislation and green and sustainable production. Standardization activities provide benefits such as sharing technological information and spreading innovation studies, as well as making companies aware of each other's work through networking.

The sustainability of consumption is as important as the sustainability of production for the future of our world. Consumers' knowledge about green and sustainable products, their preference to use these products, and their shopping from companies that make green production will increase sustainable consumption. Using sustainable products, protecting nature in all consumption processes and acting with energy efficiency in mind will make a big difference globally. Sustainable production and consumption appear as ways to contribute to the UN SDG and prevent climate change, as well as the requirements of responsible governance.

Sharing Economy

The sharing economy can be defined as an activity of sharing access to goods and services via online platforms. It is important for sustainable production and consumption. As Yunus Emre said; "What you share is yours, not what you accumulate" (Yakin, 2018, p. 19). According to Botsman, the sharing economy is an economic model based on the sharing of underutilized assets from space, skills and belongings for monetary or non-monetary benefits (Frenken, 2017a, p. 1).

The sharing economy model is a business model based on converting people's assets that they do not constantly use into money and bringing the same assets together with those who need them. Airbnb and Uber are its most well-known features. The concept of the sharing economy has emerged for reasons such as the widespread use of the internet, mobilization, the longing of new generations for nature, their sensitivity to environmentalism, and the revolt against unnecessary consumption. The sharing economy is an innovative and effective tool for the circular economy, which allows for more efficient use of all kinds of resources such as goods, services and information through reuse and joint use.

The activities carried out within this scope are grouped under four categories (İzmir Kalkınma Ajansı, 2022):

- Recirculation of goods: It is the activities of selling, sharing, bartering or donating used goods to others through a platform over the internet. Ebay, Letgo are the most known applications in this field.

- More efficient use of durable goods: The activities of using durable consumer goods like houses, vehicles, offices and bicycles through a firm without changing ownership. Airbnb, where living spaces are shared, and Uber, where car sharing is carried out, can be considered in this context.
- Exchange of services: These are the applications that bring the service provider and those who need the service together. The most well-known examples are time banks where people share their time, non-profit service swap applications and platforms such as Armut and Task Rabbit where services are exchanged.
- Sharing of productive assets: Activities based on the shared use and rental of productive spaces, knowledge, skills and tools. Cooperatives shared offices and workspaces, tools and equipment libraries are examples of this area.

The sharing economy, which has been in practice for more than ten years, has a great contribution to sustainability. By allocating limited resources to unlimited consumption demands, it provides a more efficient distribution to humanity. It increases the savings rate by making the resources in the world more efficient. This ecosystem, where consumers share their products without giving their ownership with the help of peer-to-peer or common networks, also contributes to the reduction of production. A decrease in production will reduce greenhouse gas emissions, pollution and energy expenditures (Boar et al., 2020, pp. 1-3). For example, Airbnb is extremely green in energy use, water use and greenhouse gas emissions and waste generation compared to hotels. The numbers suggest that, compared to hotels, home sharing may generate substantial benefits as Airbnb guests consumed less energy (by 63-78%) and less water (by 12-48%). The system generated less greenhouse gas emissions by 61-89%. Similarly, the ridesharing platform BlaBlaCar, stated that the company saved 1.000.000 tons of CO₂ over the past two years roughly equivalent to what 250.000 cars emit every year assuming 4 tons per car per year (Frenken, 2017b, p. 6).

The sharing economy also creates positive results in terms of creating new job opportunities, providing financial benefits to users, gaining social experience and increasing the quality of life. For example, sharing economy, like clothes and car sharing, both provide financial benefits to the parties and increase the quality of life of people through this social experience. In addition to these benefits, when factors such as transportation costs and loss of time and labour are considered, the sharing economy also contributes to sustainability with an overview (Boar et al., 2020, p. 9).

Considering all these benefits, the sharing economy should be seen as an important opportunity for sustainability. Within the scope of the positive effects of the sharing economy on the environment, urban effects and the sharing economy, companies contribute to the UN SDGs with their responsible activities. For example, urban gardens have the potential to achieve UN SDG 2, UN SDG 3, UN SDG 11. Urban gardens can also contribute to UN SDG 13 and UN SDG 15.

As can be seen, the contribution of the sharing economy to the UN SDGs is not only within the scope of one SDG, the sharing economy contributes to many SDGs diagonally. The sharing economy has the potential to contribute to many of the SDGs, it can especially help to achieve SDGs such as UN SDG 2, UN SDG 3, UN SDG 8, UN SDG 9, UN SDG 12 and UN SDG 11 (Boar et al., 2020, pp. 10-11).

British Standards Institution (BSI) has published a publically available specification PAS 202 Sharing economy- operation of an online platform, to accelerate the development of the sharing economy. This PAS specifies the requirements for operators of online platforms. PAS offers guidance on safety, consumer protection and risk management and it encourages improvement of services (BSI, 2022).

In 2017 ISO developed international guidance document IWA 27 Guiding principles and framework for the sharing economy. ISO/TC 324 Sharing economy Committee aims to serve UN SDG 1, UN SDG

3, UN SDG 8, UN SDG 9, UN SDG 10, UN SDG 11 and UN SDG 12. This Committee has a published standard which is ISO 42500 Sharing economy-General principles. This standard provides general principles and aims to boost No poverty, Good Health and Well-being, Industry, Innovation and Infrastructure and Sustainable Cities and Communities goals (ISO 42500, 2021). There are also ISO/DTS 42501 Sharing economy-General trustworthiness and safety requirements for digital platforms and ISO/DTS 42502 Sharing economy- Guidelines for provider verification on digital platforms documents which are under development. Sharing economy is a rising model for sustainable and responsible consumption. Standardization will boost the activities in the field of sharing economy.

Concluding Remarks

Climate change is a problem that our world is facing with serious consequences. A global effort is needed to prevent climate change. Many organizations are working to prevent climate change and minimize its effects with various studies. The most comprehensive of these studies is UN SDGs.

The economic, social and environmental problems experienced over the years have changed the role of the state and improved the administrations to exhibit responsible governance. While the responsible governance model is set forth with principles such as social consensus, social justice and global value creation; the concept of UN environmental justice, sustainable production, sustainable consumption and responsible consumption have made it necessary to add new principles to responsible governance model.

Standards are important tools for a sustainable future. The green standardization used in the field of environment not only contributes to the UN SDGs but also supports a better quality of life for all societal stakeholders. Sustainable product standardization is also very beneficial for companies and creates social benefits. Sustainable products provide both sustainable consumption and sustainable production. Like sustainable product standardization, the sharing economy also highlights the concepts of sustainable consumption. The sharing economy contributes to the well-being of society and the UN SDGs. In addition, the sharing economy creates new job opportunities, provides financial benefits and increases social integration.

Environmental justice, sustainable and responsible production and consumption are important elements for preventing climate change and contributing to the UN SDGs. Therefore standards will continue to contribute to future generations as effective tools for ensuring responsible governance and realizing UN SDGs with these elements.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study is not applicable.

Author Contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Declaration of Conflicting Interests

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Corruption and Economic Growth Nexus: What has the Arab Spring Changed?*

Yolsuzluk ve Ekonomik Büyüme İlişkisi: Arap Baharı Neleri Değiştirdi?

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Abstract

Corruption is an everlasting phenomenon in the Middle East and North Africa (MENA). It is considered one of the fundamental reasons for the Arab incidents that started in Tunisia in 2011. Considering its devastating effects, this paper concentrates on the impacts of corruption at the macro level following the Arab uprisings. Notably, it investigates the impact of corruption on economic growth between 1996-2020 in 18 MENA countries. The paper utilizes panel estimators with country-fixed effect regressions given the results of the Hausman test. Panel estimators help control time-variant unobserved heterogeneity and capture both time and country-specific differences. The results indicate that after the Arab Spring, corruption lowers economic growth. One unit increase in control of corruption score of World Governance Indicators (WGI) decreases economic growth between 1.64-2.98 percentage points depending on the model. The results are robust with alternative corruption indexes such as the International Country Risk Guide (ICRG), Varieties of Democracy (V-Dem), and the Corruption Perception Index (CPI). Furthermore, the Chow test confirms that 2011 constitutes a structural break in the history of the MENA region. The outcomes indicate that specific policies need to be implemented to alleviate the adverse impacts of corruption in MENA countries.

Keywords: Corruption, Arab Spring, Economic Growth, Fixed Effects, Chow Test.

JEL Code: D73, N15, N45, 043

Öz

Yolsuzluk, Orta Doğu ve Kuzey Afrika'da (MENA) sonu gelmez bir olgudur. 2011 yılında Tunus'ta başlayan Arap olaylarının temel nedenlerinden biri olarak kabul edilmektedir. Yıkıcı etkileri göz önünde bulundurularak bu makale, Arap ayaklanmaları sonrasındaki yolsuzluğun makro düzeydeki etkilerine odaklanmaktadır. Özellikle, 18 MENA ülkesinde 1996-2020 yılları arasında yolsuzluğun ekonomik büyüme üzerindeki etkisini araştırıyor. Makalede, Hausman testinin sonuçları verilen ülke sabit etkili regresyonlara sahip panel tahmincileri kullanılmaktadır. Panel tahmin edicileri, zamana bağlı gözlemlenmemiş heterojenliği kontrol etmeye ve hem zamana hem de ülkeye özgü farklılıkları yakalamaya yardımcı olmaktadır. Sonuçlar, Arap Baharı sonrasında yolsuzluğun ekonomik büyümeyi düşürdüğünü göstermektedir. Dünya Yönetişim Göstergelerinin (WGI) yolsuzluğun kontrolü puanındaki bir birimlik artış, modele bağlı olarak ekonomik büyümeyi yüzde 1,64-2,98 puan arasında azaltmaktadır. Sonuçlar, Uluslararası Ülke Riski Rehberi (ICRG), Demokrasi Çeşitleri (V-Dem) ve Yolsuzluk Algılama Endeksi (CPI) gibi alternatif yolsuzluk endeksleri ile de sağlamdır. Buna ek olarak, Chow testi, 2011 yılının MENA bölgesinin tarihinde yapısal bir kırılma olduğunu doğrulamaktadır. Sonuçlar, MENA ülkelerinde yolsuzluğun olumsuz etkilerini hafifletmek için belirli politikaların uygulanması gerektiğini göstermektedir.

Anahtar Kelimeler: Yolsuzluk, Arap Baharı, Ekonomik Büyüme, Sabit Etkiler, Chow Testi.

JEL Sınıflandırması: D73, N15, N45, 043

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Corruption and Economic Growth Nexus: What Has the Arab Spring Changed?

Corruption as a global phenomenon existed at all times in history and is not prevalent only in developing countries (Basu, 2006). It is a common concern in the Middle East and North Africa (MENA). The reasons considered to make the MENAⁱ region susceptible to corruption include unemployment, poverty, low institutional quality, and high oil dependence in some countries, which attracts massive rent-seeking (Warf 2015; Djankov et al. 2008; Ross 2001).

Vulnerability to corruption hurts institutions and affects the trustworthiness of the states in the MENA region. In the recent survey of ASDA'A Cohn & Wolfe and Burson-Marsteller (ASDA'A BCW), a public relations agency based in the United Arab Emirates (UAE), Arab youth consider corruption as the third biggest issue after migration and political unrest (Arab Youth Survey, 2020). In the Corruption Perception Index (CPI), measured by Transparency International (2019), a leading institution measuring the corruption level of countries, MENA scored 39 on average on a scale varying from 0 (most corrupt) to 100 (least corrupt). This is less than the world's average. With this score, MENA is only better than Sub-Saharan Africa, Eastern Europe, and Central Asia (Kubbe & Varraich., 2020) Yemen, Syria, and Libya had the lowest scores among MENA. Syria and Yemen have the lowest scores in the world. On the other hand, all six members of Gulf countries performed relatively better in the region. However, Qatar, Saudi Arabia, and UAE are at the top of the MENA regarding cleanliness from corruption.

Outside of subjective data sets, The MENA region suffers from informal corruption practices such as *wasta* (networks and reciprocity) and *hamula* (clientelism). In the *wasta* system, citizens who have connections can quickly process their documents through the government bureaucracy and help their close ones get hired for a job. Similarly, *hamula* (clientelism), more extensive than a tribe, impacts decisions in the country (Kubbe and Varraich, 2020). Membership in more prominent tribes plays a significant role in the state's decision-making process due to their close connections with ruling families. Taking formal and informal corruption practices into account, corruption has played a fundamental role in Arab protests.

In addition to these problems, psychological pressures caused by the dictators made people dissatisfied. In most MENA countries, freedom of speech does not exist, and journalists cannot write about the corrupt behavior of politicians, especially presidents. However, the youth constituting a considerable size of the MENA population (Mnawar, 2015), have been unhappy with these living conditions. Several external factors also contributed to the fires of the Arab Spring. For example, dependence on food imports for essential food supplies (e.g., wheat, corn, sugar, rice, and meat) affected the MENA region negatively when food prices increased sharply from 2002 to 2010 (Arezki & Bruckner, 2011). Another example is the mortgage crisis of 2008, which started in the US but affected the globe. MENA countries were already in enormous debt, and the financial crisis exacerbated the burden, further increasing dissatisfaction and unhappiness among the people (Lagi et al., 2011). Internal and external factors combined ignited the massive protests in the MENA in 2010.

On 17th December 2010, Tunisian food vendor Mohamed Bouazizi immolated himself. Despite numerous similar incidents before, this self-immolation made the conditions unbearable and ignited the Arab Spring (Ansani and Daniele, 2012; Mungiu-Pippidi, 2015; Feldman, 2020). The Jasmine Revolution in Tunisia started as a response to massive macroeconomic problems, including long-standing high unemployment, especially youth unemployment, and a rebellion against government corruption and the regime's extravagance (Feldman, 2020). It then spread to other countries in the region, starting from Egypt, Libya, Yemen, and Syria.

Chronic and massive economic problems such as high youth unemployment, national debts, and

excruciating inequality have been common historical problems in the Middle East and North Africa (Looney, 2015). While the small group of elites close to the authoritarian regimes has benefitted from the nations' wealth, a growing youth population has struggled to get permanent jobs because of insufficient growth and a high level of inequality. The region also experienced a sharp decline in governance indicators across the six dimensions of the World Governance Indicators (WGI) of the World Bank, namely voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law, and control of corruption). It has also failed to integrate into the global economic system and implement structural reforms (Looney, 2015).

When the devastating economic consequences of Arab protests and the role of corruption are considered, it is crucial to examine the impact of corruption on economic growth in this regard. The reason is that corruption is considered one of the triggering phenomena of Arab uprisings, and economic growth is perceived to measure a country's macroeconomic stability. The impact of corruption on economic growth in the MENA region after the Arab unrest has not been investigated except Abdel-Latif et al. (2018). However, their research compares the MENA region with non-MENA countries and finds that corruption harms economic growth. On the other hand, this work investigates the impact of corruption on economic growth only within the MENA region by employing different econometric methodology. Due to these reasons, this study significantly contributes to the corruption literature.

Corruption's cultural, social, and economic repercussions may keep the MENA region in a vicious cycle. This cycle of informal and formal practices makes the region suffer from massive economic issues, especially the absence of sustainable economic growth, which is why the paper wants to examine the impact of corruption on economic growth. The subsections of the article are the following: the next section reviews the literature. Section 3 provides data and methodology. Section 4 discusses the results, while section 5 checks the robustness of the results. Finally, section 6 concludes.

Literature Review

Three strands of literature on the relationship between corruption and economic growth exist. Most studies find a negative relationship between economic growth and corruption regardless of region. Another strand of literature supports a positive relationship between corruption and economic growth. That is, the higher corruption, the higher the economic growth. Lastly, the third strand of the literature argues that there is no monotonic nexus between corruption and growth. This section reviews three hypotheses separately.

Positive Relationship

The first strand of the literature finding a positive impact of corruption on growth is known as the "greases the wheels" hypothesis. Corruption boosts economic growth by overcoming bureaucratic obstacles. In this vein, Huntington (1968) said, "In economic growth, the only thing worse than a society with a rigid, over-centralized, dishonest bureaucracy is one with a rigid, over-centralized, honest bureaucracy."

Leys (1965) and Bayley (1966) view lower-paid civil servants as more prone to corruption and conclude that corruption increases bureaucratic efficiency. Lui (1985) puts forward a game-theoretic model that demonstrates how bribes decrease the time spent in lines and speed up bureaucratic red tape. Beck and Maher's game-theoretic model (1986) shows how corruption can be used as an alternative to competitive bidding in third-world countries to purchase government licensing, which also increases bureaucratic slowness. Lien (1986) extended Beck and Maher (1986) work in another game-theoretic model and found that bribes do not lead to any efficiency loss compared to competitive bidding.

In empirical work, Mironov (2005) investigates the impact of corruption on economic growth in 141

countries. The author finds that residual corruption, which is not correlated with other governance indicators, fosters economic growth in countries where the institutional quality is poor. Likewise, Podobnik et al. (2008) present an empirical analysis, and they find that corruption positively affects GDP per capita growth, and the effect is higher when considering European countries only. Game-theoretic and empirical approaches conclude that corruption positively impacts economic growth by increasing efficiency and reducing bureaucratic slowdowns. Other studies show the negative relationship between corruption and economic growth, and they are the proponents of the sands the wheels hypothesis.

Negative Relationship

Myrdal (1968) finds that civil servants may slow down bureaucratic work to get extra bribes, which eventually causes lower efficiency. Basu et al. (1992) investigate how corruption can be controlled in a game-theoretic model from a different perspective. They find that if the briber can be caught, then the bribee can be caught too, and earlier literature does not consider this. They suggest controlling corruption by making it more costly for both sides of the bargain. Shleifer and Vishny (1993) find that the inability of weak governments to control their institutions causes a high level of corruption. Further, the covert nature of corruption makes it more distortionary and costly than taxation in some undeveloped countries.

Kurer (1993) finds that corruption does not make government licensing and contract processes more efficient. Instead, excessive regulations by the government cause delays and misallocations. In his pioneering piece, Mauro (1995), using the corruption index for the first time, measures the impact of corruption on growth. He finds that corruption decreases economic growth by lowering investment. Brunetti and Weder (1998) support the finding of Mauro (1995) that corruption impacts economic growth negatively through investment. The difference between the two studies is that Brunetti and Weder (1998) use other institutional variables, including government instability, political violence, uncertainty, and corruption.

Kaufmann and Wei (2000), who use firm-level data, find that foreigners who pay more bribes in different countries deal with more bureaucratic hurdles than local citizens since locals know their bureaucratic system better than foreigners, and they may solve their problems faster. Furthermore, Mo (2001) looks into the same relationship by checking the transmission channels between growth and corruption and finds a negative relationship between corruption and growth. Using a game-theoretic model, Mauro (2004) finds that the prevalence of corruption makes the fight against corruption difficult. Prevalent corruption discourages individuals from combating it since it is believed that the corruption issue cannot be solved, and this widespread belief prevents countries from fighting against corruption. Therefore, corruption continues to affect economic growth negatively.

Méon and Sekkat (2005), however, find that corruption harms growth regardless of its effect on investment. They find that the lower quality of institutions makes the impact of corruption on growth more harmful, though the effect becomes less damaging when the institutional quality is improved. Guetat (2006) investigates the impact of corruption on economic growth in MENA countries and compares them with other regions. The author finds that region-specific institutional variables have the highest impact on MENA relative to other regions. Higher institutional and bureaucratic quality increases investment, human capital, and, more importantly, growth in MENA relatively more than in other regions.

Also, Brown and Shackman (2007) find that increasing GDP per capita raises corruption in the short run, but the effects become the opposite in the long run. Further, these studies suggest that corruption is a phenomenon that remains constant for a long time. Aidt et al. (2008) find the negative effect of

corruption on economic growth is quite substantial in countries with stable political institutions, whereas corruption does not affect growth in countries where institutional quality is low. Lučić et al. (2016) find that the impact of corruption on growth is experienced with a lag of six to ten years before any change is observed in the corruption score. Amiri et al. (2017) find that the relationship between transparency and growth is direct and significant, and that is, transparency leads to economic stability, higher growth, and investment. Sbaouelgi (2019) examines the impact of corruption on investment and growth in the MENA region and concludes with the same results as Mauro (1995). Sbaouelgi (2019) also finds that political institutions substantially impact investment and growth.

Non-Linear Relationship

Méndez and Sepúlveda (2006) investigate the impact of corruption on economic growth in the long run by taking political freedom to determine the relationship between the two. They also find a non-monotonic relationship after controlling for several economic indicators and restricting the data to free countries. Heckelman and Powell (2010) study how economic freedom affects the impact of corruption on growth. They find that corruption is growth-enhancing with the most limited economic liberty in a country, and its importance decreases as economic freedom improves.

De Vaal and Ebben (2011) examine the relationship from an institutional perspective and conclude that the relationship between economic growth and corruption depends on the institutional setting. When a country's institutional quality is low, corruption may help spur economic growth. However, in a formal growth model, corruption would affect growth negatively because of leakages in public goods and the exploitation of individual rent-seeking opportunities. Swaleheen (2011) also finds both a growth-reducing and growth-enhancing level of corruption. In this study, corruption is growth-reducing in countries with the lowest level of corruption, such as Finland.

Ahmad et al. (2012) find a linear-quadratic relationship between economic growth and corruption. They use the Generalized Method of Moments (GMM) with panel data and find that corruption is growth-enhancing until a certain threshold, and then it is growth-reducing. Baklouti and Boujelbene (2015) investigate the relationship between democracy, economic growth, and corruption and find bi-directional causal relations between democracy and economic growth and between economic growth and the level of perception of corruption. They find a unidirectional causal relationship between democracy and the perception of the corruption index.

Data and Methodology

Drawing on the literature that shows positive, negative, and non-linear relationships between growth and corruption, this work contributes to the corruption literature from the perspective of the Arab Spring. Since there are significant socioeconomic gaps between the countries in the MENA region, Table 1 below may be helpful in illustrating average GDP and GDP per capita growth rates before and after the Arab Spring.

The table clearly shows that in countries severely affected by the Arab uprisings (Egypt, Libya, Tunisia, Syria, and Yemen), the growth rates were lower after 2011. When it comes to Gulf Cooperation Countries (GCC), Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE, they are not affected as much as the previous five countries. Lastly, the rest of the countries are in the moderately affected group, where their GDP and GDP per capita are between the severely affected group and GCC countriesⁱⁱ.

Table 1*Average GDP and GDP Per Capita Growth Rates (%)*

Country	GDP (1996-2010)	GDP (2011-2020)	GDP Per Capita (1996-2010)	GDP Per Capita (2011-2020)
Algeria	4.0	1.8	2.2	-0.2
Bahrain	5.0	2.4	-0.4	-0.8
Egypt	5.1	3.6	3.2	1.5
Iran	3.9	0.4	2.7	-0.9
Iraq	9.1	3.9	6.3	0.7
Jordan	5.3	2.0	2.1	-1.4
Kuwait	3.8	2.0	-0.3	-1.8
Lebanon	4.9	-1.7	2.7	-4.9
Libya	3.7	2.5	2.1	1.5
Morocco	4.7	2.4	3.4	1.0
Oman	3.3	3.2	1.0	-2.3
Palestine	5.3	2.5	2.3	0.1
Qatar	11.0	3.4	3.4	-1.1
Saudi Arabia	2.9	2.6	0.3	0.1
Syria ⁱⁱⁱ	4.6	-7.4	1.3	-5.0
Tunisia	4.7	0.7	3.7	-0.3
UAE	4.5	3.8	-3.9	2.3
Yemen ^{iv}	4.6	-5.0	1.6	-7.4
Average	5.0	1.3	1.9	-1.0

Note. From <https://databank.worldbank.org/source/world-development-indicators/preview/on>

Data

This study takes a widely used and cited definition of corruption: the abuse of public power for private gain. This definition of WGI and TI (and others) includes petty (political) and grand (bureaucratic) corruption. Defining corruption this way may raise questions about private corruption due to the concentration on public corruption. However, private corruption can be eliminated with competition and regulations (Bardhan 2005). Undoubtedly, private entities engage in corrupt activities; however, the overwhelming majority of corruption studies focus on public corruption, not private corruption (Rothstein and Varraich 2017).

The most cited corruption indexes are WGI, CPI, ICRG, and V-Dem, and there is a strong positive correlation between these indexes. The comparison before and after the Arab Spring is impossible for the CPI data set since TI changed the methodology in 2012. There are enough data points in V-Dem and ICRG data sets; however, their corruption scores are too sticky for a long time. Nevertheless, V-Dem, ICRG, and CPI data sets are still utilized for robustness checks.

Considering data constraints and limitations, WGI is used. WGI displays more variation over time, making the data set more reliable than ICRG and V-Dem. The index started in 1996 and ranges between -2.5 and +2.5, where a higher score represents low corruption. The data is rescaled to interpret the results better, and a higher score means higher corruption (Méon and Sekkat 2005; Johnston 2005). Moreover, since WGI decided to provide corruption scores every year after 2002, it has missing data points for the odd years of 1997, 1999, and 2001. To obtain more observations, data is imputed by taking the simple averages of one year before and after.

Macroeconomic variables are from the World Development Indicators (WDI) of the World Bank, and durability score, which is the number of years that the current political order has continued since the last transition, is from the Polity IV. Several socioeconomic variables drive the GDP per capita growth rate as an independent variable. These are an investment as a percentage of GDP, annual population growth rate, and oil rent, which is the difference between the value of crude oil production at world prices and the total production costs.

