The Thesis of the PhD Dissertation

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Comparison of Preferred Leadership Styles of Hungarian and Turkish Subordinates In Terms of Cultural Dimensions

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1. INTRODUCTION

1.1. Research Background

Leadership is accepted as a universal concept across culture however the way leadership is perceived, understood, practiced can vary across the cultures. Studies based on management and culture consider cultural dimensions and effects of national cultural differences (Watts et al., 2020). Leadership is widely recognized as a universal concept, but its practical application is often shaped by cultural influences. Management and cultural studies frequently reference Hofstede's cultural dimensions, emphasizing the impact of national cultural differences (Watts et al., 2020).

Cultural factors and patterns may impact leadership processes, especially how subordinates and leaders interact with one another. Especially, leadership styles and decision making are impacted by cultural factors (Urbach et al., 2021). Cultural dimensions of collectivism-individualism, power distance impact how employees view their roles as subordinate. Individuals are thought to be not active and follow the orders to take less initiative. It’s vice-versa for the low power distance cultures (Blair and Bligh, 2018). Culture has been studied through the in terms of collectivism and individualism. Some scholars define individualism-collectivism as related but separate aspects (Cozma, 2011).

Triandis (2018) indicated that collectivism and individualism can be divided into vertical and horizontal dimensions. The vertical and horizontal difference relates to the relationship with hierarchy, power and inequality, authority (Shavitt, 2010). Vertical dimension highlights hierarchy while horizontal dimension highlights equality. Cultures identified as horizontal individualism (HI) refer to people who see themselves on the same level to others, and independent. Vertical individualism (VI) refers to people who seek higher status and power and they are independent. Horizontal collectivism emphasizes interdependence and equality. Vertical collectivism refers to people dependent and unequal (Singelis et al., 1995; Triandis and Gelfand, 1998).

Cross cultural studies on preferred leadership styles are in perspective of subordinates are still limited especially relationship between preferred leadership styles and horizontality and verticality of individualism-collectivism (Lord et al., 2020). Culture plays an important role, when assessing different leadership