Control variables are added in the regression to test whether corruption ceases to impact GDP per capita growth after the Arab Spring^v. These variables are urbanization as a percentage of the total population (Billger and Goel 2009; Reinsberg et al., 2020), mineral rents as a percentage of GDP (Reinsberg et al., 2020; Treisman 2000), log GDP per capita^{vi}, unemployment, government expenditure as a % of GDP, and savings also as a % of GDP. Lastly, the corruption square is added to test the political Kuznets curve argument.

Model

Mankiw et al. (1992) and Barro (1991), pioneer economic growth studies, use cross-country regressions. Corruption studies use similar growth regressions, including those investigating economic growth and corruption nexus. However, this paper utilizes a panel (longitudinal) data set to capture cross-sectional effects. The advantage of panel data is that it shows both time and country-specific effects in the regression analysis while capturing time-invariant unobserved heterogeneity. Dynamic panel data settings could also be used, but since it uses numerous instruments (i.e., system GMM uses more instruments than difference GMM) and this study already has a low number of observations due to the short time passed after the Arab Spring, fixed effect regressions are ideal methodology to employ. The same argument can be made for instrumental variables (IV) estimation. Finding an appropriate IV for corruption is difficult, and it becomes more challenging to find one under panel data as the potential IV must be a time-variant variable. Therefore, fixed effect regressions are the most appropriate estimation for this paper. Hence, the model is the following:

$$\begin{aligned}
 (\Delta \%) GDPPC_{i,t} = & \alpha (Investment)_{i,t} + \beta (Population)_{i,t} + \phi (OilRent)_{i,t} + \gamma (Durability)_{i,t} \\
 & + \eta (Corruption)_{i,t} + \varphi (Arab Spring DV)_{i,t} \\
 & + \delta (Corruption * Arab Spring DV)_{i,t} + \theta_i + \varepsilon_{i,t}
 \end{aligned}$$

In this model, the GDP per capita growth rate is the response (dependent) variable for country i at time t . Explanatory (independent) variables are investment, population growth rate, oil rent, durability, the time under the current administration, corruption scores, and the interaction term between corruption and the Arab Spring dummy. θ_i is country-specific effects, and ε is the error term. The interaction term measures how the Arab Spring affects the impact of corruption on the growth rate. Arab Spring dummy takes 1 for 2011 and onwards and 0 before 2011. Therefore, the interaction term measures the change in the impact of corruption on economic growth in MENA after 2011, when the Arab Spring erupted. The coefficient of interest in this model is δ . If the interaction term is negative, the Arab Spring negatively affects the impact of corruption on economic growth. If the interaction term is positive, then Arab Spring positively affected the impact of corruption on economic growth.

Results

Table 2 and Table 3 below present descriptive statistics and correlation matrix. The research question and model support fixed effect regressions since the Hausman test favors fixed effects over random effects^{vii}. Fixed effects models assume that the error is correlated with the intercept. If this is not the case and the error term is not correlated with the intercept, the fixed effects regressions are not suitable. In Table 2, it may be easily noticed that there is a significant difference between the minimum and

maximum growth values. Both maximum and minimum values belong to Libya, and the regression results do not alter when these outliers are excluded from the regressions. For oil rent, durability, and mineral rent, minimum values are 0 when there is no rent from oil or mineral and when the administration could not stand until the end of the first year. Lastly, Arab Spring takes only 0 or 1 as a dummy variable.

In Table 3, corruption has a positive correlation with growth, but this relationship is not the same before and after the Arab Spring, as seen in Table 4 below. When looking at the correlation between growth and the Arab Spring, economic growth decreased after the Arab uprisings. The other correlations between variables are primarily in line with the literature.

Table 2

Summary Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Year	450			1996	2020
Growth	445	0.744	9.274	-62.378	121.78
Investment	381	25.662	8.387	7.905	50.781
Population	450	2.782	2.57	-4.537	17.511
Oil Rent	411	19.029	17.796	0	66.713
Durability	425	27.567	24.414	0	94
Mineral Rent	411	0.222	0.707	0	5.805
Urbanization	450	72.447	17.843	24.249	100
Log [GDPPC]	443	8.872	1.17	6.504	11.152
Unemployment	450	9.554	6.284	0.091	29.77
Gov't Expenditure	385	17.501	5.532	2.442	33.012
Savings	370	28.945	24.301	-36.345	75.55
Corruption	450	0.301	0.714	-1.57	1.713
Arab Spring	450	0.4	0.49	0	1

Table 3*Correlation Matrix*

Variables	Growth	Investment	Population	Oil Rent	Durability	Mineral Rent	Urbanization	Log [GDPPC]	Unemployment	Gov't Expenditure	Savings	Corruption	Arab Spring
Growth	1												
Investment	0.017	1											
Population	-0.082*	0.072	1										
Oil Rent	0.092*	-0.156***	0.124**	1									
Durability	0.005	-0.059	0.124**	0.332***	1								
Mineral Rent	0.015	0.197***	-0.089*	-0.253***	0.027	1							
Urbanization	-0.038	0.034	0.363***	0.160***	0.266***	-0.078	1						
Log [GDPPC]	-0.017	0.016	0.486***	0.415***	0.409***	-0.194***	0.789***	1					
Unemployment	0.055	-0.048	-0.419***	-0.208***	-0.376***	0.088*	-0.431***	-0.689***	1				
Gov't Expenditure	0.034	-0.074	-0.149***	0.042	0.316***	-0.039	0.251***	0.043	0.104**	1			
Savings	0.041	0.285***	0.232***	0.637***	0.414***	-0.018	0.211***	0.600***	-0.495***	-0.295***	1		
Corruption	0.022	-0.057	-0.441***	0.073	-0.318***	-0.006	-0.555***	-0.661***	0.512***	-0.155***	-0.204***	1	
Arab Spring	0.152***	0.106**	-0.152***	-0.087*	-0.026	0.086*	0.110**	0.016	0.002	0.051	-0.036	0.102**	1

*** p<0.01, ** p<0.05, * p<0.1

Table 4 below shows the regression results of fixed effects, where the second column is the result of the preferred model for the entire dataset because, according to the literature, the explanatory variables, namely investment, population, oil rents, and durability, explain this model better and straightforward way and the value of R^2 supports that finding as elaborated below. Lastly, the standard errors are in parentheses which are robust and clustered across the countries. Columns 3-9 add each control variable to regressions one by one.

In the preferred specification, in the second column, all the variables are significant except corruption, but its sign is negative. Corruption does not have a statistically significant impact on growth before the Arab Spring. It is also seen that the impact of the Arab Spring is to lower economic growth. Still, economic growth is further decreased when the additional impact of corruption is included in estimating the impact of the Arab Spring. In column 2, after the Arab Spring, economic growth reduces by 1.54%, and corruption further decreases economic growth by an additional 1.64%. Thus, an increase in corruption by 1-point post-Arab Spring leads to a decline in economic growth by about 3.2%. That means while corruption does not have a statistically significant impact on reducing economic growth prior to the Arab Spring, higher levels of corruption after the Arab protests exacerbated the impact of the Arab Spring on economic growth.

In the first column, it is seen that corruption affects economic growth negatively after the Arab Spring, which is significant at the 5% level. In the third column, the coefficient of interest continues to be significant after controlling for mineral rent. In this column, the coefficient of the Arab Spring is almost the same in magnitude as the preferred model, which is significant. Other variables are also significant, except the corruption and mineral rent coefficient.

Between columns 4-8, log GDP per capita, unemployment, government expenditure, and savings are added to the regressions. After adding all the controls, the coefficient of interest is still negative and significant. Also, the coefficient of the Arab Spring is negative and significant. The corruption coefficient never reaches significance but is negative in most regressions. Population, oil rent, and investment are significant in all columns, and durability is not significant after the second column. Interestingly, except for unemployment, the coefficients of control variables do not reach significance in any regressions. Lastly, the political Kuznets curve argument is tested for non-linearity; nonetheless, it is not verified.

Overall, the coefficient of interest is negative and significant in all regressions. Economically, the relationship between corruption and economic growth becomes more robust after the Arab Spring, when economic growth is lower. In other words, corruption plays an important role in explaining the decrease in economic growth after the Arab Spring incidents. The negative coefficient shows that after the Arab Spring, the impact of corruption on economic growth is negative and significant. It can also be seen that while corruption does not impact the growth rate before the Arab Spring, its impact is felt more after the protests.

Table 4*Regression Results*

Dept. Var: Growth	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Investment		0.0882** (0.0349)	0.0895** (0.0354)	0.0902** (0.0337)	0.0890** (0.0329)	0.112** (0.0401)	0.126*** (0.0394)	0.117** (0.0492)	0.120** (0.0518)
Population		-0.668*** (0.160)	-0.666*** (0.160)	-0.665*** (0.156)	-0.665*** (0.156)	-0.681*** (0.152)	-0.545** (0.235)	-0.531** (0.240)	-0.517** (0.220)
Oil Rent		0.175*** (0.0402)	0.176*** (0.0402)	0.176*** (0.0403)	0.169*** (0.0432)	0.176*** (0.0421)	0.239*** (0.0768)	0.220** (0.0837)	0.220** (0.0806)
Durability		-0.0305** (0.0133)	-0.0300** (0.0134)	-0.0291 (0.0176)	-0.0282 (0.0195)	-0.0264 (0.0178)	-0.0133 (0.0150)	-0.0126 (0.0150)	-0.0168 (0.0164)
Corruption	1.389 (1.279)	-0.301 (1.044)	-0.283 (1.066)	-0.294 (1.068)	-0.0436 (1.047)	-0.308 (1.102)	-0.608 (1.182)	-0.781 (1.260)	-0.244 (1.301)
Arab Spring	-1.978** (0.876)	-1.545*** (0.518)	-1.535*** (0.516)	-1.488* (0.757)	-1.539* (0.791)	-1.722** (0.791)	-1.428** (0.667)	-1.477** (0.652)	-1.513** (0.708)
Corruption*Arab Spring	-2.980** (1.247)	-1.640* (0.867)	-1.641* (0.871)	-1.646* (0.894)	-1.982* (1.028)	-1.858* (1.053)	-2.269** (0.892)	-2.034* (0.989)	-2.152* (1.027)
Mineral Rent			-0.0856 (0.132)	-0.0773 (0.151)	-0.178 (0.161)	-0.175 (0.170)	-0.183 (0.167)	-0.189 (0.179)	-0.223 (0.181)
Urbanization				-0.0121 (0.0924)	-0.0435 (0.102)	0.0195 (0.113)	-0.00119 (0.0941)	0.00409 (0.0928)	-0.00427 (0.108)
Log [GDPPC]					2.045 (1.287)	2.007 (1.285)	2.498 (1.629)	2.658 (1.752)	2.703 (1.779)
Unemployment						0.149 (0.0974)	0.220* (0.108)	0.242** (0.112)	0.214* (0.105)
Gov't Expenditure							0.267 (0.189)	0.329 (0.233)	0.347 (0.236)
Savings								0.0383 (0.0615)	0.0397 (0.0600)
Corruption ²									1.363 (0.995)
Constant	1.561*** (0.393)	-0.860 (1.209)	-0.904 (1.228)	-0.0588 (6.831)	-16.14 (10.78)	-22.44* (11.56)	-32.88** (15.33)	-36.96** (16.43)	-37.56** (16.72)
Observations	445	344	344	344	344	344	343	328	328
R-squared	0.037	0.213	0.213	0.213	0.218	0.221	0.241	0.248	0.252
Number of Country	18	16	16	16	16	16	16	16	16
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Yemen and Palestine are excluded.

Robustness Checks

In the previous section, the regression results clearly illustrate that corruption lowered economic growth after the Arab Spring. However, these significant results need to be checked for robustness. In this section, I present the results with alternative corruption indexes and check whether 2011 constitutes a structural break.

Alternative Corruption Indexes

To check the validity of results for the entire data set, ICRG, V-Dem, and CPI data sets are employed. Although ICRG and V-Dem provide identical corruption scores for several consecutive years for some MENA countries, they are widely used in other studies. Likewise, CPI data is not comparable before 2012; however, since the Arab Spring started in 2011, it can only be used to show the impact of the Arab Spring, not before. Tables 7 and 8 demonstrate the correlation matrix between corruption indexes and regressions.

Table 5

Matrix of Correlations

Variables	WGI	ICRG	CPI	V-Dem
WGI	1			
ICRG	0.951	1		
CPI	0.979	0.951	1	
V-Dem	0.825	0.777	0.786	1

As Table 5 presents, there is a strong positive correlation between corruption measures. The correlations between WGI and ICRG, and CPI are approximately 96% and 97%. The weakest correlation is between ICRG and V-Dem, and even that is around 78%. The strong correlation between the indices hint that even though their methodologies are different, they end up getting similar corruption scores for countries.

In Table 6, the regressions are run for these indexes. The model is run with the preferred specification but without the control variables to save space, but the results are consistent when control variables are added into regressions. The coefficient of interest shows that the Arab Spring negatively affects the impact of corruption on economic growth in the MENA region. This result is robust with respect to different corruption indexes.

It can be said that The Arab Spring uncovered corruption that was already present, thus making the negative impacts of corruption more visible. The reason is that before the Arab Spring, the corruption coefficient is not significant in any alternative corruption indexes. However, after the Arab Spring, corruption lowers economic growth, and the result is robust with alternative corruption indexes. One important note about the magnitude of the coefficients of interest. ICRG index varies between 0 and 6, whereas V-Dem is between 0 and 1. Lastly, CPI varies between 0 and 100. Thus, the difference between the range of values affects the magnitudes of the coefficients.

Table 6*Alternative Corruption Datasets*

Dept. Var: Growth	ICRG	V-Dem	CPI
Investment	0.0733* (0.0358)	0.0820** (0.0380)	-0.0365 (0.108)
Population	-0.696*** (0.174)	-0.716*** (0.177)	-0.282 (0.239)
Oil Rent	0.171*** (0.0476)	0.168*** (0.0413)	-0.0303 (0.0762)
Durability	-0.0247* (0.0130)	-0.0274 (0.0161)	-0.253* (0.138)
Corruption	0.228 (0.484)	1.347 (1.570)	
Arab Spring	3.702 (2.237)	2.418 (2.813)	
Corruption*Arab Spring	-1.516** (0.535)	-5.315* (2.805)	-0.112** (0.0397)
Constant	-1.366 (1.494)	-2.059 (1.867)	16.13*** (4.303)
Observations	334	334	108
R-squared	0.211	0.211	0.044
Number of Country	16	16	14
Country FE	Yes	Yes	Yes

Note. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Chow Test

To check whether the Arab Spring constitutes any structural break, the Chow test is conducted with WGI^{viii}. Chow test is employed where three regressions are run, one for the complete data set and two for before and after the Arab Spring data sets. After running each regression through residuals, the F-statistics is obtained by using the following formula:

$$\frac{(RSS_T - RSS_1 - RSS_2)/k}{(RSS_1 + RSS_2)/(T - 2k)}$$

The test resulted in $F_{\text{value}} = 2.064$ and $F_{\text{critical}} = 0.00001$. The null hypothesis of the Chow test that there is no structural break is rejected. Thus, there was a structural break in 2011 when the Arab Spring started.

Conclusion

This study investigates how the Arab Spring affected the impact of corruption on economic growth in the MENA region. Overall, the results align with most of the literature, which finds the adverse effects of corruption on growth. The results confirm the sands-the-wheel hypothesis. However, it should be noted that the results were not significant pre-Arab Spring. Although this seems counterintuitive since corruption was considered one of the fundamental determinants of the uprisings, economic growth might have been achieved through rampant crony capitalism in the region. That is, interwoven state-class relations may have maintained economic growth and curtailed the negative repercussions of corruption before the unrest. Since these relationships were cut off during and after the Arab uprisings,

corruption has negatively affected economic growth.

While being aware of all limitations of corruption studies in terms of methodology and world ranking, we can say that corruption is one of the fundamental issues of the MENA region. Warf (2015) thinks that corruption is widespread and intractable in MENA and that MENA experiences every type of bribery, kickbacks, embezzlement, and peculation. Corruption becomes more ubiquitous and uncontrollable in weak civil societies and institutions since government elites and officers are already corrupted (Warf 2015). The region suffers from a vicious cycle in which high corruption feeds lower economic growth and increases corruption. The Arab Spring paradoxically seems to have exacerbated this cycle, although the protests sought more egalitarianism, lower corruption, and social justice. Conversely, they kept the status quo and worsened the economic conditions, particularly economic growth.

Considering the limitations and the outcomes of the Arab uprisings, this study has some policy implications. First, there is a consensus that corruption hinders economic growth. Thus, governments should utilize their resources to alleviate corruption in political and bureaucratic spheres. Second, economic growth is a complex phenomenon, and it is not always known which variables cause higher economic growth. Yet, the negative relationship between corruption and economic growth is proven in this study which means that investments should be systematically made to foster and sustain economic growth. Eliminating corruption and boosting economic growth simultaneously will provide opportunities to lower corruption further, improve institutional quality, and sustain the economic development of each MENA country. Hence, the results and policies of this study may be the roadmap for future research regarding country or group-specific policy suggestions.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study is not applicable.

Author Contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Declaration of Conflicting Interests

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Notes

ⁱ List of MENA countries under this study: Algeria, Bahrain, Egypt, Iran, Iraq, Kuwait, Jordan, Lebanon, Libya, Morocco, Oman, Qatar, Palestine, Saudi Arabia, Syria, Tunisia, The United Arab Emirates, Yemen

ⁱⁱ An important note that the data starts from 1996 as corruption data, WGI started to measure corruption scores in 1996. Otherwise, data availability for GDP and GDP per capita growth rates goes much further.

ⁱⁱⁱ Averages of Yemen and Syria are until 2020.

^{iv} Averages of Yemen and Syria are until 2020.

^v There were several missing data points for Syria. To tackle this issue, Syria's GDP per capita is calculated by dividing the total GDP by population from 2008 to 2018. Besides, some countries were missing several observations that imputation could not be implemented.

^{vi} Since GDP per capita is provided as raw value in the data source, taking the natural logarithm helps to make better mathematical comparisons.

^{vii} Hausman test results with $p < 0.024$ supports that the fixed effect is an appropriate model.

^{viii} ICRG and V-Dem data also show that there exists a structural break in 2011. Since there is no data before 2012, The Chow test for the CPI data set cannot be checked.

Hand Grip Strength as a Marker of Physical Fitness and Its Association to Body Symmetry in Young Adults: An Anthropological Approach

Genç Yetişkinlerde Fiziksel Uygunluğun Bir Göstergesi Olan El Kavrama Kuvvetinin Bedensel Simetri ile İlişkisi: Antropolojik Bir Yaklaşım

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Abstract

Some research in the field of anthropology provides some evidence that higher hand grip strength and a symmetrical body are reliable indicators of health and fitness. In this study, we consider the relationship between these two indicators in healthy young individuals. In the study, 185 university students (87 males and 97 females) were examined. In addition to the weight and height of the students, eight bilateral traits were measured with an accuracy of 0.01 mm to evaluate their bodily symmetry, and their hand grip strength was determined with a hand dynamometer by applying the Southampton protocol. The composite fluctuating asymmetry formula was used to standardize the bodily symmetries of individuals. Analyses show that women have a more symmetrical body structure and lower hand grip strength scores than men. When the effect of weight and body mass index was controlled, no correlation was observed between composite fluctuating asymmetry and hand grip strength in both sexes. As a conclusion, contrary to the literature results, it is seen that there is no significant relationship between hand grip strength and body symmetry, which are accepted as reliable indicators of health and physical fitness. In addition, our findings support the view that fluctuating asymmetry is not a reliable indicator to predict an individual's physical fitness and developmental quality.

Keywords: Developmental Instability, Body Symmetry, Physical Fitness, Hand Grip Strength.

Öz

Antropoloji alanında yürütülmüş bazı araştırmalar, yüksek el kavrama kuvvetinin simetrik bir vücudun, sağlık ve fiziksel uygunluğun güvenilir göstergeleri olduğuna dair bazı kanıtlar ortaya koymaktadır. Bu çalışmada sağlıklı genç bireylerde bu iki gösterge arasındaki ilişkiyi ele alıyoruz. Araştırmada 185 üniversite öğrencisi (87 erkek ve 97 kadın) incelenmiştir. Öğrencilerin vücut simetrisini değerlendirmek için ağırlık ve boylarının yanı sıra 0.01 mm hassasiyetle sekiz bilateral karakter ölçülmüş ve Southampton protokolü uygulanarak el dinamometresi ile el kavrama kuvvetleri belirlenmiştir. Bireylerin vücut simetrisini standardize etmek için bileşik dalgalı asimetri formülü kullanılmıştır. Analizler, kadınların erkeklere göre daha simetrik bir vücut yapısına ve daha düşük el kavrama kuvvetine sahip olduğunu göstermektedir. Ağırlık ve beden kitle indeksinin etkisi kontrol altına alındığında ise her iki cinsiyette de bileşik dalgalı asimetri ile el kavrama kuvveti arasında bir ilişki gözlenmemiştir. Sonuç olarak, alan yazın bulgularının aksine sağlık ve fiziksel uygunluğun güvenilir göstergeleri olarak kabul edilen el kavrama kuvveti ve vücut simetrisi arasında anlamlı bir ilişki olmadığı görülmektedir. Ayrıca bulgularımız, dalgalı asimetrinin bireyin fiziksel uygunluğunu ve gelişim kalitesini tahmin etmek için güvenilir bir gösterge olmadığını de desteklemektedir.

Anahtar Kelimeler: Gelişimsel İstikrarsızlık, Beden Simetrisi, Fiziksel Uygunluk, El Kavrama Kuvveti.

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Hand Grip Strength as a Marker of Physical Fitness and Its Association to Body Symmetry in Young Adults: An Anthropological Approach

Hand grip strength [HGS], measured with a hand dynamometer, provides an easy and reliable measurement of muscle strength in humans. It is known that HGS, also known as upper body strength, is associated with many parameters such as early mortality (Soysal et al., 2021), cognitive decline in the elderly (Taekema et al., 2010) cardiovascular diseases (Laukkanen et al., 2020) and lengthier stay following hospitalization or surgery (Bohannon, 2008). In addition, it is claimed that individuals with low HGS scores are more prone to depression (Marconcin et al., 2020), anxiety (Gordon et al., 2019), and suicidal ideation (Cao et al., 2020).

The highest HGS scores are observed between the ages of 24-39, and a significant decrease in HGS with aging is noted (Mathiowetz et al., 1985). Although this decrease is more pronounced in men than in women, men have higher HGS scores than women at any age. Sexual dimorphism observed in HGS is quite high even when height and body mass are controlled in men. According to some experts, this condition is associated with high androgen levels in men. (Page et al., 2005). Although clinical studies on populations, diet and some hand exercises are known to have an effect on grip strength (Cima et al., 2013; Norman et al., 2011), grip strength has an average heritability of 65% even when the effects of some variables such as height, weight, age are excluded (Reed et al., 1991). Inasmuch that, the effect of exercise on grip strength is negligible in the elderly (Tieland et al., 2015). The heritability estimate of HGS is also largely sexual dimorphic. Isen et al. (2014) showed that, the absolute genetic variance observed in HGS is approximately nine times higher in boys than in girls. This striking difference shows that the developmental processes that shape upper body growth differ between the sexes. Studies involving adolescents and young adults reveal that HGS can be a strong health indicator even at an early age. For this reason, HGS values detected at an early age can help predict the future health status of the individual (Cooper et al., 2010; Sasaki et al., 2007).

In addition to hand grip strength, bilateral symmetries observed in physical characteristics are considered as one of the reliable indicators of the general health status and genetic quality of the individual. Fluctuating asymmetry [FA] is random and small asymmetrical deviations in bilateral organs, and this pattern of asymmetry is thought to reflect an individual's developmental stability (Palmer & Strobeck, 2003). Developmental stability refers to an individual's capacity to produce a well-developed, symmetrical phenotype in the face of stresses such as diseases, parasites, and toxins. A review by Thornhill and Møller (1997) reveals that, fluctuating asymmetry on average across various biological taxa are related to measures of stress, fitness, health and quality (e.g. reproductive success). Studies in humans showed that symmetrical individuals are taller, healthier, and more physically attractive. However, increased asymmetries have been documented in some studies to be associated with consanguineous marriage, mental illnesses, increased aggression, low birth weight, autoimmune diseases, malnutrition, and parasitic diseases (Özener, 2022). Some studies show that older men with lower FA levels have higher intelligence and higher cognitive abilities (Penke et al., 2009).

The relationships between hand grip strength and fluctuating asymmetry have attracted the attention of some researchers for the reasons mentioned above (Fink et al., 2014; Sim, 2013; Van Dongen, 2014; Van Dongen & Sprengers 2012). However, the findings of these few studies, all of which were conducted on Western societies are inconsistent. In this study, the relationship between hand grip strength and fluctuating asymmetry is discussed in a non-Western sample. Our hypothesis is that individuals with more symmetrical bodies (especially males) should be physically stronger.

Material and Methods

Sample

The recommended minimum sample size for fluctuating asymmetry studies is 40 (Graham, 2021). This study was conducted on 185 students, 87 of whom were males (%47) and 97 were females (%53), studying at Istanbul University in Istanbul. The students who agreed to participate in the study were invited to the Department of Anthropology and the informed consent form was filled out. The weight and then the height of the students who filled out the information in the anthropometry questionnaire were measured according to the procedures recommended by the International Biological Program (Weiner & Lourie, 1969). All procedures used in this study were approved by the ethics committee of the İstanbul University.

Hand Grip Strength Measurements

Hand grip strength was measured using a CAMRY EH-101 digital dynamometer and the values were recorded in kilograms (Huang et al., 2022; Tai et al., 2022). Before the hand grip strength measurement, individuals were asked whether they had any discomfort in their upper extremities and whether they had any chronic diseases that could affect muscle strength. Participants with disorders thought to affect muscle strength were not included in the sample. Hand grip strength is higher in people who do some professional sports than those who do not (Cronin et al., 2017; Fallahi & Jadidan, 2011). Therefore, the data of the participants who were professionally involved in sports were excluded from the analysis.

Southampton protocol was applied for the measurement of grip strength (Roberts et al., 2011). In accordance with this protocol, participants were seated in a chair with a fixed armrest with back support, and their forearms were kept at a 90-degree angle relative to their upper body. Since it was aimed to maximize the score to be obtained, the grip part of the dynamometer was adjusted to the most comfortable position considering the size of the participant's hand. When the participant reported that he/she felt ready, he/she was asked to squeeze the device with his last strength. In this process, the participant was encouraged to verbally squeeze harder in order to get the maximum score from the participant (Jung & Hallbeck, 1999). When the increase in the indicator score of the device began to decrease, the measurement was terminated and the other hand was passed. The same procedure was performed three times for each hand, and the highest reading was recorded as the maximum grip force.

Bilateral Measurements

In order to determine the bodily symmetry of the individuals examined in this study, 8 bilateral traits were measured: hand length, hand width, second finger length, third finger length, fourth finger length, ear length, ear width and elbow width. A digital caliper measuring with an accuracy of 0.01 mm was used for the measurements. Bilateral data were obtained using the blind measurement technique. First, measurements from the right side of the body were taken in the order listed above. Then data were collected from the left side in the same manner. For the second set of measurements this exact procedure was repeated without referring to the prior data (Palmer & Strobeck, 2003).

Fluctuating Asymmetry Analysis

Before the fluctuating asymmetry analysis; measurement error analysis, directional asymmetry analysis and size dependence analysis were performed. Then, it was checked whether the sign asymmetries (i.e. R-L) were normally distributed.

For measurement error analysis, 80 (40 males, 40 females) individuals were measured twice and two-way mixed-model ANOVA was used (Palmer & Strobeck, 2003). In this test, individuals as random and sides were used as fixed factor. Mixed model ANOVA results showed that the measurement error

variance was significantly lower than the asymmetry variance for all traits (Hand length: $F_{1,79} = 11.86$, $P < 0.0001$; hand width: $F_{1,79} = 13.58$, $P < 0.0001$; second digit length: $F_{1,79} = 12.13$, $P < 0.0001$; third digit length: $F_{1,79} = 14.94$, $P < 0.0001$; fourth digit length: $F_{1,79} = 13.37$, $P < 0.0001$; ear length: $F_{1,79} = 10.04$, $P < 0.0001$; ear width: $F_{1,79} = 9.46$, $P < 0.0001$; elbow width: $F_{1,79} = 3.39$, $P < 0.0001$).

Traits that do not exhibit directional asymmetry, antisymmetry, leptokurtosis and skewness were used in the fluctuating asymmetry analysis. For this reason, it was checked whether each trait examined exhibited directional asymmetry using the one sample T test. As seen in Table 1, hand width exhibits a significant directional asymmetry. However, the other 7 traits do not exhibit directional asymmetry.

It was checked whether the seven bilateral traits that did not show directional asymmetry were distributed symmetrically. Ear width was negatively skewed ($P < 0.05$) in males, and elbow width was positively skewed ($P < 0.01$) in females. Logarithmic transformation applied to the right and left traits by directional asymmetry did not normalize the distribution. For this reason, in line with the suggestion of Palmer and Strobeck (2003), the distribution of these two traits were visually inspected and Grubb's test was applied to possible outlier measures (Grubbs, 1950). As a result, when 12 outlier measurements were removed from the sample, a normal distribution was achieved.

Size dependence was controlled by Spearman's rank correlation analysis and it was seen that there was no size dependence in seven traits exhibiting fluctuating asymmetry. For composite fluctuating asymmetry (CFA), we summed the standardized absolute asymmetries of the four traits (Leung et al., 2000); the asymmetry of each trait was standardized by its mean fluctuating asymmetry: $CFA = \sum_{i=1}^k \frac{|d_i|}{|\bar{d}_i|}$.

In fluctuating asymmetry analyzes, it is accepted that bilateral organs develop through identical pathways. However, the organizational and activational effects of prenatal sex hormones play an important role in the development of second and fourth finger lengths. Therefore, some researchers find it inconvenient to use these two traits in FA analyses. From this point of view, the composite index was calculated in two different ways. While the second and fourth digits were included in the CFA1 index, these traits were not included in the CFA2 index. The Statistical Package for Social Sciences (SPSS of version 21.0) was used for all statistical analysis.

Table 1

Right and Left Measurements and Sign Asymmetries of Bilateral Traits (mm)

Traits	Right	Left	Sign Asymmetry ¹	T
Hand length	181.95	182.23	-0.28	1.66
Hand width ²	81.19	80.25	-1.00	8.18***
Second digit	72.07	71.94	+0.13	1.03
Third digit	78.50	78.71	-0.28	1.46
Fourth digit	72.61	72.54	+0.08	0.58
Ear length	62.80	62.88	+0.09	0.66
Ear width	35.55	35.81	-0.26	1.91
Elbow width	63.82	63.73	+0.09	1.20

Note. 1 = Right - Left, 2 = Directional asymmetric trait, *** $P < 0.001$

Results

Males and females do not differ in terms of average age (Table 2). As expected, male's average height and BMI were significantly higher than females. When bilateral traits which showed fluctuating asymmetry are examined, it is seen that the third digit FA and ear width FA are higher in males. In terms of Composite FA1 and Composite FA2, the high values of males reveal that they are more asymmetrical than females. Consistent with the literature findings, males show higher values than females in terms of hand grip strength. Males are about 60% stronger than females in terms of both hand grip strengths.

Hand grip strength is closely related to the body structure of the individual. Tall and large bodied individuals have greater hand grip strength (Morlino et al., 2021). There are also significant relationships between age and HGS (Massy-Westropp et al., 2011). For this reason, the effects of height, BMI and age on HGS were controlled using multiple regression analysis. According to Tables 3 and 4, an expected relationship emerges between body structure and HGS in both sexes. Individuals who are taller and have a more massive body have higher upper body strength. However, there is no significant relationship between age and HGS in both sexes. The narrow age range of the sample may explain this situation. Relationships between composite FAs and HGS are not significant (Table 3-4, Fig 1).

Table 2

Means and Standard Deviations of Age (Year), Height (cm), BMI, Fluctuating Asymmetry (mm) and Hand Grip Strength (kg) Values

	Males		Females		F
	M	SD	M	SD	
Age	22.42	3.37	22.88	3.87	0.775
Height	177.15	6.84	161.64	5.31	290.53***
BMI	24.21	3.36	22.21	3.95	13.10***
Hand length FA	1.80	1.39	1.77	1.36	0.024
Second digit FA	1.24	1.00	1.32	0.96	0.321
Third digit FA	1.71	1.42	1.23	0.88	7.632**
Fourth digit FA	1.46	1.12	1.35	0.96	0.516
Ear length FA	1.39	1.23	1.38	1.10	0.000
Ear width FA	1.28	0.89	1.01	0.72	4.737*
Elbow width FA	0.93	0.74	0.83	0.69	0.895
Composite FA ¹	1.42	0.55	1.25	0.44	5.61*
Composite FA ²	1.33	0.45	1.19	0.33	6.28*
Right HGS	42.06	7.14	24.95	4.67	371.47***
Left HGS	41.50	6.97	24.11	4.19	424.44**

Note. 1 = CFA without 2. and 4 digits; 2 = CFA with 2. and 4 digits, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

Table 3.*Multiple Regression Analysis Results (Dependent Variable = Right HGS)*

Sex		Unstandardized Coefficients		Standardized Coefficients	T	P
		B	SE	Beta		
Male	(Constant)	-39.156	20.330		-1.926	0.058
	Age (year)	0.236	0.223	0.110	1.058	0.294
	Height (cm)	0.360	0.109	0.345	3.315	0.001
	BMI	0.497	0.219	0.234	2.269	0.026
	CFA ¹	0.450	1.891	0.035	0.238	0.812
	CFA ²	-0.402	2.368	-0.025	-0.170	0.865
Female	(Constant)	-37,606	15.432		-2.437	0.017
	Age (year)	-0.011	0.114	-0.009	-0.097	0.923
	Height (cm)	0.348	0.089	0.386	3.932	0.000
	BMI	0.284	0.147	0.193	1.932	0.057
	CFA ¹	0.444	1.175	0.043	0.378	0.706
	CFA ²	-0.146	1.534	-0.011	-0.095	0.925

Note. 1 = CFA without 2. and 4 digits; 2 = CFA with 2. and 4 digits

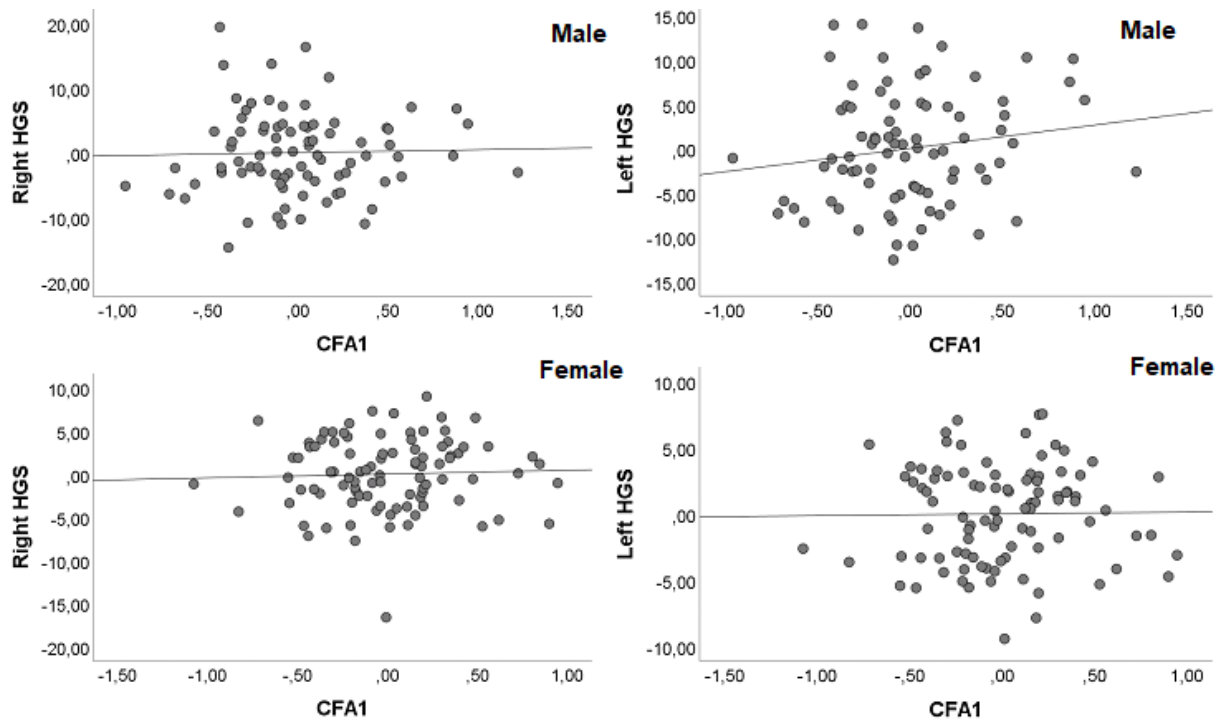
Table 4*Multiple Regression Analysis Results (Dependent Variable = Left HGS)*

Sex		Unstandardized Coefficients		Standardized Coefficients	T	P
		B	SE	Beta		
Male	(Constant)	-16.838	19.995		-0.842	0.402
	Age (year)	0.240	0.219	0.115	1.097	0.276
	Height (cm)	0.204	0.107	0.200	1.908	0.060
	BMI	0.621	0.216	0.299	2.880	0.005
	CFA ¹	2.630	1.859	0.209	1.414	0.161
	CFA ²	-1.458	2.328	-0.094	-0.626	0.533
Female	(Constant)	-38.944	13.647		-2.854	0.005
	Age (year)	0.046	0.101	0.043	0.455	0.650
	Height (cm)	0.344	0.078	0.419	4.385	0.000
	BMI	0.320	0.130	0.239	2.462	0.016
	CFA ¹	0.136	1.039	0.015	0.131	0.896
	CFA ²	-0.528	1.356	-0.043	-0.390	0.698

Note. 1 = CFA without 2. and 4 digits; 2 = CFA with 2. and 4 digits

Figure 1

Partial Regression Plots between Hand Grip Strength (HGS) and Composite Fluctuating Asymmetry (CFA¹)



Discussion

This study shows that females have a more symmetrical body structure and lower HGS scores than males. According to literature findings, males physically have higher fluctuating levels of asymmetry than females. Females are considered more resistant to environmental and genetic stresses as they have two X chromosomes. Therefore, females show a more stable development in most cases. However, in some traditional patriarchal societies, women's living conditions are worse than men's, which may explain the increased bodily asymmetry in women (Gray & Marlow, 2002).

In this study, the relationships between composite FA1 and composite FA2 and right and left HGS were not significant. This finding means that there is no significant relationship between upper body strength and body symmetry. In recent years, a large anthropology literature has emerged that independently deals with the relationships between both HGS and FA and health and quality of life. For this reason, the relationship between FA and HGS in terms of being an indicator of health and fitness has attracted the attention of some anthropologists. However, as it was emphasized in the previous lines, the findings of these studies conducted on healthy individuals are contradictory. In a study by Sim (2013) in which six bilateral traits were examined on 243 college students studying at the University at Albany, it was found that women with higher HGS scores had more symmetrical bodies, while no significant relationship was found in men. In another study examining 12 bilateral traits on men, it was seen that symmetrical individuals had higher HGS scores (Fink et al., 2014). In two separate studies conducted by Van Dongen (2014) and Van Dongen & Sprengers (2012), it is seen that there is no relationship between FA and HGS in both sexes.

According to Fink et al. (2014), the positive relationship between physical strength and developmental stability in men can be explained by the fact that healthy men are more resistant to the possible immunosuppressive effects of testosterone. For this reason, masculine traits are associated with high

androgens. High sexual dimorphism in terms of HGS is due to testosterone, as in other masculine traits. Therefore, possible associations between HGS and FA are more likely to be observed in males. Some studies reveal that men have a more symmetrical body as their body masculinity levels increase. Gangestad and Thornhill (2003) showed that in a sample of 141 men and 154 women, body FA was negatively associated with facial masculinity in men. According to Ekrami et al. (2021), on the other hand, could not find a relationship between FA and facial masculinity score in men in a large sample of 630 males and 630 females. However, in this study, it is seen that feminine faces have a higher level of fluctuating asymmetry on average, and there is a weak but significant relationship between the mean fluctuating asymmetry score in women and facial masculinity.

As can be seen, results of studies conducted between masculinity, fitness and FA are contradictory (as in studies of HGS and FA). According to some experts, the reason for this discrepancy may be related to the measurement methods of bilateral traits. According to Manning et al. (2006), direct measurements of bilateral traits used in FA analyzes are more reliable than indirect measurements. In the study of Van Dongen and Sprengers (2012), bilateral measurements were obtained from scanner images. For this reason, Fink et al. (2014) in the study of Van Dongen and Sprengers (2012) attributed the absence of the expected relationship between FA and HGS to the indirect measurements. However, in this study, bilateral traits were measured directly, and despite this, no relationship was found between FA and HGS.

Another problem is that the physical strength measured by the HGS is likely to be affected by sporting activities and hobbies as well. It is known that HGS is higher in professional athletes and that there is a relationship between athletic performance and HGS (e.g. Cronin et al., 2017; Fallahi & Jadidan, 2011). Therefore, the data of the participants engaged in sports were excluded from the analysis in this study. However, in previous studies (Fink et al., 2014; Sim, 2013; Van Dongen, 2014; Van Dongen & Sprengers 2012), all conducted on Western populations, there is no information on how the sample was selected. Obviously, the hypothesis that HGS is a reliable indicator of general health and fitness should be based on studies of sedentary individuals.

The lack of a relationship between HGS and FA may also be due to the structure of the sample examined. The group examined in this study (like studies in Western countries) consists of healthy university students. The fact that the examined group consists of healthy individuals may make it difficult to detect signals related to FA. A study of populations exposed to environmental stresses or clinical populations may shed more light on the relationships between the two variables. In conclusion, although HGS and FA are accepted as reliable indicators of health and fitness, it is seen that there is no significant relationship between the two indicators in both sexes in this study. In addition, findings of this study support the view that fluctuating asymmetry is not a reliable indicator to predict an individual's health and developmental quality.

Compliance with Ethical Standards

Ethical Approval

This study was approved by the Board of Ethics for Social and Humanities Research of İstanbul University (approval no. 17.01.2022-01/11). Institutional and/or national research committee ethical standards and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards were followed in all study procedures involving human participants.

Author Contributions

Both authors B.E. and M.F.A made equal contributions in various stages of the study, including investigation, methodology, writing original draft, and writing - review and editing. In addition to these shared responsibilities, B.E. took the lead in conceptualization.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Investigation of the Mediating Role of Consumer Boycott Participation Motives in the Effect of Consumer Cynicism on Consumer Boycott Behavior*

Tüketici Sinizminin Tüketici Boykot Davranışı Üzerindeki Etkisinde Tüketici Boykot Katılım Güdülerinin Aracılık Rolünün İncelenmesi

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Abstract

Consumer cynicism, it is explained by the distrust, dissatisfaction and unmet expectations that consumers feel towards businesses. Consumer boycott behavior is evaluated as a form of consumer behavior in marketing science. Consumer boycott participation motives are expressed as the motivations that enable consumers to participate in the boycott. The purpose of this study is to examine whether a significant mediating effect of consumer boycott participation motives in the effect of consumer cynicism on consumer boycott behavior. The research was carried out by using the questionnaire method with 401 consumers living in Erzurum. Arithmetic mean, standard deviation, frequency distribution, reliability analysis, variance analysis, confirmatory factor analysis, exploratory factor analysis and structural equation analysis were used in the analysis of the data obtained in this research. Lisrel 8.51 and SPSS 22.0 statistical software packages were used in the analysis. The reliability and confirmatory factor analyses showed that the research variables had a high degree of reliability and the goodness-of-fit values were within acceptable limits. In the research, it has been determined that consumers have quite high levels of consumer cynicism, consumer boycott behavior and consumer boycott participation motives. As a result of the structural equation analysis carried out in the research, it is seen that the variables of making a difference and self-enhancement among the consumer boycott participation motives have a significant mediating effect on the effect of consumer cynicism on consumer boycott behavior. However, it was determined that the counter-arguments did not have a significant mediating effect.

Keywords: Consumer Cynicism, Consumer Boycott Behavior, Consumer Boycott Participation Motives, Cynicism.

Öz

Tüketici sinizmi, tüketicilerin işletmelere karşı hissettikleri güvensizlik, memnuniyetsizlik ve karşılanmamış beklentiler ile açıklanmaktadır. Tüketici boykot davranışı, pazarlama biliminde tüketici davranışlarının bir formu olarak değerlendirilmektedir. Tüketici boykot katılım güdülere ise, tüketicilerin boykota katılmasını sağlayan motivasyonlar olarak ifade edilmektedir. Bu çalışmanın amacı, tüketici sinizminin tüketici boykot davranışı üzerindeki etkisinde tüketici boykot katılım güdülerinin anlamlı bir aracılık etkisinin olup olmadığının incelenmesidir. Araştırma, Erzurum ilinde yaşayan 401 tüketici ile anket yöntemi kullanılarak gerçekleştirilmiştir. Araştırma kapsamında elde edilen verilerin analizinde aritmetik ortalama, standart sapma, frekans dağılımı, güvenilirlik analizi, varyans analizi, doğrulayıcı faktör analizi, açıklayıcı faktör analizi ve yapısal eşitlik analizinden yararlanılmıştır. Analizlerin yapılmasında Lisrel 8.51 ve SPSS 22.0 paket istatistik programlarından yararlanılmıştır. Güvenilirlik ve doğrulayıcı faktör analizleri, araştırma değişkenlerinin yüksek derecede güvenilirliğe sahip olduğunu ve uyum iyiliği değerlerinin kabul edilebilir sınırlar içinde olduğunu göstermiştir. Araştırmada tüketicilerin tüketici sinizmi, tüketici boykot davranışı ve tüketici boykot katılım güdülerinin yüksek düzeyde olduğu tespit edilmiştir. Araştırmada gerçekleştirilen yapısal eşitlik analizi sonucunda tüketici boykot katılım güdülerinden fark yaratma ve kendini geliştirme değişkenlerinin tüketici sinizminin tüketici boykot davranışı üzerindeki etkisinde anlamlı bir aracı etkiye sahip olduğu görülmüştür. Ancak karşı argümanların anlamlı bir aracı etkiye sahip olmadığı belirlenmiştir.

Anahtar Kelimeler: Tüketici Sinizmi, Tüketici Boykot Davranışı, Tüketici Boykot Katılım Güdülere, Sinizm.

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Investigation of the Mediating Role of Consumer Boycott Participation Motives in the Effect of Consumer Cynicism on Consumer Boycott Behavior

Today's understanding of marketing has required businesses to communicate effectively with their customers in order to gain competitive advantage. The goal of businesses is to establish a trust-based relationship with their customers, to ensure customer satisfaction and moreover, to maintain their existence by creating customer loyalty. However, cynicism, which spreads rapidly among consumers and is a negative element for businesses, negatively affects the behavior of consumers; it hinders the efforts of enterprises and makes it difficult for them to survive under harsh competitive conditions. Negative consumption experiences of consumers; it causes consumers to lose trust over time, to abandon the brand and to develop skeptical attitudes towards businesses. When the subject is loss of trust, dissatisfaction and negative experiences, the concept of cynicism becomes prominent in consumer behavior. A widely accepted definition of cynicism in the literature is "a learned attitude developed against one or more objects, associated with disappointment, distrust and suspicion, and which can change over time by being exposed to environmental factors" (Abraham, 2000, p. 269). The general opinion about the concept of cynicism; justice, freedom, equality, etc. is that moral values can be given up for the sake of people's interests. In daily life, cynical individuals are described as people who find fault, are picky and exhibit critical behavior; they can be described in society as skeptical, insecure, disbelieving, pessimistic and negative adjectives (James, 2005, p. 165).

Considering that the studies dealing with the concept of cynicism in Turkey are generally the result of a reductionist approach in the context of organizational cynicism, it is seen that cynicism has been discussed in terms of consumer behavior in the field of marketing science in recent years. The reason why cynicism is the subject of different branches of science is that human and human nature are at the core of the subject. "Departing from the idea that the trust factor, which is at the center of the phenomenon of cynicism, determines the relationship between brands and consumers, it is clear that cynicism can also be seen in people's consumption actions. Therefore, the distrust experienced by consumers with the marketing efforts of brands may be an issue that needs to be examined in terms of marketing." (Güven, 2016, p. 156). From this point of view, cynicism includes consumers' experiences and attitudes towards the brand and marketing activities. Negative and harsh reactions of consumers towards brands can be evaluated within the scope of cynicism. It is important to examine the concept of consumer cynicism in order to determine the reasons for developing and spreading negative attitudes of cynical individuals.

When the marketing literature is examined, consumer cynicism; it is defined as a process that occurs with consumers' suspicions, activation of defense mechanisms and alienation (Chylinski & Chu, 2010, p. 799). It can be said that consumer cynicism includes behaviors that can have negative consequences for both businesses and consumers, and which, if not resolved, have devastating effects, especially for businesses (Chu & Chylinski, 2006, p. 3; Helm, 2004, p. 345). It is argued that the most observable responses to consumer cynicism are market-shaping and withdrawal from the market, which limits the contact between businesses and consumption behavior. Cynical consumers think that they play an important role in shaping the market; they can be a threat to businesses by displaying activist and critical attitudes towards businesses that they have negative thoughts about (Helm et al., 2015, p. 516). Consumers who experience high levels of cynicism often resort to boycott, which is the most effective type of action, when they are not satisfied with the behavior and attitudes of businesses (Ettenson & Klein, 2005, p. 202). In the related literature, it has been determined that there is a significant and positive relationship between consumer boycott behaviors and consumer cynicism (Akçay, 2021; Aydın, 2021; Chu & Chylinski, 2006). She defines a consumer boycott as "a collective exercise of consumer dominance that hinders the purchase of a product as an effort to influence a problem with the

buyer and the firm that caused this problem” (Smith, 1990, p. 140). Consumer boycott behaviors are considered as a reactive state of dissatisfaction experienced by consumers as a result of their negative experiences (Klein et al., 2004, p. 92). With boycotts, consumers aim to reduce the sales of businesses, reduce their profits, and damage their image in the market. Such actions always pose a threat and crisis for businesses (Ettenson & Klein, 2005, p. 201). In this context, it is very important to examine the motives of individuals to take action in order to make sense of the boycott process of consumers.

According to Friedman (1999), consumers either boycott the negative behaviors of businesses; exhibits the behavior of participating in the boycott with motives aiming to change these behaviors in line with their own wishes or to protect their own interests (p. 25). Although boycott behaviors are expressed as collective actions (John & Klein, 2003), this is not the case for motives. Consumers can be influenced by their social environment (reference groups, family, role and status, etc.) as well as by many variables personally (Ünlüönen & Tayfun, 2003, p. 3). The motivation to make a difference from the consumer boycott participation motives; self-enhancement motivation as the motivation of the consumers participating in the boycott to ensure socialization; it is described as the motivation to morally develop the emotional aspect of individuality. The counter-arguments refer to the costs rather than the benefits of boycotting. With the spread and adoption of boycotts by the masses, it has become important to investigate the underlying motives of the boycotts (John and Klein, 2003; Klein et al., 2002; Klein et al., 2004; Kozinets & Handelman, 1998; Sen et al., 2001).

The main purpose of this study is to examine the mediating role of consumer boycott participation motives in the effect of consumer cynicism on consumer boycott behavior using structural equation model (SEM). Additionally aimed to examine whether consumer cynicism has a significant effect on consumer boycott participation motives and consumer boycott behavior and whether consumer boycott participation motives have a significant effect on consumer boycott behavior. In the study, initially, the concepts were examined theoretically and then the practice of the study was started.

Conceptual Framework

Consumer Cynicism

Consumer cynicism, which is a fairly new concept in the marketing and consumer behavior literature, is defined as “a permanent and learned attitude shaped by the perception that the expansionist and opportunistic policies of the brands in the market cause negative situations for consumers”. In other words, cynicism is learned attitudes that occur as a result of anger and resentment of individuals towards businesses and other people. From a marketing perspective, cynicism emerges with the inconsistent behavior of businesses and the failure to meet consumers' expectations (Helm, 2006, p. 11). With the effect of negative experiences and social factors, consumers can change their perspectives on brands and accuse them of opportunism. In this respect, consumer cynicism; it is depicted with the belief that businesses lack honesty and with negative emotions (anger, disgust, etc.) towards businesses (Helm, 2006, pp. 37, 42).

Chylinski and Chu (2010) emphasize the experiential process by expressing that consumers react to brand approaches that are perceived as compatible/incompatible with their values and goals (p. 816). As a result of the research, it is stated that consumer cynicism cannot be explained in depth by adhering to only one type of behavior. The necessity of analyzing the behaviors that cause cynicism and as a result of these analyzes, the frequency and level of being affected by these behaviors will be understood (Chylinski & Chu, 2010, p. 515).

Consumer cynicism is a growing phenomenon that can have negative consequences for both businesses and consumers (Chu & Chylinski, 2006, p. 3; Helm, 2004, p. 345). However, Chu and Chylinski (2010)

think that cynicism has not been adequately researched in the consumer context (p. 817). Looking at the literature, cynicism has not been considered in terms of consumption alone. Generally, in studies dealing with consumer behavior, it is stated that consumers exhibit cynical attitudes (Helm, 2004, p. 345). Although cynicism is a well-established concept, it has become a popular concept in the last 50 years. Social scientists, on the other hand, have mostly studied cynicism in the fields of “occupational (business) cynicism, organizational or employee cynicism, and organizational change cynicism”. Therefore, there is little research on consumer cynicism (Helm, 2004, p. 345). In researches on consumer cynicism, definitions related to insecurity, dissatisfaction and unmet expectations are included, generally based on Cynicism (Chu & Chylinski, 2006, p. 1). According to Van Dolen et al. (2012), consumers think that businesses care about their own interests, considering that they are not sufficiently interested in meeting their needs, and they describe their consumption experiences as deceptive, insincere and negative experiences. This situation causes consumers to develop cynical attitudes (Van Dolen et al., 2012, p. 307). In this context, cynicism is used in the sense of manipulation, ethical violation and exploitation for the sake of self-interest, and is at the center of criticism, claiming that businesses use advertising and other marketing efforts to mask their selfish behavior (Helm, 2004, p. 345).

Although the concept of cynicism is associated with the cognitive, emotional and behavioral dimensions of consumers (Chylinski & Chu, 2010; Helm, 2006; Helm et al., 2015), it is considered necessary to examine it mainly with personality traits and brand experiences (Dean et al., 1998; Helm, 2004; Kanter & Wortzel, 1985; Stanley et al., 2005). From this point of view, the factors that cause consumer cynicism are shown as consumers' personality traits (Watson et al., 1988, p. 1060) and unmet expectations (Puccinelli et al., 2009, p. 17). Considering the consequences of consumer cynicism, it is important to establish a correct relationship and communication between consumers and businesses in order to create a conscious perception. In this study, consumer boycotts, one of the behavioral consequences of consumer cynicism, are discussed.

Consumer Boycott Behavior

In today's globalizing world, with the communication technologies that are developing day by day, consumers can easily access all kinds of information and can follow all the developments regarding the products or services offered by the businesses. Among the topics that consumers are interested in recently; prices of goods and services, their quality, customer relations, the sensitivity of companies to social events, etc. it is observed that the subjects (Çakır, 2010, p. 122). However, consumers make joint decisions to protect not only their own benefits, but also common benefits (ethical and moral values). Sometimes individuals give up their personal interests and consider the benefit of society in their actions. Conscious and enlightened consumers, who collect information about the products offered or recommended in the market and in the light of the information they have obtained, prefer the best and most beneficial for themselves, their environment and even the universe they live in (Odabaşı, 2008, p. 3).

The negative consumption experiences of consumers; it causes consumers to lose trust over time, to abandon the brand and to develop skeptical attitudes towards businesses. Consumers exhibit cynical attitudes when it comes to loss of confidence, dissatisfaction and negative experiences. Consumers who experience high levels of cynicism often resort to boycott, which is the most effective type of action, when they are not satisfied with the behavior and attitudes of businesses (Ettenson & Klein, 2005, p.202). Boycott; it is defined as “deciding not to do a job or behavior” or “breaking all kinds of relations with a person, a community or a country in order to achieve a goal” (TDK, 2021). Boycott for consumers, businesses; it is a factor that reveals the necessity of feeling responsibility towards employees, communities, consumers, the environment or minorities (Bayuk & Ofluoğlu, 2013, p. 143).

Consumer boycotts, on the other hand, are defined as “a series of actions that encourage individual consumers to avoid certain products or brands in order to enable a certain group to achieve their goals” (Friedman, 1995, pp. 96,97). According to Friedman (1999), consumer boycotts are one of the most effective consumer behaviors. The reasons for starting consumer boycott campaigns; it can be listed as sudden price changes or inconsistency in prices (the price of the shelf and the case are not the same), political tensions in the country or between the countries where the product is produced, non-environmental attitudes of the enterprises and unfair employment practices (p. 25). Boycotts arising from economic reasons aim to reduce the sales of businesses, reduce their profits, and damage their image in the market. Such actions always create threats and crises for businesses (Ettenson & Klein, 2005, p. 201). At this point, businesses should identify and understand the factors (environmental values, ethical values, political effectiveness, ethnocentrism, post materialist values, trust and word of mouth communication etc.) and motives (change the decision of enterprises, self-enhancement, expression of anger, avoidance of guilt and desire to punish, etc.) that cause consumers to boycott. Businesses need to give due importance to this issue. Because in today's world, not only the amount of information has increased, but also an increasing momentum has been gained in accessing information, sharing and communicating (Zhou et al., 2017, p. 825). In this context, it is very important to examine the motives of individuals to take action in order to make sense of the boycott process of consumers.

According to Friedman (1999), consumers either boycott the negative behaviors of businesses; exhibits the behavior of participating in the boycott with motives aiming to change these behaviors in line with their own wishes or to protect their own interests (p. 25). Although boycott behaviors are expressed as collective actions (John & Klein, 2003), this is not the case for motives. Consumers can be influenced by their social environment (reference groups, family, role and status, etc.) as well as by many variables personally (Ünlüönen & Tayfun, 2003, p. 3).

The motivation to make a difference from the consumer boycott participation motives; self-enhancement motivation as the motivation of the consumers participating in the boycott to ensure socialization; it is described as the motivation to morally develop the emotional aspect of individuality. The counter-arguments refer to the costs rather than the benefits of boycotting. With the spread and adoption of boycotts by the masses, it has become important to investigate the underlying motives of the boycotts (John & Klein, 2003; Klein et al., 2002; Klein et al., 2004; Kozinets & Handelman, 1998; Sen et al., 2001)

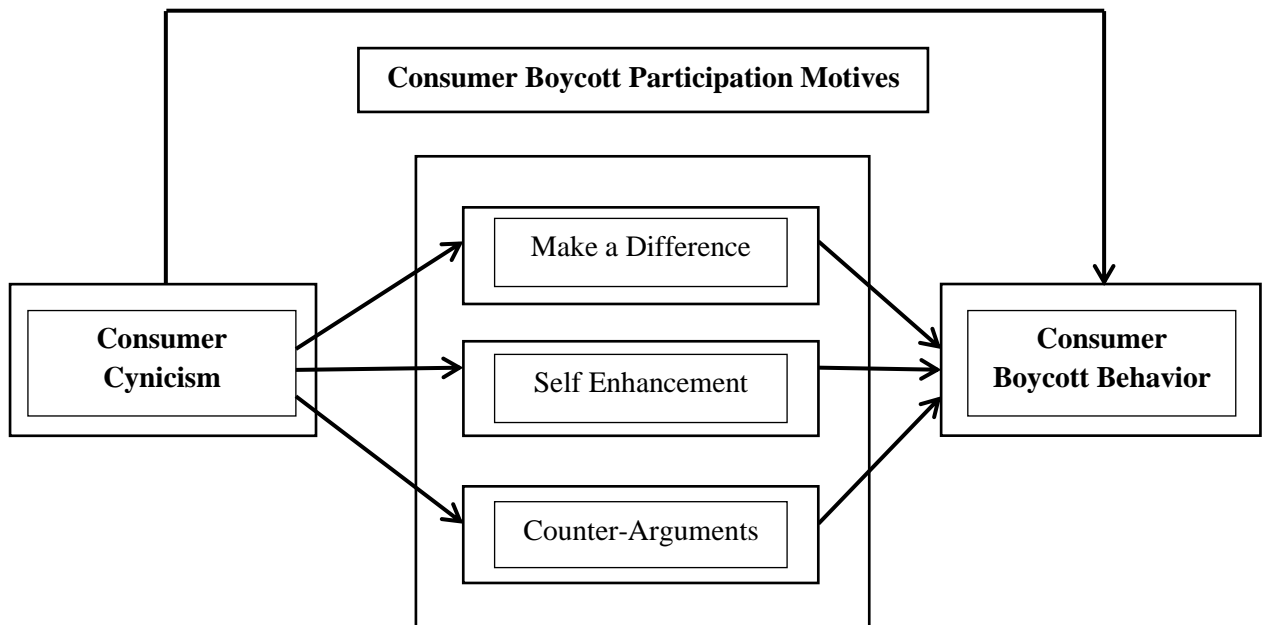
Methodology

Research Model and Hypotheses

The models in their studies by Klein et al., (2004) and Akçay (2021) were used in the creation of this research model, which is based on examining the mediating role of consumer boycott participation motives in the effect of consumer cynicism on consumer boycott behavior. The model of the research is as shown in Figure 1.

Figure 1

Research Model



H₁: Consumer cynicism has a significant effect on consumer boycott behavior.

H₂: Consumer cynicism has a significant effect on 'make a difference'.

H₃: Consumer cynicism has a significant effect on 'self-enhancement'.

H₄: Consumer cynicism has a significant effect on 'counter-arguments'.

H₅: The motivation to make a difference has a significant effect on consumer boycott behavior.

H₆: The motivation to self-enhancement has a significant effect on consumer boycott behavior.

H₇: The motivation to counter-arguments has a significant effect on consumer boycott behavior.

H₈: The motivation to make a difference has a significant mediating effect on the effect of consumer cynicism on consumer boycott behavior.

H₉: The motivation to self-enhancement has a significant mediating effect on the effect of consumer cynicism on consumer boycott behavior.

H₁₀: The motivation to counter-arguments has a significant mediating effect on the effect of consumer cynicism on consumer boycott behavior.

Participants

The scope of the research consists of individuals who are at least 18 years old and reside in Erzurum. The study was limited to the province of Erzurum due to constraints related to insufficient financial resources and time. The population of the research consists of people aged 18 and over living in Erzurum province. Convenience sampling method, one of the non-random sampling methods, was used in the study. In the study, a survey was conducted with a total of 418 people. However, a total of 401 questionnaires were evaluated by excluding the questionnaires that were filled in incorrectly and incompletely. Information about the demographic characteristics of the research participants is presented in Table 1.

Table 1*Demographic Characteristics of the Research Participants*

Demographic Characteristics	<i>n</i>	%
Job		
Civil Servant	64	16
Private sector	39	9.7
Housewife	55	13.7
Student	118	29.4
Employee	35	8.7
Self-employment	12	3
Artisan/Merchant	59	14.7
Other	19	4.7
Total	401	100
Gender		
Male	212	52.9
Woman	189	47.1
Total	401	100
Education Level		
Primary Education	28	7
Secondary education	69	17.2
Associate Degree	84	20.9
Licencegraduate	174	43.4
Postgraduate	46	11.5
Total	401	100
Income Status		
4500 TL and below	174	43.4
4501-6500	50	12.5
6501-8500	59	14.7
8501-10500	37	9.2
10501-12500	42	10.5
12500 TL and above	39	9.7
Total	401	100
Marital Status		
Married	192	47.9
Single	209	52.1
Total	401	100
Age		
18-26	136	33.9
27-35	104	25.9
36-44	69	17.2
45-53	66	16.5
54-62	23	5.7
63 and above	3	.7
Total	401	100

It can be said that the data presented in Table 1 can be useful in understanding the demographic profiles of the individuals participating in the research.

Measures

When Figure 1 is examined, it can be seen that the research model consists of consumer cynicism, consumer boycott participation motives (make a difference, self-enhancement, counter-arguments) and consumer boycott behavior variables. Among these variables, consumer cynicism has 8 sub-variables and consumer boycott behavior has 7 sub-variables. In the research, the variable of consumer boycott participation motives has a total of 10 sub-variables.

The scale in the study of Helm et al. (2015) was used to measure consumer cynicism. The scale in the study of Hoffmann et al. (2018) was used to measure consumer boycott behavior. The scale in the study of Klein et al. (2004) was used to measure consumer boycott participation motives.

In this study, data were collected by survey method. There are 31 expressions in total in 4 groups in the survey form. The first group of these questions consists of 8 questions to determine the cynicism levels of consumers, the second group of questions consists of 7 questions to determine the boycott behavior levels of consumers, and the third group of questions consists of 10 questions to determine the levels of consumers' boycott participation motives. In the last group of questions in the survey, there are 6 questions to determine the demographic characteristics of consumers. 5's Likert scale was used to determine the opinions of the participants about the variables in the research model. Various alternatives were presented to the participants in answering the questions about demographic characteristics.

In the study, Cronbach Alpha test was used to evaluate the reliability levels of the scales related to the variables in the model. As a result of the test, it was determined that the consumer cynicism and consumer boycott behavior scales were highly reliable with a reliability value of 0.88 and 0.92, respectively. In terms of consumer boycott participation motives, the scale of making a difference is high with 0.81; self-enhancement and counter-arguments scales were found to be highly reliable scales with 0.73 and 0.72, respectively. The obtained values were interpreted according to the reference values in Kalaycı's (2010) study (p. 405). In the study, it was decided to remove the SE3 coded expression in the self-enhancement scale from the scale, since it lowered the reliability value of the scale.

In the study, exploratory factor analysis (EFA) was performed and the factor structures of the scales that constitute the consumer cynicism, consumer boycott behavior and consumer boycott participation motives in the study were revealed. While performing EFA, variables with a factor load lower than 0.32 were excluded from the analysis (Çokluk et al., 2012, p.194). In addition, in the study, the levels of the respondents were determined within the scope of the research variables. The results of the analyzes performed are shown in Table 2.

Table 2

EFA Analysis Results of Consumer Cynicism, Consumer Boycott Behavior and Consumer Boycott Participation Motives Scales

Scales and Variables	Factor Load	α	Percentage of Variance Explained
Consumer Cynicism			
1 CC1	0.718		
2 CC2	0.731		
3 CC3	0.765		
4 CC4	0.704	0.88	18.200
5 CC5	0.597		
6 CC6	0.698		
7 CC7	0.713		
8 CC8	0.597		
Consumer Boycott Behavior			
1 CBB1	0.754		
2 CBB2	0.764		
3 CBB3	0.722		
4 CBB4	0.829	0.92	21.746
5 CBB5	0.818		
6 CBB6	0.767		
7 CBB7	0.808		
Make a Difference			
1 MD1	0.724		
2 MD2	0.700	0.81	8.395
3 MD3	0.751		
Self-Enhancement			
1 SE1	0.783		
2 SE2	0.830	0.73	8.618
3 SE4	0.669		
Counter-Arguments			
1 CA1	0.801		
2 CA2	0.825	0.72	8.292
3 CA2	0.760		

When Table 2 is examined, the KMO value was determined as 0.910 and Barlett's test as 5194.509 ($p < 0.001$). Therefore, it can be said that the data set is suitable for factor analysis. Moreover, as a result of the analysis, 5 factors with an eigenvalue greater than 1 were obtained, which explained 65.252% of the total variance. Among these factors, consumer cynicism consists of 8 expressions and consumer boycott behavior consists of 7 expressions; they have a one-dimensional structure. In addition, each of the factors of making a difference, self-enhancement and counter-argument consists of 3 statements and these variables have a one-dimensional structure.

Data Analysis

In the research model, CFA was conducted for the measurement model consisting of consumer cynicism, consumer boycott behavior and consumer boycott participation motives. While performing the CFA analysis, it was determined that the goodness of fit values related to the measurement model were not within the recommended limits, and a covariance definition was made between the expressions CC1 and CC2, CC6 and CC7, CC7 and CC1, CC7 and CC8 for the consumer cynicism variable, and CBB4 and CBB5 coded expressions for the consumer boycott behavior variable. Goodness of fit values for the measurement model and t and R² values for each observed variable, standardized coefficients and error variances are shown in Table 3.

Table 3

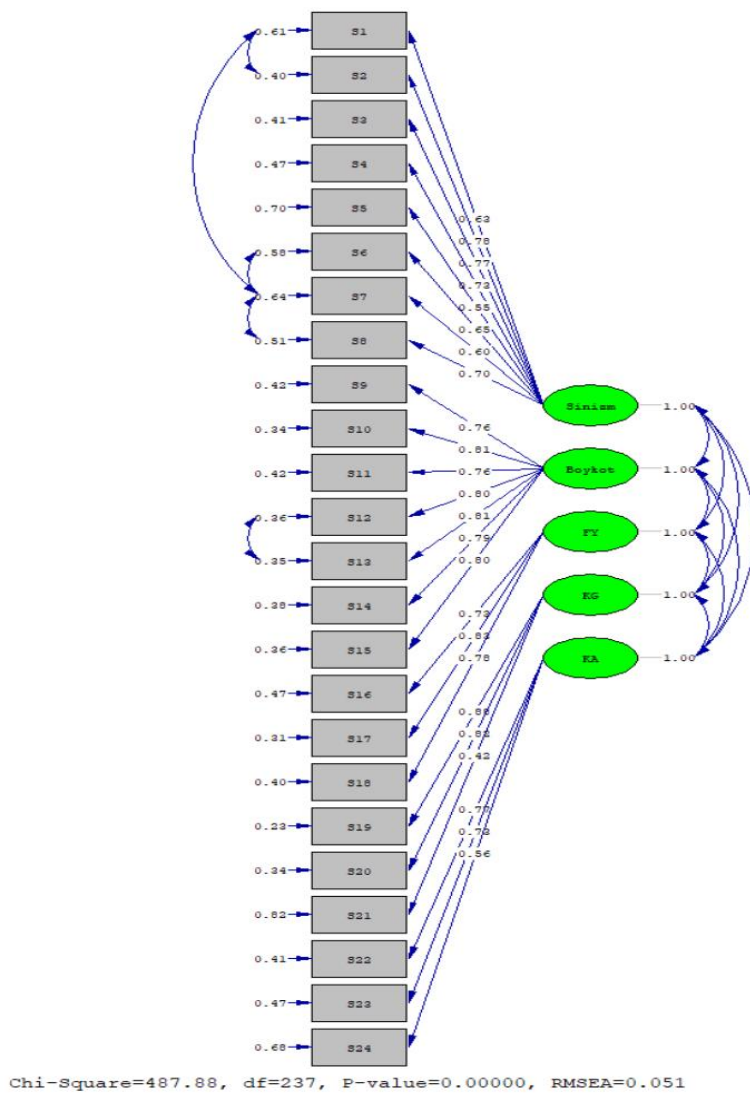
Measurement Model t and R² Values, Standardized Coefficients, Error Variances and Model Fit Statistics

Latent and Observed Variables		Std. Coefficient	Error Variance	t Value	R ² Value					
Consumer Cynicism										
1	CC1	0.63	0.61	12.99	0.39					
2	CC2	0.78	0.40	17.53	0.60					
3	CC3	0.77	0.41	17.35	0.59					
4	CC4	0.73	0.47	16.10	0.53					
5	CC5	0.55	0.70	11.24	0.30					
6	CC6	0.65	0.58	13.80	0.42					
7	CC7	0.60	0.64	12.32	0.36					
8	CC8	0.70	0.51	15.12	0.49					
Consumer Boycott Behavior										
1	CBB1	0.76	0.42	17.60	0.58					
2	CBB2	0.81	0.34	19.21	0.66					
3	CBB3	0.76	0.42	17.64	0.58					
4	CBB4	0.80	0.36	18.71	0.64					
5	CBB5	0.81	0.35	19.04	0.65					
6	CBB6	0.79	0.38	18.42	0.62					
7	CBB7	0.80	0.36	18.97	0.64					
Make a Difference										
1	MD1	0.73	0.47	15.71	0.53					
2	MD2	0.83	0.31	18.94	0.69					
3	MD3	0.78	0.40	17.21	0.60					
Self Enhancement										
1	SE1	0.88	0.23	18.81	0.77					
2	SE2	0.82	0.34	17.28	0.66					
3	SE4	0.42	0.82	8.13	0.18					
Counter-Arguments										
1	CA1	0.77	0.41	13.82	0.59					
2	CA2	0.73	0.47	13.21	0.53					
3	CA2	0.56	0.68	10.47	0.32					
Measurement Model		χ^2/sd	GFI	AGFI	CFI	NFI	NNFI	RMR	SRMR	RMSEA
Goodness of Fit Statistics		2.18	0.91	0.88	0.95	0.91	0.94	0.081	0.050	0.051

When Table 3 is examined, it is seen that the values of goodness of fit are within the recommended limits (Aksu et al., 2017; Doğan, 2015; Erkorkmaz et al., 2013; Seçer, 2013; Çokluk et al., 2012; Yapraklı, 2006). When Table 3 is examined, the observed variables of the latent variables that make up the measurement model and the standardized parameter values between them vary between 0.55 and 0.78 in terms of consumer cynicism; it varies between 0.76 and 0.81 in terms of consumer boycott behavior. In terms of consumer boycott motives; it can be stated that making a difference varies between 0.73 and 0.83, self-development varies between 0.42 and 0.88, and counter-arguments vary between 0.56 and 0.77. When the R² section in Table 3 is examined, it is seen that the most variability is CC2 (0.60) in consumer cynicism, CBB2 (0.66) in consumer boycott behavior, MD2 (0.69) in making a difference, SE1 (0.77) in self-enhancement and CA1 (0.59) in counter-arguments. Finally, it can be said that all t values in Table 3 vary between 10.47 and 19.21. The path diagram of the measurement model is as in Figure 2.

Figure 2

Measurement Model Path Diagram



Results

Descriptive Statistics

In this study, the levels of the research participants were calculated in terms of research model variables. The obtained values are as in Table 4.

Table 4

Descriptive Statistics of Consumer Cynicism, Consumer Boycott Behavior and Consumer Boycott Participation Motives Scales

Scales and Variables	<i>M*</i>	<i>SD</i>
Consumer Cynicism	3.34	0.951
1 CC1	3.23	1.280
2 CC2	3.57	1.247
3 CC3	3.29	1.313
4 CC4	3.40	1.302
5 CC5	3.30	1.308
6 CC6	3.30	1.243
7 CC7	3.24	1.282
8 CC8	3.43	1.342
Consumer Boycott Behavior	3.78	1.008
1 CBB1	3.69	1.241
2 CBB2	3.71	1.300
3 CBB3	3.84	1.197
4 CBB4	3.77	1.225
5 CBB5	3.83	1.200
6 CBB6	3.85	1.156
7 CBB7	3.81	1.153
Make a Difference	3.48	1.115
1 MD1	3.48	1.265
2 MD2	3.51	1.279
3 MD3	3.46	1.365
Self-Enhancement	3.47	1.014
1 SE1	3.64	1.250
2 SE2	3.54	1.264
3 SE4	3.24	1.257
Counter-Arguments	2.96	1.031
1 CA1	3.06	1.265
2 CA2	3.16	1.265
3 CA2	2.67	1.326

Note. *1= Strongly Disagree... 5= Strongly Agree

When the average levels of the respondents are examined in Table 4, it is seen that the variables of consumer cynicism and consumer boycott behavior have an average of 3.34 and 3.78, respectively. Therefore, it can be said that the respondents have a high level of cynicism and boycott behavior. In addition, it can be said that they have an average of 3.48 for the make a difference variable, 3.47 for the self-enhancement variable, and 2.96 for the counter-arguments variable, which constitutes the consumer boycott participation motives.

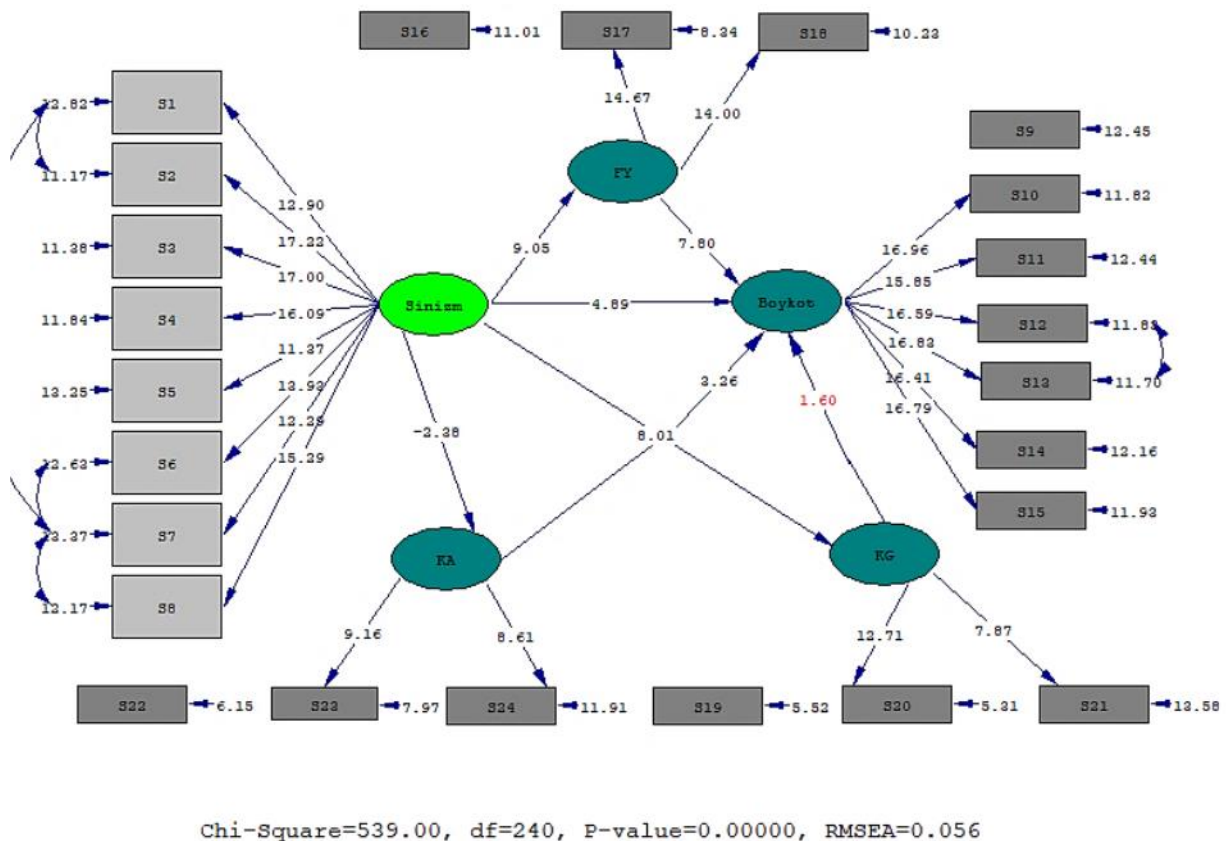
Testing the Research Model

The structural equation model is basically an analysis based on factor and regression analyzes (Çokluk et al., 2012, p. 252). “Before testing models based on multivariate regression, it is necessary to examine the correlation coefficients between independent variables.” (Nakip, 2013, p. 424). In this way, the correlation coefficients between the independent variables were evaluated, taking into account the possibility of multiple connections between the independent variables in the research model. The fact that the correlation values between the independent variables are above 0.80 reveals that there is a high degree of multicollinearity between the variables (Büyüköztürk et al., 2012, p. 100). For this reason, the correlation coefficients between the independent variables were examined in the study.

According to the results of the analysis, there is a significant and directly proportional ($r = 0.457, p < 0.01$) relationship between consumer cynicism and making a difference, which is one of the sub-dimensions of the consumer participation boycott motives scale. There is a significant and directly proportional ($r = 0.345, p < 0.01$) relationship between consumer cynicism and self-enhancement. There is a significant and inversely proportional ($r = -0.126, p < 0.05$) relationship between consumer cynicism and counter-arguments. Within the scope of these results, it can be said that there is no “multiple correlation” problem between the independent variables, since the correlation coefficients are not above 0.80. In the study, firstly, the structural model created by the direct effects was tested by using the LISREL program.

Figure 3

Testing the Research Model



When Figure 3 is examined, it is seen that the t value (1.60) of the path from the self-enhancement variable to the consumer boycott behavior is below 2.56 at the 99% significance level and therefore not significant. Therefore, although the relationships between the other variables in the model are significant, the path from the self-enhancement variable to the consumer boycott behavior was removed

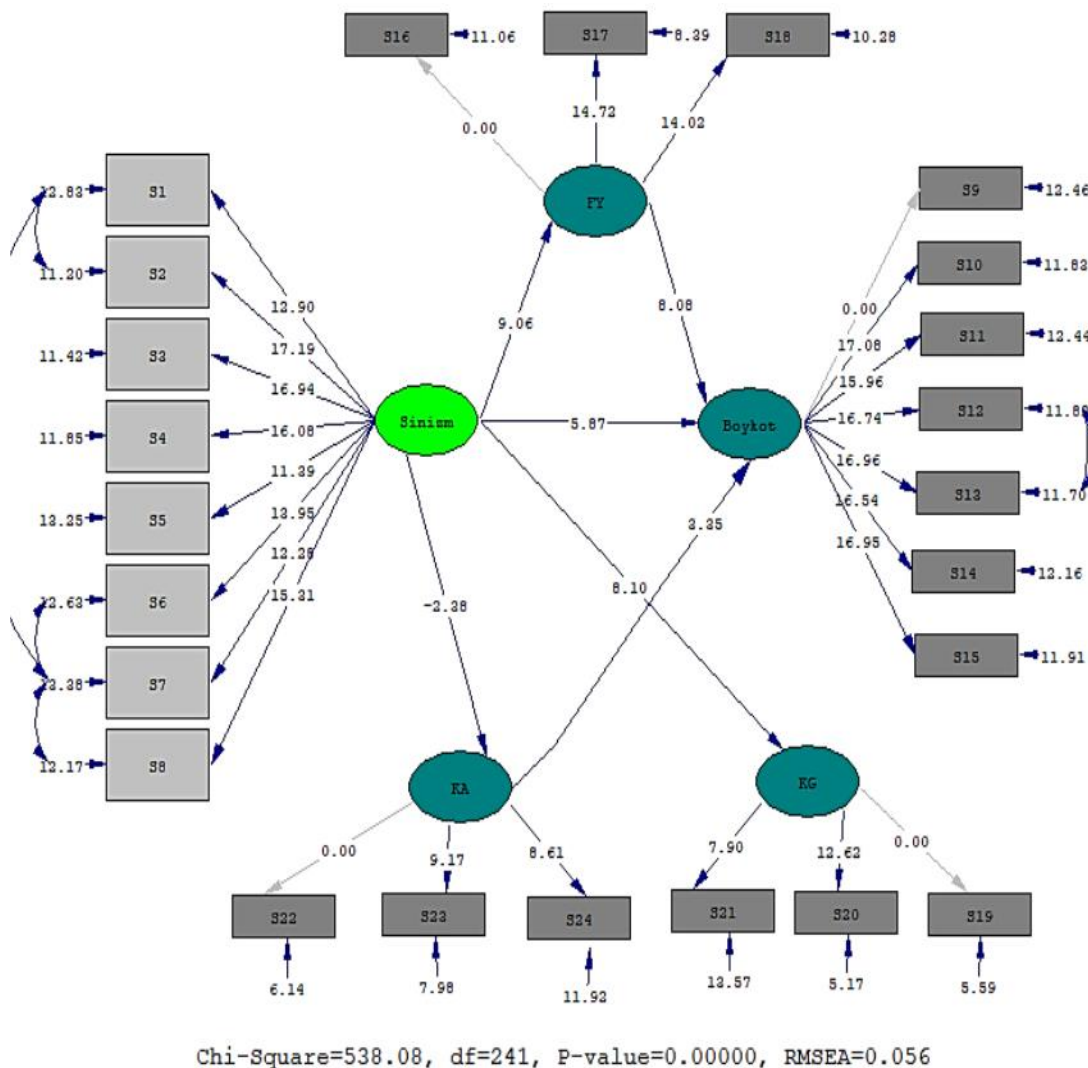
from the model and the model was revised. The goodness of fit values of the research model in Figure 3 are shown in Table 4.

Testing the Revised Research Model

In the study, firstly, the research model in which the direct effects were examined was tested. As a result of the analysis, it was determined that the path from the self-enhancement variable to the consumer boycott behavior was not significant. In this context, the path between the mentioned variables was removed from the research model; the model has been revised. The revised research model is as shown in Figure 4.

Figure 4

Revised Research Model



When Figure 4 is examined, it is seen that the path from the self-enhancement variable to the consumer boycott behavior has been removed from the revised research model and all t values in the model have sufficient significance level. With all the t values in the model being significant, the goodness of fit values related to the model were examined. The results obtained are as in Table 5.

Table 5*Revised Research Model Fit Statistics*

Indexes	Goodness of Fit Values		Acceptable Compliance Values*
	Revised Research Model	Research Model	
χ^2/sd	2.23	2,25	$\leq 0,05$
GFI	0.90	0.90	$\geq 0,90$
AGFI	0,87	0,87	$\geq 0,85$
CFI	0,94	0,94	$\geq 0,90$
NFI	0,90	0,90	$\geq 0,90$
NNFI	0,93	0,93	$\geq 0,90$
IFI	0,94	0,94	$\geq 0,90$
RMR	0.11	0.10	$\leq 0,08$
SRMR	0.065	0.062	$\leq 0,08$
RMSEA	0.056	0.056	$\leq 0,10$

Note. *Çokluk et al. (2012), Erkorkmaz et al. (2013), Doğan (2015), Seçer (2013), Aksu et al. (2017), Yapraklı (2006)

When Table 5 is examined, the revised research model shows goodness of fit according to χ^2/df , RMSEA, GFI, AGFI, CFI, NFI, NNFI, IFI and SRMR criteria. Therefore, it can be stated that the model is accepted in its current form. According to Kline (1998), a standardized value less than 0.10 has a small effect; A value less than 0.50 indicates medium effect and a value greater than 0.50 indicates high effect (Acted by Şimsek, 2007, p. 126). In this context, when the t values and standardized values obtained as a result of the test of the revised research model are examined, it is seen that consumer cynicism causes consumer boycott behavior ($t= 5.87$; $\beta= 0.33$; $p<0.01$) moderately and make a difference ($t= 9.06$; $\beta= 0.55$; $p<0.01$) at a high level and it has a moderate and positive effect on self-development ($t= 8.10$; $\beta= 0.48$; $p<0.01$). In addition, consumer cynicism has a small and negative effect on the counter-arguments variable ($t= -2.38$; $\beta= -0.15$; $p<0.01$). In addition, the variable of making a difference on consumer boycott behavior ($t= 8.08$; $\beta= 0.51$; $p<0.01$) is high and the counter-arguments variable ($t= 3.35$; $\beta= 0.16$; $p<0.01$) has a moderate and positive effect. Therefore, the H_1 , H_2 , H_3 , H_4 , H_5 and H_7 hypotheses were accepted while the H_6 hypothesis was rejected.

Examining the Mediating Effects of Consumer Boycott Participation Motives in The Effect of Consumer Cynicism on Consumer Boycott Behavior

In the research, the causal step approach, also known as the Baron and Kenny method, was used to determine whether the consumer boycott participation motives have a mediating effect on the effect of consumer cynicism on consumer boycott behavior (Gürbüz et al., 2018, p. 285).

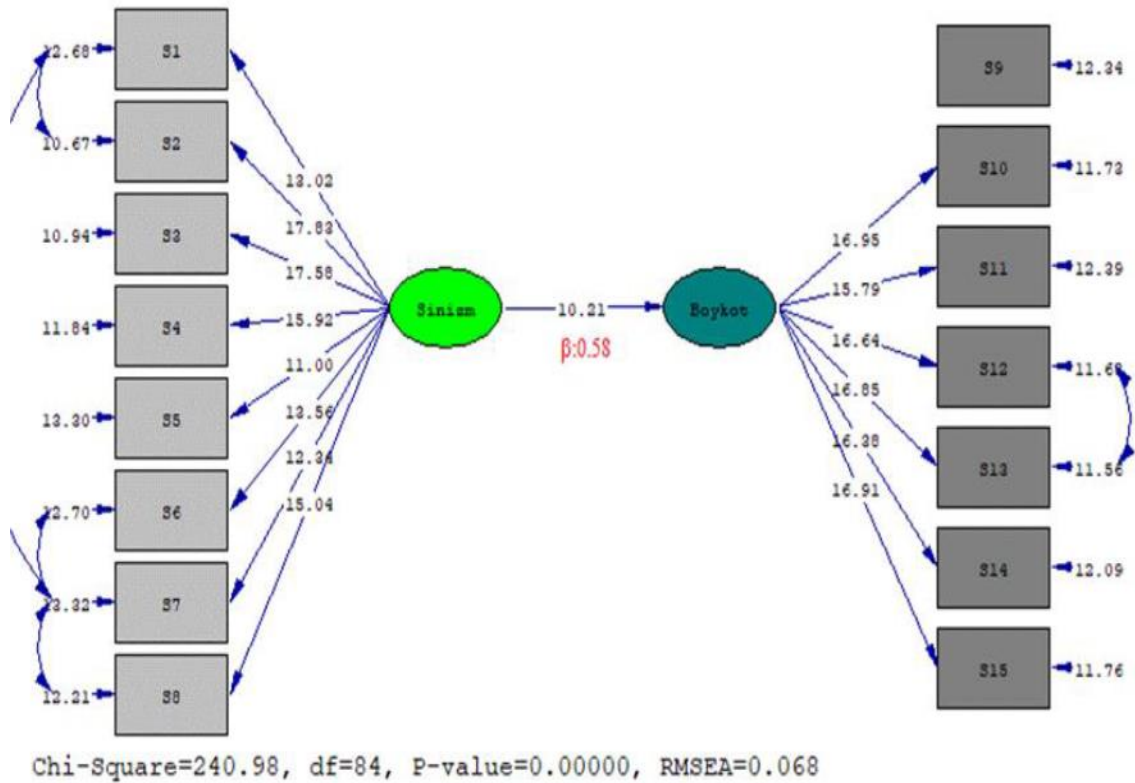
Accordingly, first of all, the independent variable consumer cynicism should have a significant effect on the dependent variable consumer boycott behavior. As a matter of fact, in the absence of such an effect, it is not possible to mentioned about a relationship that will be mediated. Secondly, the independent variable should have a significant effect on the mediating variables of (make a difference-self enhancement-counter arguments) consumer cynicism. As a matter of fact, in order for mediating variables to be mediators, they must be affected by consumer cynicism. Third, mediating variables should have a significant effect on consumer boycott behavior. However, this effect should be determined by controlling consumer cynicism. Finally, when the effects of mediating variables are controlled, the effect of consumer cynicism on consumer boycott behavior should decrease or become meaningless.

Examining The Mediating Effect of Making a Difference in The Effect of Consumer Cynicism on Consumer Boycott Behavior

A structural model consisting of consumer cynicism and consumer boycott behavior variables has been established in order to determine whether the variable of making a difference has a significant mediating effect on the effect of consumer cynicism on consumer boycott behavior. The model in mentioned is as shown in Figure 5.

Figure 5

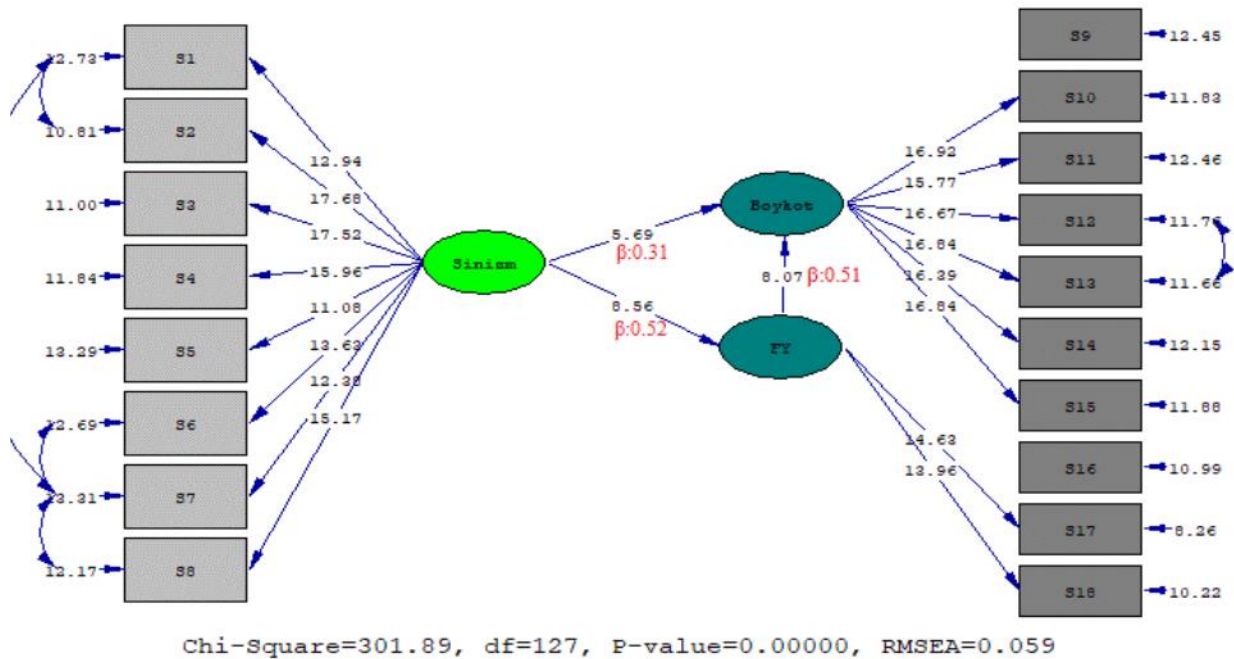
Structural Model 1: Effect of Consumer Cynicism on Consumer Boycott



When Figure 5 is examined, goodness of fit statistics for structural model 1 $\chi^2 = 240.98$ $df = 84$; $\chi^2/sd = 2.87$; $GFI = 0.93$; $AGFI = 0.89$; $RMSEA = 0.068$; $CFI = 0.96$; $NFI = 0.93$; $NNFI = 0.95$; $RMR = 0.081$; $SRMR = 0.050$ was obtained. According to these results, the model shows goodness of fit. However, the t value (10.21) of the path from consumer cynicism to consumer boycott behavior is significant at the 0.01 level. Therefore, consumer cynicism has a high and positive effect on consumer boycott behavior ($t = 10.21$; $\beta = 0.58$; $p < 0.01$). In the study, it was aimed to determine whether the effect of consumer cynicism on consumer boycott behavior ($\beta = 0.58$, $p < 0.01$) is significantly reduced or becomes meaningless when the difference-making tool variable is added to the model. Therefore, a second structural model was established. The model in mentioned is as follows.

Figure 6

Structural Model 2: the Mediating Effect of the Difference Making



When Figure 6 is examined, goodness of fit statistics for structural model 2 $\chi^2=301.89$ $df=127$; $\chi^2/df=2.38$; $GFI=0.92$; $AGFI=0.90$; $RMSEA=0.059$; $CFI=0.96$; $NFI=0.93$; $NNFI=0.95$; $RMR=0.081$; $SRMR=0.050$ was obtained. According to these results, the model shows goodness of fit. The path from consumer cynicism to consumer boycott behavior is $t=5.69$; $t=8.56$ for the path from consumer cynicism to the variable of making a difference, and the $t=8.07$ value of the path from the variable to make a difference to consumer boycott behavior is significant at the 0.01 level and above 2.56. Therefore, within the scope of the model created, consumer cynicism has a statistically significant and positive effect on consumer boycott behavior ($t=5.69$; $\beta=0.31$; $p<0.01$), and consumer cynicism has a statistically significant and positive effect on making a difference ($t=8.56$; $\beta=0.52$; $p<0.01$) which is the mediating variable. Moreover, it can be stated that make a difference a mediating variable has a statistically significant and positive effect on consumer boycott behavior ($t=8.07$; $\beta=0.51$; $p<0.01$). In this context, it is seen that the 2nd and 3rd conditions of the mediating relationship are met.

Regarding the 4th condition within the scope of the mediating relationship, the β values from consumer cynicism to consumer boycott behavior related to structural model 1 and structural model 2, in which the difference-making variable was added, were compared. The value in structural model 1 is $\beta=0.58$; it is seen that the value in structural model 2 is $\beta=0.31$. Under these conditions, it can be said that the variable of making a difference has a partial mediating role in the effect of consumer cynicism on consumer boycott behavior. To put it more clearly, some of the effect of consumer cynicism on consumer boycott behavior is realized through make a difference. According to the results, making a difference has a mediating role in the effect of consumer cynicism on consumer boycott behavior. H_3 is accepted.

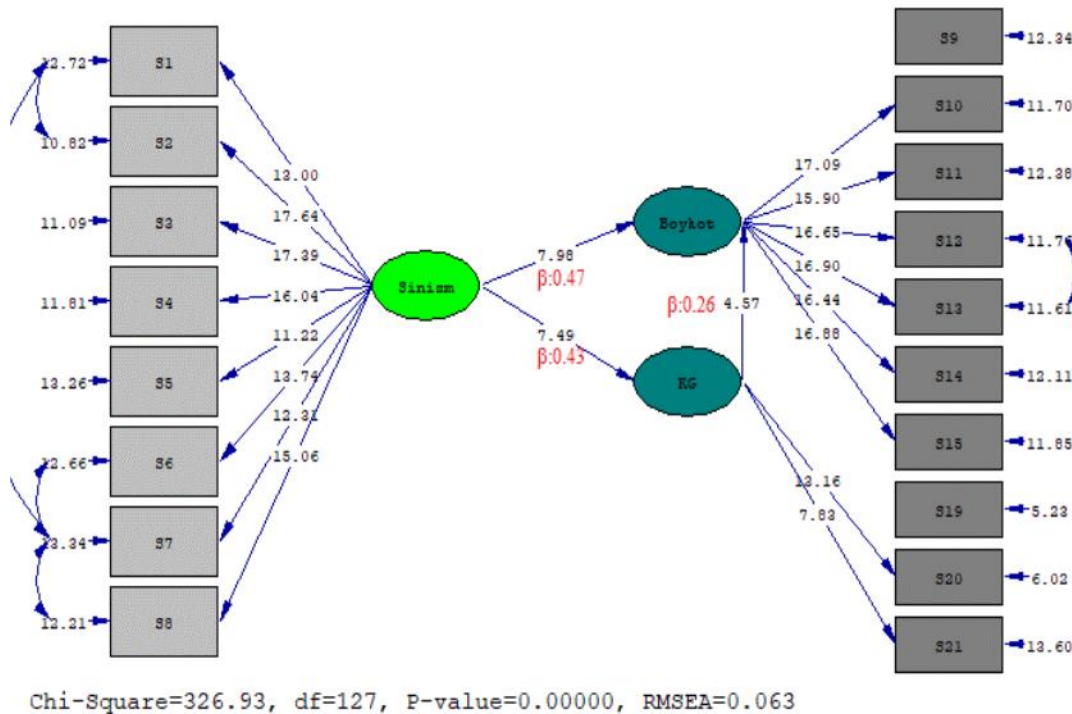
Examining of the Mediating Effect of Self-Enhancement in The Effect of Consumer Cynicism on Consumer Boycott

It was aimed to determine whether the self-enhancement variable has a significant mediating effect in the effect of consumer cynicism on consumer boycott behavior. Therefore, a structural model consisting

of consumer cynicism, consumer boycott behavior and self-enhancement variables has been established. The model in mentioned is as shown in Figure 7.

Figure 7

Structural Model 3: Mediating Effect of Self-Enhancement Variable



Goodness of fit statistics for structural model 3 $\chi^2= 326.93$ $df= 127$; $\chi^2 /df= 2.57$; $GFI= 0.92$; $AGFI= 0.89$; $RMSEA= 0.063$; $CFI= 0.95$; $NFI= 0.92$; $NNFI= 0.94$; $RMR= 0.081$; $SRMR= 0.051$ as was obtained. According to these results, the model shows goodness of fit.

The path from consumer cynicism to consumer boycott behavior is $t= 7.98$; $t= 7.49$ for the path from consumer cynicism to self-enhancement variable and $t= 4.57$ value for the path from self-enhancement variable to consumer boycott behavior is significant at the 0.01 level and above 2.56. Therefore, within the scope of the model created, consumer cynicism on consumer boycott behavior ($t= 7.98$; $\beta= 0.47$; $p<0.01$), consumer cynicism on self-development, which is the mediating variable ($t= 7.49$; $\beta= 0.43$; $p<0.01$) can be stated to have a statistically significant and positive effect. Moreover, it can be stated that the mediating variable self-enhancement has a statistically significant and positive effect on consumer boycott behavior ($t= 4.57$; $\beta= 0.26$; $p<0.01$). In this context, it is seen that the 2nd and 3rd conditions of the mediating relationship are met.

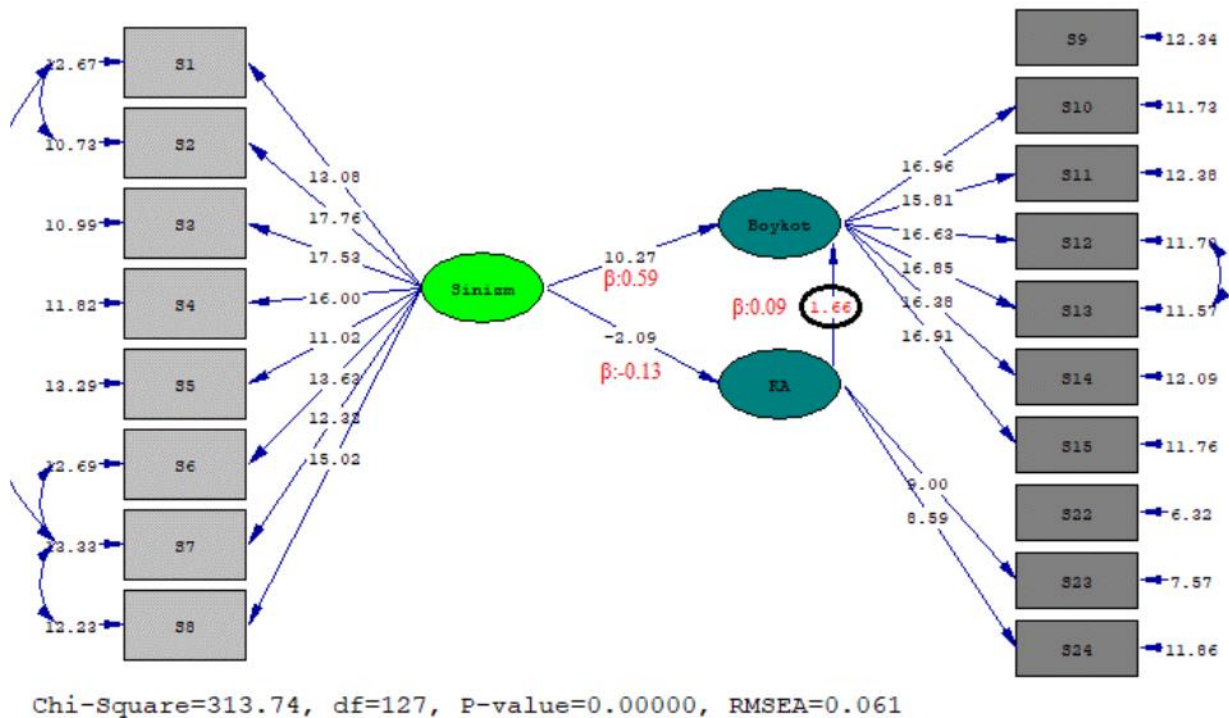
Within the scope of the intermediation relationship, the β values from consumer cynicism to consumer boycott behavior related to structural model 1, to which the self-development variable was added, were compared. The value in structural model 1 is $\beta= 0.58$; it is seen that the value in structural model 3 is $\beta= 0.47$. Under these conditions, it can be said that the self-enhancement variable has a partial mediating role in the effect of consumer cynicism on consumer boycott behavior. To put it more clearly, some of the effect of consumer cynicism on consumer boycott behaviors is realized through self- enhancement. According to the results, self-enhancement has a mediating role in the effect of consumer cynicism on consumer boycott behavior. H_9 is accepted.

Examining of the Mediation Effect of Counter-Arguments on the Effect of Consumer Cynicism on Consumer Boycott Behavior

It is aimed to determine whether the counter-arguments variable has a significant mediating effect in the effect of consumer cynicism on consumer boycott behavior. Therefore, a structural model consisting of consumer cynicism, consumer boycott behavior and counter-arguments variables has been established. The model in mentioned is as shown in Figure 8.

Figure 8

Structural Model 4: Mediating Effect of the Counter-Arguments Variable



Goodness-of-fit statistics for the structural model 4 $\chi^2 = 313.74$ $df = 127$; $\chi^2/df = 2.47$; GFI= 0.92; AGFI= 0.89; RMSEA= 0.061; CFI= 0.95; NFI= 0.92; NNFI= 0.94; RMR= 0.084; SRMR= 0.052 as was obtained. According to these results, the model shows goodness of fit.

The $t = 10.27$ value of the path from consumer cynicism to consumer boycott behavior is statistically positive and significant at the 0.01 level. The $t = -2.09$ value of the path from consumer cynicism to the counter-arguments variable is statistically negative and significant at the 0.01 level. However, the t -value of the path from the counter-arguments variable to the consumer boycott behavior; it is 1.66 and therefore not significant. In this context, it can be said that consumer cynicism has a significant and positive effect on consumer boycott behavior ($t = 10.27$; $\beta = 0.59$; $p < 0.01$). Moreover, it can be stated that consumer cynicism has a significant and negative effect on counter-arguments ($t = -2.09$; $\beta = -0.13$; $p < 0.01$), which is the mediating variable. However, the counter-arguments variable, which is the mediating variable, did not have a significant effect on consumer boycott behavior ($t = 1.66$; $\beta = 0.09$; $p < 0.01$). As the third condition required for the mediating relationship is not met within the scope of the results, counter-arguments do not have a mediating role in the effect of consumer cynicism on consumer boycott behavior. Therefore, H_{10} is rejected.

Conclusion and Recommendations

When the marketing literature is examined, it is seen that although there are studies that discuss consumer cynicism and consumer boycott behavior together or separately using different variables, studies that approach the subject in terms of consumer boycott participation motives are quite limited. In this context, this research is to examine the mediating role of consumer boycott participation motives in the effect of consumer cynicism on consumer boycott behavior within the scope of SEM. The research was carried out with a survey on 401 people over the age of 18 residing in Erzurum. In the study, it was determined that the respondents were predominantly male, single, between the ages of 18 and 26, has a bachelor's degree, with an income of 4500 TL and below, students and civil servants.

In the study, it was determined that the scales related to consumer cynicism, consumer boycott behavior and consumer boycott participation motives have a high level of reliability. In addition, the factor structures of the scales were determined with the EFA applied to the scales. As a result of the analysis, it was seen that the Consumer Cynicism Scale has a one-dimensional structure consisting of 8 statements and the Consumer Boycott Behavior Scale consisting of 7 statements. However, it has been determined that the variables related to the consumer boycott participation motives (make a difference, self-enhancement, counter-arguments) have a one-dimensional structure consisting of 3 expressions.

In the study, CFA was applied to the scales whose factor structures were revealed. As a result of the analysis, it was revealed that the goodness of fit values related to the measurement model were not at an acceptable level. As a result of the proposed modifications, it was determined that the goodness-of-fit values of the measurement model were at an acceptable level.

In the research, consumer cynicism was found to be 3.34; 3.78 of consumer boycott behavior; 3.48 of making a difference; it was determined that self-enhancement had an average of 3.47 and counter arguments had an average of 2.96. Considering these averages, it can be stated that consumers' levels of cynicism, boycott behavior and motivations affecting participation in the boycott are quite high.

Direct and indirect effects in the research model were tested with SEM. As a result of the application, it was determined that the path from the self-enhancement variable in the research model to the consumer boycott behavior was not significant and the research model was revised. It was determined that the paths were significant among all the variables in the revised research model. In this context, the cynicism levels of the respondents and the boycott behaviors of the consumers; it has been determined that it has a significant and positive effect on the motivations of making a difference and self-enhancement. Moreover, consumers' cynicism levels have a significant and negative effect on counter-arguments motivation. In addition, it has been determined that the motives of making a difference and counter-arguments have a significant and positive effect on the boycott behavior of consumers.

In the light of these results obtained in the research, it can be stated that as consumers' cynicism levels increase, their tendency to boycott businesses also increases. In addition, consumers who have cynical thoughts about businesses; it can be said that they have an idea that everyone should participate in boycott activities, where all kinds of contributions to change the actions of businesses are considered important. In addition, it can be concluded that consumers with high cynicism feel guilty when they buy the products of boycotted businesses and feel happy when they do not.

One of the remarkable results in this study is that as the cynicism levels of consumers increase; there is a decrease in their feelings of not engaging in boycott behavior, underestimating their contribution to the boycott, or in endangering the activities of businesses by boycotting. In other words, cynical consumers do not hesitate to act in boycott, contribute to the boycott even a little, and harm business activities.

Within the scope of the mediation effects carried out in the research, there is a significant mediating effect of the motives of making a difference and self-enhancement in the effect of consumer cynicism on consumer boycott behavior. However, there is no such mediating effect in the motive of counter-arguments. In other words, some of the effect of consumer cynicism on consumer boycott behaviors is realized through the motives of making a difference and self-enhancement.

According to the findings obtained from the research, the following recommendations can be made to the local, national and international businesses operating in Turkey and to the academicians and researchers who want to conduct research in this field:

- Businesses should seek to identify the factors that cause consumer cynicism and consumer boycott behavior and efforts should be made to reduce the levels of these factors. In order for businesses to survive in today's increasingly competition; they need to engage in activities to create both attitudinal and behavioral loyalty of customers. In order to provide confidence to consumers in an inflationary environment; it is recommended to apply price strategies suitable for the market, to avoid unethical marketing practices, and not to compromise on product and service quality. In addition, businesses must fulfill the requirements of customer relationship management effectively; they need to provide excellent customer service, expand their customer service network, use their social media networks effectively, and at the same time expand these platforms and maintain their brand value at all times. In order to prevent consumer boycott behaviors that spread to large masses through negative word of mouth and social media platforms, businesses should make the necessary explanations to consumers. Thus, it is recommended that businesses can prevent negative image perception in the minds of consumers.
- Academics and researchers who want to do research on this subject; they can do research by limiting businesses on the basis of sector or brand, by making sector/brand or geographical region comparisons in different geographical regions and cities, or by making use of other variables related to consumer cynicism, consumer boycott behavior and consumer boycott participation motives. Examples of these variables are perceived service quality, service errors and strategies to compensate, customer relationship management.

Compliance with Ethical Standards

Ethical Approval

The research was carried out with the approval of the Scientific Research and Publication Ethics Committee of Ağrı İbrahim Çeçen University (approval no. 23.02.2022/52). Institutional and/or national research committee ethical standards and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards were followed in all study procedures involving human participants.

Author Contributions

The authors acknowledge joint responsibility for all research-related processes.

Declaration of Conflicting Interests

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Data Availability

Datasets generated and/or analyzed during the current study may be requested from the corresponding author upon reasonable request.

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Comparison of Ottoman Empire and Qing Dynasty through Süleyman Şükrü's Seyahatü'l Kübra and Kang Youwei's Turk Travelogue

Süleyman Şükrü'nün Seyahatü'l Kübra'sı ve Kang Youwei'in Türk Seyahatnamesi Üzerinden Osmanlı İmparatorluğu ve Qing Hanedanlığı Mukayesesi

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Abstract

In 1906, Traveller Karçınzade Süleyman Şükrü, starting from Anatolia, travelled to Iran, Ashgabat, Bukhara, Baku, West Turkistan, Caucasus, Austria, France, Marseille, Africa, Tunisia, Morocco, Algeria, Egypt, Aden, India, Kolkata, Colombo, Ceylon, Singapore and China and reached Russia as the last stop, St. Petersburg. The impressions of China found in Seyahatü'l Kübra are grouped under eleven headings. Şükrü tried to reveal clear data about China's outer seas, rivers, architecture of cities, temples, mosques, the situation of European states in China, what foreigners do, and the number of Muslims and mosques in the section of impressions of China. Similarly, in 1908, Kang Youwei, who came to Ottoman Empire, which he called the Turk Empire, collected his travel notes under the title of Turk Travelogue. In his travelogue, he gave detailed information about the political structure, military structure, education, architecture and historical places of the Turks. By comparing many points which he witnessed in Ottoman Empire with his own country or European countries, he examined the similarities or differences of these countries with the Ottoman Empire. The aim of this study, which is a comparative study, is to examine the similarities and differences between the two countries in line with the perspectives of Şükrü and Kang. For this reason, in addition to the comparison method, content analysis, text scanning and text analysis methods will be adopted as a review method in the study.

Keywords: Süleyman Şükrü, Kang Youwei, Seyahatü'l Kübra, Turk Travelogue.

Öz

1906 yılında Seyyah Karçınzade Süleyman Şükrü, Anadolu'dan başlayarak İran, Aşkabat, Buhara, Bakü, Batı Türkistan, Kafkasya, Avusturya, Fransa, Marsilya, Afrika Kıtası, Tunus, Fas, Cezayir, Mısır, Aden, Hindistan, Kalküta, Kolombo, Seylan, Singapur ve Çin'i gezmış ve son durak olarak Rusya Petersburg'a ulaşmıştır. Seyahatü'l Kübra içerisinde bulunan Çin izlenimleri on bir başlık altında toplanmıştır. Şükrü, Çin izlenimleri bölümünde Çin'in dış denizleri, nehirleri, şehirlerin mimarisi, tapınakları, camileri, Çin'deki Avrupalı devletlerin durumu, yabancıların ne iş yaptıkları, Müslüman ve cami sayıları hakkında net veriler ortaya koymaya çalışmıştır. Yine 1908 yılında Türk Ülkesi olarak adlandırdığı Osmanlı Devleti'ne gelen Kang Youwei, gezi notlarını Türk Seyahatnamesi (Turk Travelogue) başlığı altında toplamıştır. Seyahatnamesinde Türklerin siyasi yapısı, askeri yapısı, eğitimi, mimarisi, tarihi yerleri hakkında detaylı bilgiler vermiştir. Osmanlı'da gördüğü birçok noktayı kendi ülkesi veya Avrupa ülkeleri ile kıyaslayarak bu ülkelerin Osmanlı ile benzerliklerini ve ya farklılıklarını incelemiştir. Bir karşılaştırma araştırması olan bu çalışmanın amacı, Şükrü'nün ve Kang'ın bakış açıları doğrultusunda iki ülke arasındaki benzerlikleri ve farklılıkları incelemektir. Bu nedenle çalışmada karşılaştırma yönteminin yanı sıra inceleme yöntemi olarak içerik inceleme, metin tarama ve metin analizi yöntemleri de benimsenecektir.

Anahtar Kelimeler: Süleyman Şükrü, Kang Youwei, Seyahatü'l Kübra, Türk Seyahatnamesi.

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Comparison of Ottoman Empire and Qing Dynasty through Süleyman Şükri's Seyahatü'l Kübra and Kang Youwei's Turk Travelogue

Although it is mostly in the subject area of literature, the historical value of travelogues has a great importance in the comparison of periods. Travel books, in which the unknowns in other countries are told through the eyes of the travellers, show differences in terms of both the purpose of writing and the subject. Works that have the characteristics of the travelogues in Ottoman literature are grouped under seven titles:

1. Travelogues based on the journey written in order to tell the reader about their observations in the places they have travelled,
2. The esâretnâmes written by the captives in order to tell the others about their situation in the place where they were capturedⁱ,
3. The poetic travelogues written in the genre of sergüzeştname and hasbihal, written by the poets to describe the troubles they experienced in life or while they are away from home,
4. Pilgrimage travel books written by pilgrims who want to ensure that their worship is performed properly,
5. Travel books in the genre of geography and history books containing information about the people, geography, history, management and culture of the regions,
6. Travel books describing the expeditions, victories and journeys of a sultan or statesman,
7. Embassies written by ambassadors sent to other countries through official channels to contribute to politics and history (Coşkun, 2009).

The oldest travelogue in old Turkish literature is "Acâib'ül-Letâif" written by Gıyaseddin Nakkaş in the 16th century. Acâib'ül-Letâif is also valued as a Sefâretnâme (the book of embassy). The reason for this is that Nakkaş was among the envoy delegation sent by Timur's son Shah Rukh to the Cathay (Chinese) emperor (Özerdim, 1950, p. 345). The oldest travel books penned on sea in Turkish literature are Piri Reis' "Kitab-ı Bahriyye" and Seydi Ali Reis' (1498-1562) "Mir'atü-l Memalik"ⁱⁱⁱ and "Kitab al- Muhit fi İlm'al- Eflâk va'l Abhur"ⁱⁱⁱⁱ. Kitab-ı Bahriyye (The Book of Sea), prepared by the world-famous sailor Piri Reis as a guide for sailors, contains detailed information about the Mediterranean coasts. The works of Piri Reis, who transferred his vast knowledge and experience to his book and created maps with the information he collected, were appreciated during his period and have continued to be appreciated. Although the works of another famous sailor, Seydi Ali Reis, are not as famous as the works and maps of Piri Reis, they are valuable in terms of Ottoman maritime history.

In Chinese travel books, it can be said that the aim of ensuring the flow of ethical and moral values in the context of China's ancient culture is the first starting point of travels. According to Mei (2006), the concept of travel first appeared in the "Classic of Changes (易经)" in Ancient Chinese sources, and twenty-nine of the sixty-four hexagrams in the work contain the meaning of travel. The explanation of the "旅 (lǚ)" hexagram among them is as follows: "小亨。旅贞吉。(Xiǎo hēng. Lǚ zhēn jí.)". The explanation of the hexagram in the Tuan Zhuan (象传) section of the Classic of Changes is as follows: "The Traveller—success in small matters. Persistence with regard to travelling brings good fortune" (Blofeld, 1965, p. 195).

According to Confucian thought in the Zhou era, reaching the qualification of "virtuous person" is a very important norm. For this reason, all the lessons and teachings given in the period are based on the

values of being a virtuous person. Therefore, the Chinese have always equipped life with a cultural structure based on industriousness and ethical principles. This cultural structure, which brought the virtuous person to his moral perfection, also became the basis of a kind of social hierarchy. This resulted in the travels being shaped on the intention of reflecting the concept of virtuous person to the whole society rather than a personal need in this period.

It is seen that in ancient Chinese society many travels were made to spread an idea, a religion or to reach more resources about a religion. Although these Chinese sources are not collected under the title of "travelogues (旅游记)", they can also be considered as travelogues in terms of content as they include travel observations. In China, for example, it is possible to come across examples of pilgrimage travelogues of Ottoman literature, which are both a guide for those who intend to go on pilgrimage and a travel book describing the pilgrimage. In line with the belief of going on pilgrimage, which exists in Buddhism as well as in Islam, one of the oldest Chinese travel books that can be considered in the category of pilgrimage travel books belongs to Fa Xian (法显, 337-422). During the Eastern Jin period (317-420), the "Fa Xian Records (法显传)" written by Monk Fa Xian, in his sixties, included fellow monks Hui Jing (慧景), Dao Zheng (道整), Hui Ying (慧应) and Hui Wei (慧暹) along with notes of their journey from Chang'an to India. While the work provides noteworthy information about the transportation between China and India, geographically and culturally, it is a valuable document especially because it contains important notes in terms of Buddhism (Zheng, 2019, p. 103).

Another one of the oldest Chinese travel books included in both pilgrimage and embassy category belongs to Xuan Zang (玄奘, 602-664). "Great Tang Records on the Western Regions (大唐西域记)" by Xuan Zang was actually recorded as "report". However, since the records tell of Xuan Zang's journey to India, they can also be considered as travelogues. The work describes the pilgrimage of Xuan Zang from Chang'an to India, who wanted to learn more about Buddhism, and set out with the permission of the Tang dynasty.

As a result of the development of "citizenship culture" towards the end of the Ming period, people turned to different subjects such as the pursuit of happiness and observing a society. Therefore, in this period, travels have an aspect which develops social and cultural identity. As an example of the famous travelogue of this period, "Xu Xiake's Travel Notes (徐霞客游记)" by Xu Xiake can be given as an example. This is the oldest work recorded in Chinese records as a travelogue (游记). The traveller Xu Xiake (徐霞客, 1587-1641), who lived at the end of the Ming period, travelled for 30 years starting at the age of 22 and kept diaries about the places he visited (Zhao et al., 2022, p. 245). In his diaries, he gave detailed information about agriculture, trade, transportation, mining, city plans, landscapes, markets, temples, vegetation, handicrafts, etc. in the cities^{iv} he visited (He, 2021, p. 51).

Süleyman Şükrü and Seyahatü'l Kübra (The Great Travel)

The work named Seyahatü'l Kübra, one of the most comprehensive travel books written by a Turk in the 20th century, was written by Karçınzade Süleyman Şükrü. The traveller, who travelled to European and Asian countries between 1886 and 1907, prepared his travel notes based on his historical and literary knowledge, and printed his travel book, which he made into a book, in 1907 at the Elektrik Printing House in Petersburg, Russia (Şükrü, 2013).

Şükrü was born in Eğirdir in 1865. Before traveling, he worked as a civil servant in many cities of the Ottoman Empire. While he was a civil servant in Pozantı in 1887, he had a disagreement with a

colleague and could not accept the situation when he saw that this person was appointed as the Telegraph Ministry Accountant. For this reason, Şükrü, who was not welcomed among his colleagues, was asked to be transferred to another place. After this incident, he was dismissed from his duty on the grounds that he could not get along well with his superiors and was exiled to Zor Sanjak.

During his exile life in Zor Sanjak, Şükrü, who was waiting for forgiveness from İstanbul but could not reach his goal, escaped to Mosul (Göksoy, 2017). As a result of a dream he had, he believed that he would have achieved the journey like the great Turkish traveller Evliya Çelebi and set out for his great journey. According to the studies conducted in recent years, Şükrü's travel took place with his own consent and does not have an official purpose (Şükrü, 2013).

Şükrü who started to take his notes in Anatolia, travelled to Iran, Ashgabat, Bukhara, Baku, West Turkistan, Caucasus, Austria, France, Marseille, Africa, Tunisia, Morocco, Algeria, Egypt, Aden, India, Kolkata, Colombo, Ceylon, Singapore and China and reached Russia as the last stop, St. Petersburg^v. The Chinese travel chapters in the travelogue are divided into eleven titles as the outer seas through which the traveller crosses until he reaches Shanghai, Beijing, Taku Port, the Pier of Hong Kong; the sea to the east of the Indian Peninsula, the Pacific Ocean, Tin-i Çin (Tianjin), Beijing, Cancaku, Lancosin (Lanzhou), Hoço (Hezhou), Hami, and Urumqi. In the chapter of travels to China, China's outer seas, rivers, architecture of cities, temples, mosques, the situation of European states in China, what foreigners do, the number of Muslims and mosques are given in detail. Muslims were also the translators of Şükrü, who communicated with them during his travels. The most striking point in Şükrü's impressions of China is Şükrü's heavy criticism on many issues.

Kang Youwei and Turk Travelogue

Today, the famous thinker and politician of the Qing period, Kang Youwei (康有为, 1858-1927), is known not only for his reform attempts, but also for his Turk Travelogue. Unlike the Turkish traveller Süleyman Şükrü, Kang is a statesman who served as a high-ranking official in the Qing Dynasty.

The First Sino-Japanese War and the impact of imperialism on China deeply affected the Chinese people and prompted the intellectuals to seek new ways for the recovery of the dynasty. One of these intellectuals, Kang Youwei, conducted research on how other countries struggled with imperialism and presented them to the emperor in a report^{vi}. Kang's ultimate goal is to save the Qing Dynasty from the dangers of the world evolving towards imperialism. Kang gained knowledge about the politics and mentality of European states with the events in Hong Kong and Shanghai. He understood that resistance to this change would be possible with radical political changes with the support of the dynasty. In this context, he felt the experiences of Meiji Japan and Russia were pertinent as models for China (Wong, 1992). The signing of the Treaty of Shimonoseki, which would end the Sino-Japanese war between the Qing Dynasty and Japan in 1895, resulted in the start of the "Gongche Shangshu Movement, 公车上书", in which many intellectuals led by Kang Youwei submitted petitions to the Empire. Emperor Guangxu, who did not want to be the last emperor to destroy the empire, started to consider the reform proposals put forward by Kang Youwei within the framework of deep research. The implementation of these reform proposals corresponds to the year 1898. This movement, also known as Wuxu Reforms (戊戌政变), announced by an edict (明定国是诏, Míngdìng guó shì zhào) on the twenty-third day of the fourth month of Emperor Guangxu's twenty-fourth year (1898), or 100 Days Reforms (百日维新) because it lasted 103 days, includes regulations that will improve the country in many aspects such as cultural, economic, commercial, military and educational.

However, as a result of this reform movement, which was stopped by Emperor Cixi on the one hundred and third day, it was decided to arrest the reformists who supported this movement. As a result, captured reformists^{vii} were killed, while some of the surviving reformists sought help^{viii} from the British, Japanese, or American Consulates. Kang Youwei, on the other hand, took the protection of the British and fled to Hong Kong (Li & Li, 2012, p. 277). This led to Kang Youwei's 16-year exile (Fidan, 2019). During his exile, he travelled to Europe and came to the Ottoman Empire in 1908, where he wrote his work called "Turk Travelogue"^{ix}. Travelogue was published in the first volume of Bu Ren Journal (不忍) in China in 1913 (Fidan, 2019).

Although his travels, which started after the exile, included the purpose of collecting information about other countries in order to save his own country, it was revealed that the travels were not official because the Qing administration did not support his activities. Therefore, it can be assumed that Kang travelled voluntarily. One of the biggest reasons why Kang wrote the Turk Travelogue was the similarities between Türkiye and China. In his travel book, Kang often stated that the destinies of the two countries were the same and underlined that the only way to cure this disease would not be by asking for freedom, but that the destiny of a country depended only on the laws. The places visited by the traveller are not divided into headings in the travelogue but are intertwined. In fact, some of the points that he wrote in the context of criticism, were repeated with the poems written by the traveller. In the travelogue, detailed information is given about the situation of the European states in the Ottoman Empire, the political structure of the Ottoman Empire, its education, schools, architectural structure, clothing culture, music culture, baths, customs of worship, money, works of art, museums, historical places, palaces and eunuchs. In the last parts of the book, the new constitution was mentioned and it was mentioned that this constitution was the work of Midhat Pasha and the influence of the Young Turks in the proclamation of the constitution. The last paragraph of the travelogue is written on the way the Turks worship.

The Purpose and Method of the Study

The key point of the study, Süleyman Şükrü's Seyahatü'l-Kübra and Kang Youwei's Turk Travelogue, were written by two travellers, one Turkish and one Chinese, in the 20th century. The significance of these travelogues stems from the fact that the periods in which the travellers travelled correspond to the same periods and that they witnessed almost the same events as a period even though they were in two different countries.

These two travelogues, which are valuable in the context of Ottoman and Qing relations, show that the Ottoman Empire and Qing Dynasty came under the influence of the West with the spread of imperialist approaches that came with the French Revolution and Industrial Revolution in Europe. Therefore, this study is significant in terms of comparing the situation in the 20th century, when the two countries took the step from empire to constitutionalism. The aim of this study, which is a comparative research, is to reveal the similarities and differences between the two countries in line with the perspectives of Şükrü and Kang. For this reason, in addition to the comparison method, content analysis, text scanning and text analysis methods will be adopted as a review method in the study.

Reflections of European States in Travelogues

Chinese travel chapters in the travelogue are divided into eleven titles as the outer seas through which the traveller crosses until he reaches Shanghai, Beijing, Taku Port, the Pier of Hong Kong; the sea to the east of the Indian Peninsula, the Pacific Ocean, Tin-i Çin (Tianjin), Beijing, Cancaku, Lancosin (Lanzhou), Hoço (Hezhou), Hami and Urumqi. Compared to the cities Şükrü travelled to and those in Kang Youwei's travelogue, it seems that Şükrü visited more cities in China. Şükrü primarily focused on the population in the cities he visited. Later, he discussed the situation of the European states in these

cities and revealed the differences between the districts where the Chinese stayed and the districts where the Europeans lived. Providing details about the number of Muslims and mosques in each city, Şükrü did not hesitate to give information about the lifestyles and business life of the Muslims he met there. It is also possible to see information about what Christian, Jewish, Muslim and local people in China do for living in his travelogue. Şükrü's travelogue contains geographical information as well as history, ethnography, sociology and folklore.

In his travel book, Şükrü mainly wrote about foreigners in Hong Kong, Shanghai, Tianjin and Beijing and the situation of China at that time. At this point, Şükrü, who shared the same thoughts with Kang Youwei, did not compare the situation in China with the Ottoman, unlike Kang. As Kang stated in his travel book, the “sickness” of the Qing and the Ottomans is the same. The struggle of Ottoman Empire, which was seen as the "Sick Man of Europe" in the 20th century, and China, which was seen as the "Sick Man of Asia" in the same century, shows similar characteristics historically. Despite these similarities, it can be thought that Şükrü's inability to make comparisons while dealing with his impressions of China may be due to the fact that he is not a politician. Because the only thought of Şükrü during his travels was that Istanbul would forgive him and he would return to his homeland. Kang, on the other hand, still aimed to save his country despite his exile. For this reason, perspectives in travelogues also differ.

While discussing the situation in Hong Kong, Shanghai, Tianjin and the capital Beijing, which were the great commercial ports of the Qing Dynasty in the 20th century, Şükrü revealed the differences between the districts where foreigners and Chinese lived. Although the French Revolution and the Industrial Revolution that broke out in the 18th century did not directly affect Ottoman Empire and the Qing Dynasty in the beginning, towards the middle of the 19th century, the modernization and nationalism movement that spread to the world with the revolution and nationalism began to show their impact in the Ottoman Empire and Qing Dynasty. As a result of the search for markets that came with the industrial revolution, which urged western states, the Ottomans and Qing had to face the western threat. According to Şükrü, while the districts where foreigners lived were developed in terms of construction, there was no trace of this indication in the districts where the Chinese lived. Even though they lived with foreign nations, the Chinese were not affected by this development at all. Moreover, the Qing Dynasty was dying as a result of internal rebellions and pressure from European states. In Şükrü's words, the people were despaired of their own emperors and hoped for help from European states to be saved:

... Among the four hundred and forty million people who cannot open their eyes because of putting their heads on idols and taking opium, there is no individual capable of repairing and consolidating this (reign) and serving the happiness of the homeland. They expect its destruction from the protection of the Europeans, as if its construction was supposed to be assigned to themselves... (Şükrü, 2013, p. 497)

The population of the Europeans, who took many important cities of the Qing Dynasty under their protection for trade, increased in direct proportion to the increase in trade. As Şükrü emphasized, there were fifteen thousand Europeans in Shanghai in 1906: “The North of Shanghai was invaded by Americans; the South was invaded by Frenchs; the West was invaded by the Germans. The most beautiful part of the city was taken by the British” (Şükrü, 2013, p. 487); “While there are European states in Tianjin, as in other cities, Russians and Japanese were also given a share” (Şükrü, 2013, p. 491). In Beijing, the situation is the same. Many districts where states such as Germany, France, England, America, Japan and Russia have influence are under the control of these states. In these districts, states can even collect taxes on their behalf. Again, as Şükrü conveyed, even the neighbourhood where the emperor and ministers' mansions are located is under the protection of German soldiers (Şükrü, 2013, p. 495).

In Kang's Turk Travelogue, the situation of European states is given as follows:

...The Turks have been weak for a long time, so they are being disturbed by the British, Russians, Germans, French, Austrians, and Italians. Ambassadors from these six countries in Turkey have an outsized impact, and demand a lot of respect. Here, they can call for a meeting with the sultan any time. The sultan tries to avoid them. The ambassadors of these countries are free to do whatever they want. What can do Turks do to them? The Turks are indebted to these six countries, and pay their debt every day, which is 1,000 pounds to the Russians, 600 pounds to the British, 400 pounds to the French, 300 pounds to the Italians, 150 pounds to the Austrians, and 100 pounds to the Germans. The sickness of the Turks is the same as our sickness. When I gaze at embassies, I turn and think about our capital... (Fidan, 2019, pp. 56-57)

While Kang compared everything he spotted in his travelogue with his country, such comparisons were not included in Şükrü's travelogue. In fact, when compared in terms of history, there are many similarities between the two countries, as Kang emphasized. As can be understood from the chapters devoted to China in *Seyahatü'l Kübra*, the traveller Şükrü has a wealth of knowledge about the history of China. Using this information, he criticizes that the Qing Dynasty was under the protection of European states. However, while criticizing the Qing Dynasty, he pens words praising the Ottoman Empire somewhere in the paragraphs.

For example, in the Shanghai chapter, it is asserted that the Islamic Cemetery in Shanghai was intended to be demolished 4 years ago, but Enver Pasha, who was sent to Japan, raised this issue like Khidr (godsend), and then it is hoped: "May Allah not separate the high authority of prophecy and the shadow of the caliphate from the ummah" (Şükrü, 2013, p. 486). However, in the Beijing chapter, a Chinese Muslim whom Şükrü met while sitting in a teahouse in Beijing voiced, "May the Chinese Muslims also be blessed to hold the dazzling holy sword of the Sultanate of Islam," and stated that they were with the Ottoman Caliph and ended his sentence with the words "The mighty Ottoman Empire cannot open its eyes from the repeated attacks of the west" (Şükrü, 2013, p. 501). In response to these words of the Chinese Muslim, Şükrü wrote that he was "trying to console and comfort them" (Şükrü, 2013, p. 502). In this regard, it is concluded that Şükrü was actually aware of the situation in the Ottoman Empire. Because the comfort and consolation of Chinese Muslims show that there is no denial. However, despite all these, the traveller has deemed it appropriate not to make an explicit comparison in the chapters of his trip to China.

The 20th century Ottoman history, on the other hand, has similar characteristics with the Chinese history. Although the Ottoman Empire was geographically very close to Europe, it had difficulties in keeping up with the political developments in Europe. The fact that there were non-Muslims as well as Muslims among the Ottoman subjects triggered the search for equality, freedom and independence among non-Muslims as a result of the revolutions in Europe. During the reign of Sultan Abdulmejid I (1823-1861), non-Muslims, who gained privilege with The Imperial Reform and Edict of Gülhane, led to an increase in separatist movements in the country, with the support of western states (Küçük, 1988, p. 180). Serbian events (1862-1867), uprisings in Crete, Bulgarian uprisings (1848-1876) are the most important of these rebellions.

The period of Abdulhamid II came to the fore with the declaration of the Constitutional Monarchy and the Kanun-ı Esâsî, which was accepted as the first constitution. The constitution, which was declared as a result of the pressures of Midhat Pasha in 1876, had positive effects in Europe (Özgüldür & Özgüldür, 1994, p. 319). However, during the conference, Midhat Pasha's rejection of the decisions taken by the European states on the Balkans had a negative impression on both Abdulhamid II and the European states. This resulted in the dismissal of Midhat Pasha and his exile to Europe (Maksudoğlu, 2009, p. 445). In this respect, Kang Youwei, who identified himself with Midhat Pasha, praised Midhat Pasha both in the report "Preface to a Memoir on The Weakening and Demise of Turkish Empire" and

in his travelogue. Most likely, in Kang's sense, Midhat Pasha and himself are intellectuals who are trying to save their countries. This is understood from the following words in the report titled "Weakening of Turks Preface to a Memoir on The Weakening and Demise of Turkish Empire":

If the sultan of the Turks had listened to Midhat Pasha, the Turks could have strengthened their county with these reforms and with the help of its powerful troops, and within twenty years they could have risen to the same level as France, Germany, Austria, and Italy. However, the sultan of Turks exiled Midhat Pasha, suspended the Constitution, reverted to old administrative style and the Turks were buried in darkness. (Fidan, 2019, pp. 20-21)

The Sultan, who held the parliament responsible for the defeat in the Ottoman-Russian war in 1878, closed the *Majlis-i Meb'ûsân* (Chamber of Deputies). Thus, the constitution prepared by Midhat Pasha was put aside. However, some intellectuals who were not satisfied with the rule of Abdulhamid II, founded the Committee of Union and Progress. By putting pressure on Abdulhamid II, they ensured the declaration of the Second Constitutional Monarchy in 1908. It was a great coincidence that the date on which Kang Youwei travelled to Istanbul coincided with the proclamation of the Second Constitutional Monarchy.

Kang alleged that during his trip to the capital, which corresponds to the date of the declaration of the constitution, the music started in the evening and people made speeches with flags in their hands. Watching these people closely, Kang mentions that these people are Europeans and that Europeans wear fez according to the habits of Turks. According to the information given in Kang's travelogue, 225 thousand Europeans live in the capital. Besides, there are a total of 14 banks here, and all of them belong to Europeans. Transportation and trade are in the hands of foreigners (Fidan, 2019, p. 66). Even the British pound can be used here as there are many foreigners in the capital (Fidan, 2019, p. 73).

Architectural Structures in Travelogues

While reporting the architectural structures of the cities in Hong Kong, Shanghai and Tianjin chapters, Şükrü generally focused on the architectural structures of the European districts and the architectural structures of mosques. The reason for this may be that modern structures attract more attention besides Classical Chinese structures. In addition, since the traveller himself was a Muslim, he always gathered information about Muslims, mosques and madrasahs as he aimed to be useful to his country. Therefore, he tried to provide more information about where the mosques are located, how many mosques there are in the cities, and the structure of the mosques.

The subject that Şükrü frequently discusses in the places he visits is the layout of the streets and the zoning policies in the neighbourhoods where Europeans live. In the neighbourhoods where the Chinese live, the situation is just the opposite. For this reason, Şükrü has always considered the streets of China as dirty and untidy. The most detailed architectural description he gave belongs to the palace in Beijing. According to Şükrü's description, the outer wall of the capital consists of the places where the people live. The wall is divided into two from the west by a wall from the inside. It is approximately thirty-three kilometres long. The outer castle has thirteen gates. The number of the doors in the section allocated to the other side of the wall is four. Although there are four gates on the second wall where the viziers and dignitaries are located, there are four gates according to this order even in the inner castle where the emperor's palace is located. Four coaches can pass side by side between the two wings of the doors. On each of these large doors, there is a three-storey, very high and artistic terrace. Its walls are as at the same height as Istanbul's Sarayburnu, and its wall is five times thicker than it. Cut stone was placed on the foundations of the wall up to one-meter-high from the ground and the upper parts were built with bricks. The brick structures on both sides of this thick wall are two meters high and the spaces between them are filled with mud (Şükrü, 2013, p. 504).

When the travelogues of Şükrü and Kang are compared in terms of the depictions of the structures, it can be implied that Kang provides more detailed description on this subject. Kang presents in detail all the historical places he travelled while visiting the capital of the Ottoman Empire. Some of these historical places Kang visited are the Obelisk, The Grave of Constantine, Hagia Sophia, Sultanahmet, German Fountain, Egyptian Obelisk, The Beyazit Mosque, Mausoleum of Sultan Suleyman the Magnificent. Kang also gave a lot of information about the palace structures, ministries, courts and schools in the Ottoman Empire. For example, ministries and some architectural structures are described in Kang's travelogue as follows: "All the ministries of the Turks are European-like and are very large structures (Fidan, 2019, p. 59). "The door in front of the Ministry of Defense is like a castle door. The ornaments on it are very beautiful. Because the Turks have a militaristic state, the Ministry of Defense is the large of all the buildings..." (Fidan, 2019, p. 60).

The embassies of all the countries are close to palace. The embassy buildings are five-story buildings... Currently the sultan is building a new palace on the top of a small hill by the sea which is five kilometres in size and it is in the middle of forest. The palace has fifty pavilions; most of them are European style and some of them Turkish style. (Fidan, 2019, p. 61)

When articulating Ottoman architecture, Kang often maintained that the buildings were built in European style. This is due to the effect of the modernization process that started gradually in the Ottoman Empire since the Edict of Gülhane. Because, since this period, many items in Ottoman houses have been arranged according to Western taste with admiration for Western and European life (Karabulut, 2016, p. 53).

Similarly, Kang expressed in his travelogue that there is a train station in the capital, that this train station, trains and train tracks are very beautiful and underlined that the Germans built it (Fidan, 2019, p. 75). Şükrü, on the other hand, pointed out that there is an electric tram in Tianjin in his *Seyahat'ül Kübra* (Şükrü, 2013, p. 491). The electric tram in Tianjin started to be built as a result of the "Compagnie de Tramways et d'Eclairage de Tientsin" investment agreement between the Qing and the Belgian Consortium in 1902 (Sun et al., 2018, p. 145).

Kang, who did not forget to mention Turkish baths in his travelogue, described the Turkish baths as follows:

Turkish hammams are the best in the World. The bath is constructed of Wall-to-wall marble with fountains and small rooms encircling it. The public bath is very bright and beautiful and similar to Ming Tang. There are nine rooms. Anyone can choose any room they want. There are both cold water and hot water pools, and also a faucet at the top of each pool. Everyone washes up one by one and there are attendants who give a massage. (Fidan, 2019, p. 84)

Streets in the Travelogues

One of the common points that draw attention in the travelogues of Şükrü and Kang is the street depictions. Both travellers mentioned that the streets of the two states were not smooth. According to Şükrü, although Beijing's streets leading to the castle gates are quite smooth and wide, they become impassable swamps in a small rain because they do not have stone pavements. Other streets without sidewalks are twisted and narrow, like the streets of the city of Bukhara. The city with a population of one million five hundred thousand does not even have a municipality. The carcasses of the dogs that died of starvation in the streets remain on the roads for days. When these carcasses, which can be seen in every street, swell and emit odor, someone who is disturbed by this smell leaves his shop and pulls the carcass to a corner and covers it with a few shovels of mud. At the same time, since there is no toilet

in the house of the people, people make their faeces in front of the doors and on the bottom of the walls (Şükrü, 2013, p. 496).

Şükrü, who drew attention to the pollution of the streets in his travel book, described the Qing Dynasty's beginning to make arrangements for the streets as a result of the pressures of the European States as follows:

As a result of the pressures of the Europeans, who attempted to attract wealth by building trams, selling gas, electric lights to households, giving water in this city, where no attention was paid to any place other than its castle, the government, which was compelled to do this, has just begun its work on arranging to turn the big streets into highways. (Şükrü, 2013, p. 496)

Emphasizing that there is not even a lantern illuminating the streets in Beijing, the traveller intends to draw attention to the underdevelopment of China:

Since it was not customary to keep a lantern in the filthy and disgusting streets of this desolate city, the phrase "the sun went down, the unbelievers went to bed" has become a proverb among Beijing's Muslims, as the people were forced to close their homes when it got dark. (Şükrü, 2013, p. 500)

In Kang's travel book, the streets of Istanbul are described as dirty as in Şükrü's travel book. The traveller, who also visited Europe, compared the Ottoman capital with European countries and emphasized that there is no other place in Europe that is in a worse situation than the Turkish capital (Fidan, 2019, pp. 31-33). In his travel book, the traveller divided the causes of pollution on the streets into five:

1. People throw their garbage outside the doors and on the roads after cleaning either in daylight or at night.
2. All the people in the Turkish capital have dogs. Stray dogs living on the streets, on the other hand, lie down to block the road when a car passes by and prevent the cars. In addition, since the dogs are fed with the garbage thrown out on the street, the garbage is scattered around.
3. Poor people who walk barefoot and have tattered clothes are begging on the streets by sitting and lying down.
4. Most of the houses in the capital are old and have not been painted for a long time. Tiles fly off the roofs. As the roads are made of stone, the roads get flattened over time and potholes form on the roads. The dust that rises from the ground on roads, not made of stones, is enough to blind people's eyes. When it rains, the streets are muddy.
5. As a result of breaking the tiles on the sewer, a very bad smell is spread around (Fidan, 2019, pp. 31-33).

After enumerating the causes of pollution, Kang emphasized that these streets were no different from Beijing ten years ago, and talked about the similarity of the shops in the narrow streets, except for the absence of dogs from the streets of China (Fidan, 2019, pp. 31-33). Kang also remarked that there were no lamps in the streets of the capital, as Şükrü recited in his travel book. For this reason, there are no people walking on the streets in the capital at night, and it is very difficult for people to return home by horse-drawn carriages because there are no lamps on the roads.

Places of Worship

Şükrü tried to yield information about a temple he went to in the Beijing chapter of his travel book. Here, he has included what he learned about religions in China. According to the information Şükrü

obtained, there are four sects in China named Chungiu, Fociu (Buddhism), Pilinciu and Huihui. More recently, with the influence of missionaries, Tianjiu (Catholic) and Yesu (Protestant) sects of Christianity have also begun to spread. What religion is meant by the Chungiu sect is not well understood here because Şükrü wrote the names of religions according to the pronunciation he heard. By Fociu, Buddhism is meant. However, it is not known which religion Pilinciu corresponds to. According to Şükrü, the Pilinciu sect is the sect of magicians and those in this sect worship the stars. Muslims are called Huihui (Şükrü, 2013, pp. 498-499).

Şükrü, who also visited the temple of the Chinese during his trip to Beijing, mentioned that after entering the temple, he entered the building filled with majestic and gilded statues. According to the information Şükrü obtained, the founder of this sect is Confucius. The statue of Confucius in the temple is gold and is in the middle of the room. In order to entertain this statue and to soothe its sadness, many statues lined up with instruments and violins in their hands are made of bronze and gilded (Şükrü, 2013, p. 497).

During the temple tour, the incense and statues burned in the temple attracted Şükrü's attention. Şükrü described the burning of incense and the statues as follows:

Thin litter (incense) they made by mixing willow leaves with yellow paper, in the form of camphor, is erected in front of the statues around, and they are ignited from their ends, spewing smoke. Only in front of the statue in the middle is a candle burning. Some of these statues, whose names I learned from brahma, were gods of everything such as wind, wrath or mercy. Large tortoises made of stone are the names of people who donated real estate, money and land for the statues with the rectangular pole lines erected on them. (Şükrü, 2013, pp. 497-498)

During Şükrü's trip to China, information regarding how many Muslims were in each province and in each district, what Muslims did, in which neighbourhoods the mosques were located, and how many madrasas were there are included in his notes. On this subject, the information he gained about Muslims and mosques during his Beijing journey can be given as an example. As indicated in the travelogue: There are 32 mosques in Beijing, twenty-five thousand people who believe in the existence of Allah, and twenty Islamic Schools. According to the information he obtained, although there is a library in all mosques, the responsibility of preserving these books belongs to the imams. Islamic disciples, who received their first education in these schools, gather in the courtyards of the mosques and listen to Islamic information from imam masters. One of these masjids is Shafii, the others are masjids of the Hanafi order, and four of them are large and ornate because they were opened with the support of the Chinese emperors. These buildings are "Gingzhensi, Famigsi, Pushou and Niujie mosques" (Şükrü, 2013, p. 495).

It is also noted in Şükrü's travel book that the great mosque and madrasah in Kumul were built of bricks and in Iranian style. Two minarets with a balcony were built on the side of the entrance door of this mosque. In the wide courtyard of the mosque, there were twenty-four cells for the students to stay and a large classroom building (Şükrü, 2013, p. 524).

Kang Youwei, on the other hand, made detailed descriptions of Hagia Sophia and Sultan Ahmet, one of the most beautiful places of worship in the world, even today. Announcing that there are a total of 300 temples in the Turkish capital, Kang emphasized that all of these mosques have round domes and 4 minarets. (Fidan, 2019, p. 50) The traveller expressed his admiration for Hagia Sophia as follows:

Hagia Sophia can be considered as the teacher of Saint Peter's Church, in my opinion, this building (Hagia Sophia) is definitely the first in the World. We cannot consider it as the world's third. Neither in China nor elsewhere in the World is there any structure that could compete with Hagia Sophia including India's Taj Mahal. (Fidan, 2019, p. 42)

In addition, in the last lines of his travelogue, Kang also mentioned the sects in the religions of the Turks and underlined that there are many sects in this religion. He asserted that he saw dervishes here, and that they were whirling and reciting the Qur'an. According to Kang's impressions, they have wooden Ming-Tang style temples. While most of the clergy here sit on the top floor, some of them play the reed flute (ney) and play drums downstairs (Fidan, 2019, p. 95). Another sect has a wooden square with four corners in the middle of its wooden buildings. Besides, there is a room inside, and there is an altar (mihrab) in the room where they can pray. People placing themselves 3 meters from here sit on their knees, sometimes prostrating and sometimes standing up with a certain rhythm. Lastly, many worship by shaking their bodies back and forth, and right to the left.

It is possible to urge that one of these sects that Kang saw was Rumi belief. Because the traveller described the way of worship of whirling dervishes.

Language in the Travelogues

In the Shanghai chapter, Şükrü stated that he was settled in the Continental Hotel and that the people who run this hotel were Greeks from Yanya and spoke Turkish perfectly (Şükrü, 2013, p. 485). When he went to Tianjin, he met two people named Pencaplı Muhammed Hıyat and Efgani Muhammed Şerif Sharif in the mosque called "Nuns Lebs" in the Islamic Quarter. Since these people did not know Turkish, they communicated with him in Persian (Şükrü, 2013, pp. 492-493).

Similarly, Şükrü mentioned that he met Muhammed Efendi in Shanghai, and that he knows Turkish well as well as Arabic, English and Chinese (Şükrü, 2013, p. 487). The traveller also attached great importance to how the names of the places he visited were pronounced in Chinese and what they meant in Chinese.

In this regard, he emphasized the following words about the spelling and pronunciation of Beijing:

Muslims write the name of this city as "Bugin". In Chinese, "bu (bei)" means north, while "gin" and "china" (jing) means capital... If the words "gin" and "china", which mean capital, are separated from these names, "bu (bei) means north; lan (nan) means south; tun (dong) means east; xi (xi) means west". (Şükrü, 2013, p. 494)

In Kang Youwei's travelogue, it is understood that Turks prioritize French education:

Today, all Turkish speakers of foreign languages speak French. Language and writing belong to the French, and politics and theory are learned from France. A person who enters from the Turkish borders is like blind and dumb if he cannot speak or write in French... (Şükrü, 2013, p. 36)

Schools in Travelogues

In the Hongkong episode of Seyahatü'l Kübra, Şükrü, who met Abdullah Sert Sahib Efendi, emphasized that his adopted son Abdurrahim, who was sixteen years old, completed his primary education in Mescid-i Sert and studied at the English School (Şükrü, 2013, p. 481).

In the 16th century (1581), while Matteo Ricci came to China to spread Christianity, he also brought scientific resources in many fields such as mathematics, astronomy and geography. Thus, from the arrival of Ricci to the last century of the Emperor Kangxi period (1662-1722), new research from the west in many fields such as maps, clocks, telescopes, astronomy, medicine, hydraulics, music, biology, etc., led to the updating of the Chinese education system. When the Qing Dynasty is considered as an education system, it was a period when ancient and new Chinese education systems blended together. At the end of the Qing period, more emphasis was provided on education and efforts were made to

increase the literacy rate. With the education given in state, provincial, district and private schools, the public also received education. Unfortunately, the school attendance rate remained low. The number of people receiving education is still low. Therefore, the literacy rate remained below 5% in the 1910s (Hu, 2009, pp. 29-36; Zhou, 2018, pp. 141-175).

If we refer to the first foreign schools established in the Qing period, when the foreigners who came for missionary work could not do missionary work in China by official means, they established Yinghua Shuyuan (Anglo Chinese College) in Malacca on 11.11.1818. In the school where bilingual education will be given, courses on both Chinese culture and European culture were taught. Hong Kong was given to the United Kingdom with the Treaty of Nanjing in 1842. Therefore, the school was officially moved to Hong Kong in 1843, but its educational activity was terminated in 1856. In 1834, Mary Gützlaff, wife of Karl Friedrich August Gützlaff, founded the "Women's School" in Macao. The Morrison School (马礼逊) was established in Macao in 1839. In 1842, this school was moved to Hong Kong. In the school, which has four classes, Chinese and English lessons were taught, but there were also English lessons. In English lessons, astronomy, history, biology, chemistry, arithmetic, algebra, geometry, basic level mechanics, music and composition lessons were given. With the signing of the Huangpu Agreement between China and France in 1844, in accordance with the 22nd article of the agreement, European states gained privileges to establish places of worship, hospitals, schools, etc. in China (Sun, 2019). This caused an increase in the number of foreign schools in China, in the same way as the Ottoman Empire. The fact that the missionary activities continued in China at the time Şükrü was there can be understood with the following words: “(on the way to Ningxia) on the skirts of the Diçinsi Mountain, heresy, European missionaries, consisting of a hundred households and a population of five hundred, reside” (Şükrü, 2013, p. 508); “There is a Belgian missionary in Lanzhou. He made many Chinese polytheists. His name is Vandasik (Şükrü, 2013, p. 516). In addition, he emphasized in the Tianjin section of his travelogue that “the Chinese did not have any madrasahs other than the primary school they had built in the courtyard of the temples to teach children about forty-five thousand characters, or any education that would be useful to the current generation (Şükrü, 2013, p. 492). This is due to the period when Şükrü went. During the Qing period, new educational policies were put into operation a few years after Şükrü's travels. Therefore, Şükrü may have pointed out that the education given to the Chinese was weak.

While writing *Seyahatü'l Kübra*, Şükrü generally focused on the number of madrasahs of Muslims and how they receive education if there is no madrasah in their city. This clearly reveals that the purpose of Şükrü in the travelogue was to obtain information about the Muslim population in the world. This conclusion can also be reached from the table that shows the Muslim population in the world, given by Şükrü at the end of *Seyahatü'l Kübra*.

In Kang's travelogue, it is stated that Turks have adopted a French-style western education throughout the country in the last ten years. According to the information Kang gave on this subject, in these schools, there is a summer holiday for 2 months and when the school starts, money is taken from the children for 4 piyashidas. There are blackboards in the classrooms. There are 160 students in a school that Kang attends. According to Kang, the number of students in the school is low. There are 200 students in the school, except for those who learn the compulsory subjects. Courses are of four types: law, military, medicine and engineering. Philosophy and Theology are not included in these courses. Engineering education is two-years and medical education is three-years. Within the legal education, there are also philosophy, literature and foreign language courses. There is a separate faculty related to military service (Fidan, 2019, pp. 35-36). Kang, in his travelogue, compared the schools in the Ottoman Empire with the schools in Europe and drew attention to the low number of students and conservative opinions of the people.

As Kang stated in his travelogue, Turks gave importance to education in the French style, but also gave importance to education in fields such as law, military service, medicine and engineering. The Ottoman Empire envisaged a change in education with the innovation movement that started at the end of the 17th century. Thus, the idea of opening schools teaching in the Western style emerged. During the reign of Mahmud II (1808-1839), with the increase in innovation studies in education, in line with the aim of training civil servants, Mekteb-i Maarif-i Adliye, Harbiye, Medicine, Dârü'l-Muallimin, Dârü'l-Muallimat, Dârü'l-Fünun, Galatasaray Sultanisi and secondary schools (rüştîye) and high schools (idadi) were opened (Karabulut 2016, p. 55). When it came to the period of Abdulhamid II, education was given more value and an increase was observed in both the number of schools and the number of students in this period (Saydam, 2002, p. 553). "The French, English, American, German, Italian and Austrian schools established in the Ottoman lands with the support of foreigners and the Robert College, which was established in Istanbul in 1863 to provide American-style education in the Ottoman Empire, have been very influential in the field of education. In addition, Armenian, Bulgarian and Greek language lessons for minorities were given at Robert College, and students were informed about their national languages, literature, history and geography (Karabulut, 2016, pp. 55-56). The increase in the number of foreign schools belonging to non-Muslims in the last periods of the Ottoman Empire was directly proportional to the weakening of the Ottoman state. Although the Ottoman State, which could not keep the number of foreign schools fixed by supervision, tried to take measures in this regard, it could not prevent these institutions from leaving the educational purpose and forming around a political purpose. This was one of the important factors in the collapse of the Ottoman Empire (Haydaroğlu, 2006).

The Food Culture

The subject of food is mentioned only once in the chapters of Seyahatü'l Kübra to China. The traveller, who had eaten Chinese food with Muhammad Hayat and Muhammad Şerif Efendi, who invited Şükrü to his home on his trip to Tianjin, introduced Chinese food as follows: "I ate Chinese food, which I have never seen or tasted anywhere, in this person's house for the first time. These strange dishes, which consist of starch extracted from luby (beans), star grass flowers they take out of the river, and many strange plants and fruit nuts available here, are quite delicious and delightful (Şükrü, 2013, p. 493).

As Kang mentions in his Turk Travelogue, Turks have a lot of spices in their food. According to Kang, European states France, Spain and Portugal cannot keep up with the Turks in this regard. "They (Turks) cook chicken, lamb or beef together, their food is above all... Turks do not drink alcohol; their religion forbids it. Fruit juices and syrups are very tasty and they are sold in large glasses of bottles in bazaar. All Turks eat rice. It's cooked somewhat similar to the rice in China, but when they cook it, they add too much salt or ground beef" (Fidan, 2019, p. 81).

Soldiers

According to Seyahatü'l Kübra, the British have 400,000 soldiers in Hong Kong. Three thousand five hundred of them are Indian and five hundred are European. Four hundred of the soldiers are artillery, three thousand five hundred are infantry, and one hundred are police officers. The soldiers that make up the infantry battalions come from the Afridi tribe between India and Afghanistan (Şükrü, 2013, p. 481). In his Tianjin notes, Şükrü emphasized the following words about the situation of soldiers and police: "Every state has its own military and police in its district. Russia, which has not brought back its soldiers after the recent conflict of Japan, has only the police left (Şükrü, 2013, p. 491). In his Shanghai notes, he articulated that "there are Chinese policemen with short knobs in their hands as well as the police of foreign states on the streets of Shanghai, but Chinese policemen can only interfere locals, and foreign polices deal with foreigners" (Şükrü, 2013, pp. 488-489).

Şükrü generally mentions the soldiers of European states in his travelogue and expresses regretfully that the absence of four battalions of soldiers in a four-thousand-year old empire was in favour of the European states. He even compares this situation with his own state and indicates, "Is it not the long sleep of the east that pampers a handful of western nations like this? They got up when we went to bed. They took advantage of the empty ground provided by vigilant statesmen and began to attack from all sides. Let's wake up now to get rid of the evils of these looters." He wanted to emphasize that it is time to wake up from the current state they are in (Şükrü, 2013, p. 496). This wish is in the nature of suggestions for the problems that are frequently encountered in Şükrü's travelogue.

Kang, on the other hand, emphasized in his travelogue that the Turks were always proud of their strong armies (Fidan, 2019, p. 34). As mentioned in the Turk Travelogue, "They took military training from Germans. There are 400,000 soldiers in peace time and 1.2 million soldiers in wartime in their army, and there are 800,000 professional soldiers. The numbers of soldiers from Macedonia is 150" (Fidan, 2019, pp. 34-35). In addition, it was underlined in the travelogue that the military schools of the Turks were quite large, but the rules of the soldiers and the style of their clothes were the same as in Europe (Fidan, 2019, p. 38). In his travelogue, Kang criticizes the cops he sees here with these words: "Cops on the way only accept gifts and do not do any other work other than taking a bribe. In the past, if there were some people who spoke a foreign language, they would have caught them. These become only a means of oppression" (Fidan, 2019, p. 35).

Clothing

While writing his impressions of China, Şükrü did not give any information about the clothing of the Chinese, except for the clothes of the women in Hami and the surrounding cities. The dressing style of the women in Hami, on the other hand, attracted Şükrü's attention, probably because they were dressed contrary to the Islamic belief. This is what happened in Hami's impressions: "Muslim women in and around Hami do not know how to wear hijab, they also walk around in the bazaar without wearing a hijab. In addition, their clothes are indistinguishable from men's (Şükrü, 2013, p. 523).

Şükrü mostly included the physical characteristics of people in his travelogue. For example; in the travelogue, the brahmas gathered their hair on their heads like the Frankish madams while they were visiting the temple, and they completely shaved off their beards and moustaches; Details are given, such as the fact that the Chinese Muslims, like the others, let their hair down and shave their beards and moustaches, could not distinguish between polytheists and Muslims (Şükrü, 2013, p. 498,501).

According to Kang's impressions, everyone in the Ottoman Empire wore European clothes. Everyone from the sultan to the most ordinary people is dressed in this way. The only difference between those and Europeans is that they wear fez. For Kang, the custom of wearing the fez is the only thing that reminds them of their religion (Fidan, 2019, p. 37).

Again, Kang uttered in his travelogue that the poor people in Istanbul wore old Turkish clothes, yellow or red patches were visible in these old clothes, these long dresses had no buttons, and therefore they were similar to those in China. In fact, Kang, who compared these clothes to the old clothes of Islam, emphasized that the style of dressing was like this in Xinjiang (Fidan, 2019, p. 37).

Rather than what the public wore, Kang tried to give detailed information in his travelogue about how the Sultan, the grand vizier, the deputy grand vizier, senior officials, other officials, aides, officers, regional commanders, judges, deputy judges, officials responsible for domestic and foreign affairs, clergy, eunuchs and prisoners wore. Kang's description of the Sultan's clothes is as follows: "The sultan is 62 years old, has a white beard and fez, and he wore a European-style black outfit, a golden epaulette and a sword" (Fidan, 2019, p. 64).

Eunuchs

One of the subjects that Kang discusses, unlike Şükrü's travelogue, is the eunuchs. He emphasizes the similarities between the Ottoman Empire and China in this regard and makes a self-criticism saying why they do not use female servants such as the Austrian King and the German King instead of the eunuchs. Emphasizing that the Turks no longer use people of their own nationality, but instead use blacks, he argues that at least they do not harm their own nation, and therefore they are better than the Chinese in this regard (Fidan, 2019, p. 68). He made wishes for the future by ending the poem he wrote on this subject with the words "I hope we will end our 2000 years of shame with these words" (Fidan, 2019, p. 68).

Money

There are chapters about money in the travelogues of Şükrü and Kang. Şükrü mentioned the Chinese money for the first time in his Xinjiang impressions:

The measurements used by the Chinese for gold and silver are called "ser, miskal, puk". One ser is ten miskals, one miskal is ten püks. One ser is worth two Russian manats. There are stamped silvers in the names Nukre and Yinbiğ, and metal bronze minors with a hole in the middle and in the name of Çin. Silvers less than five ser are not stamped. Less than five silvers are not stamped. Yinbiğ equals from fifty sers to fifty-three sers. One puk rises to eleven sers with silver bronze, and from one thousand to one thousand five hundred çin with a thousand "çin". The unit of measurement used for meat and bread in Chinese grocers is called "çin" and it amounts to sixteen sers, or thirty-two manats. They call the unit of measurement they use in cereals as "şın". Our word "şink" must have been taken from Chinese or the Chinese must have taken it from Turkish. Ten şins are the price of one sphere, and ten spheres are a "dadan". One "şın" is eighty dirhams, one sphere is eight hundred dirhams, ten spheres are eight thousand dirhams. The measure used by the fabric manufacturers is the same as the Istanbul archine. (Şükrü, 2013, p. 528)

In Kang's Turk Travelogue, the description of Ottoman currency is given as follows:

The copper coins of the Turks are so called piastre. It is their most important unit of currency. The smallest unit of currency is also called para. In total, there are seven units of currency, which are 5, 10, 20, 40, 100 and 200. Five is the smallest denomination. The ones over twenty are copper, and others over forty are silver. Each forty para is equal to one piastre.

There are eight kinds of piastre; silver weight of 1, 2, 2, 5,5, 10, 20 is equivalent to China's seven qian two fen silver. One piastre is equal to our three fen six li small silver. Coins more than two piastre are small silver coins. After twenty-seven it is gold. (Fidan, 2019, p. 77)

The gold coin is called lira, of which there are four kinds. One lira is equal to twenty-seven piastre (Şükrü, 2019, p. 78).

Medicine

This subject is mentioned only in Seyahatü'l Kübra. While he was in Lanzhou, one of the Muslims who was with him, Hamidullah Sahib Efendi from Turfan, gave a medicine called "quin" to Şükrü, whose body ached due to constant sweating and cold. This drug, called quinine, is actually a black skin patch applied to a cloth. As Şükrü explains in his work, the making of the patch is as follows: After the snake is killed, it is put into a bottle and the mouth of the bottle is tightly closed with a cork and placed in a damp place. It is kept here for four, five or six years. After the bottle is taken out, the snake inside is like black coal. The part remaining in the bottle is taken into the pot and some affodill and zirik oil are

added into it. It is boiled until it thickens. Then, this medicine, which is taken spoon by spoon from the pot, is poured on pieces of paper and stored. When there is pain, these drugs are attached to the aching area. Because this drug is the most effective treatment for aches and pains (Şükrü, 2013, p. 516).

In Chinese, skin patch is called gaoyao (膏药). It is also known as bao tie (薄贴), or thin sticky, with its old name. These patches, which are used to treat pain, are made by applying the drug obtained from the mixture of plant and animal oils on a thin cloth.

Conclusion

The travelogues written by Şükrü and Kang reveal the situation of the Ottoman and Chinese in the 20th century from two different perspectives. Even though the Ottoman "Europe's Sick Man" and China, "Sick Man of Asia", are two different civilizations, they lagged behind the development of the European States and could not keep up with this development. Thus, they could not escape from living under the pressure of Europe for a long time. Therefore, European influence began to be seen more intensely in the Ottoman Empire and China.

Şükrü, who came to China in 1906, tried to reveal the image of European States in the big commercial cities of China such as Hong Kong, Shanghai, Tianjin and the capital Beijing in his travelogue. In Şükrü's sense, neither the emperor nor the people had the power to resist the European states in this period. The intensive use of opium by the Chinese at that time was also included in the travelogue. In Şükrü's words, the people cannot open their eyes because of opium and expect salvation from Europeans. Europeans conquered almost every part of China. They even obtained the right to collect taxes in their regions and districts. While the districts captured by the European states developed architecturally, there is no sign of development in the streets where the Chinese lived. For this reason, in the travelogue, the Chinese are depicted in a way that is still closed to development, even though they now live in the same lands as the Europeans. This caused Şükrü to criticize from time to time, having looked at the state of a huge empire of 4000 years.

The year Kang wrote the Turk Travelogue is 1908. European influence is also seen in the Ottoman Empire. In Kang's travelogue the influence of European life in the field of education, architecture and clothing in the Ottoman Empire comes to the fore. Kang underlined the importance given to French education in the Ottoman Empire. European style has been adopted in clothing as well. The date Kang set foot in the capital coincided with the time Abdulhamid declared the Second Constitutional Monarchy and the traveller mentioned that the people celebrated it for 10 days. While writing the parts related to the constitution in his travelogue, the traveller emphasized that an administration would not be successful only with the ideas of freedom and equality. According to Kang, "The constitution of each country can only succeed with the idea of administration by law (Fidan, 2019, p. 23) Kang also tried to draw attention to why the power of Sultan Abdulhamid II weakened, towards the end of his travelogue. The exile of Midhat Pasha, who prepared the first constitution, and the party members caused them to become angrier and influenced the public. In this way, the people, who forgot what freedom means, started to make demands from the sultan. As the revolts increased and the sultan could not suppress these revolts, the people began to see the sultan as weak. Internal pressures also led to the re-declaration of the constitution. However, the declaration of the constitution could not stop the turmoil in the Ottoman Empire. According to the traveller, this turmoil drags the future of the Ottoman Empire into uncertainty.

When evaluated within the framework of the situation of European states, architectural structures and streets in the Ottoman and Chinese, the similarities between the two travelogues are quite high. Both travellers, one Turkish and one Chinese, tried to reveal the deficiencies in the country they were

traveling to, completely. The most striking of these deficiencies is the pollution in the streets and education. Both travellers offered extensive explanations for why the streets were so filthy and dirty. In terms of education, Şükrü emphasized that the Chinese did not have a school other than the schools inside the temples, while Kang found the number of the students studying in these schools is low. While Şükrü conveyed the information he received from the Muslims he met there, Kang personally went to the schools in Istanbul and described the schools. He even tried to provide information to the reader about the courses given in schools.

It is seen that travelogues have similar features as well as different features in terms of the purpose of writing travelogues. While Şükrü was an ordinary civil servant in the Ottoman Empire, he was exiled on the grounds that he could not get along well with his superiors. While Sükrü was in exile, waiting for forgiveness from İstanbul, he decided to travel with a dream. The purpose of traveling is both to realize his dream and to reveal the Muslim population in the regions he travels to. The aim was in this direction in the Chinese impressions of Seyahatü'l Kübra. In his work, Şükrü first gave geographical information about the cities he visited in China, and then compressed historical information occasionally. Sometimes he cursed the situations that he did not welcome. Sometimes, he offered suggestions or wishes against the problems he identified. He never neglected to add words praising the Ottoman sultans or the Ottomans to his impressions. A clear and understandable language was used. However, the spelling of the place names he travelled in China according to the pronunciation led to the inability to understand where the traveller visited. Şükrü always met Muslims wherever he went and chatted with them sometimes in Turkish and sometimes in Arabic or Persian. From these Muslims, he learned the number of Muslims in the places he went, the number of mosques and madrasahs, and noted them all. In his travelogue, he did not only include information about Muslims, but also tried to reveal clear data about the political situation of China and the lives of the Chinese. He did not openly compare the Qing Dynasty with other countries in his impressions. Instead, he preferred a critical language. In his work, although he could not provide as much information as Kang about education, military structure and historical places in China, he noted interesting things that he encountered in places he saw. The medicine called "quin" given to him for his pain in China, three large ebony trees in the village of Cico, which is two hours away from Hoço, the Fish Mountain he saw in Cancaku, the water mill that he encountered in the Cakubi Plain are examples of things that seem interesting to him.

The situation is quite different in Kang's travelogue. The fact that Kang is an educated high-ranking official and even has a superior position in politics made him more critical of events. As far as Kang concerned, the salvation of his own country depends on examining the political structure in other countries. For this reason, Kang compared every place he saw in the Ottoman Empire with his country. He showed many of the features he listed in his travelogue as a common point with China by saying "We are in the same situation as the Turks". The chapters with critical approaches are generally the points where he compares the Ottoman Empire with Europe. Another remarkable point in the Turk Travelogue is Kang's political thought. Being a politician himself, Kang made himself look critical at the political structure in the Ottoman Empire. The features that differ from Şükrü's travelogue are the detailed description of the historical places, the clothing of the Turks, and the situation of the eunuchs in the two countries. Kang, while describing each historical place in Istanbul with its historical background in detail, also tried to convey information to the reader about the clothing of all Turks, from the sultan to the lowest. In addition, detailed descriptions are given in the work, from the palace to the mansions where the viziers stay, from the ministries to the houses where foreigners stay. From this perspective, it is obvious that the Turk Travelogue is a comprehensive travelogue on the Ottoman Empire in China.

The points that Kang mentioned in his travelogue with the words "this is similar to China", "it is very much in my country, we are in the same situation as the Turks" have similar characteristics with the places that Şükrü criticized in his travelogue. Already in the 20th century, when the two countries are periodically compared, the notes given in the travelogue almost overlap with each other. Therefore, both studies are valuable as they witness the developments in the Ottoman and Chinese in the 20th century with their own eyes. However, since Kang's Turk Travelogue was translated into languages such as Turkish and English, it reached different audiences, while Şükrü's travelogue named Seyahatü'l Kübra was only in Turkish, which led to the shallowness of the studies in this field. When compared to other Turk Travelogues, Seyahatü'l Kübra was not valued as much as Acâib'ül-Letâif, the first work on China written by Gıyaseddin Nakkaş in the 16th century, although it was written in later periods. Most likely, the lack of recognition of the work was effective in this. However, Seyahatü'l Kübra, which contains ancient information about China as well as many European countries, should be appreciated and promoted as much as other travelogues.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study is not applicable.

Author Contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Declaration of Conflicting Interests

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Notes

ⁱ Although there are esâretnâmes written in the form of letters, travelogues of this type are rarely encountered. The purpose of writing these letters or travelogues is the desire of the captives to inform their friends about their situation or the desire to escape from captivity by obtaining the ransom demanded by their abductors with the help of their friends (Coşkun, 2009).

ⁱⁱ It is also known as the Mirror of the Countries. It is about the countries that Seydi Ali Reis visited during his four-year travel and the events that happened to him during his travel. (Önalp, 2009, p. 100).

ⁱⁱⁱ It was written in 1554. The work, in which astronomical and geographical information is given in detail, is a guide book for sailors who will sail towards the Indian Ocean. For detailed information see (Önalp, 2009, p. 100).

^{iv} Cities such as Zhejiang, Fujian, Jiangxi, Aoxi, Guizhou, Yunnan etc. can be given as examples. For Xu Xiake's travelogue, see Xu, t.y..

^v Şükrü has two more booklets besides Seyahatü'l Kübra. These are İntibahı Millet and Menabi-i Servet. Both of the works were published in Istanbul. While the İntibahı Millet was evaluating some articles with the Kanun-ı Esasi, which came into force again in 1908; Menabi-i Servet, on the other hand, is on the subject of domestic production and domestic goods, which is frequently emphasized in the work named Seyahatü'l Kübra (Şükrü, 2013).

^{vi} Among these reports are the “Russian Reforms” dated March 12, 1898, the “Japanese Reform Program” presented on April 10 and detailed on June 21, and the Weakening of the Turks, written in June-July 1898 (Kirilen, 2013, 132; Fidan, 2013, p. 15). In the report, the name Turkey was used instead of Ottoman. As Fidan (2013) states, Kang Youwei used the name “Tujue” instead of the Ottoman name in his articles until the establishment of the Turkish Republic in 1923. Emphasizing the need to compare history and events with recent examples in the report, Kang stated that he thinks Turkey is the best example for China. He mentioned that with the stabilization of politics in Europe, the peoples living in the fertile lands of the Turks struggled for independence, and that Egypt, Greece, Romania and Serbia gained their independence. He added to his notes that despite the weakening of the country, a new diplomacy was acquired during the period of Midhat Pasha. In addition, Kang mentioned in his report that if the Turks had not sent Midhat Pasha into exile, the Turks would have reached the same level with the European countries in twenty years. At this point, he identified himself with Midhat Pasha as he was a reformist (Fidan, 2013).

^{vii} The Six Gentlemen of the Hundred Days' Reform (戊戌六君子) Tan Sitong (譚嗣同), Lin Xu (林旭), Yang Rui (楊銳), Yang Shenxiu (楊深秀), Liu Guangdi (劉光第) and Kang Guangren (康廣仁) were executed in Caishikou province of Beijing (Li & Li, 2012, p. 277).

^{viii} Liang Qichao took Japan's protection and went to Yokohama (Li & Li, 2012, p. 277).

^{ix} In addition to the Turk Travelogue, Kang Youwei has such works as “A Study of Confucius as a Study of a Reformer of Institutions (孔子改制考, 1897)”, “The Book of Great Unity (大同书, 1885)”, “A Study of the Forged Classics of the Xin Period (新学伪经考, 1891)”, “A Study on government reforms Japan (日本变政考)”, “Travels to The Eleven European Countries (欧洲十一国游记)”, “My History (我史)”.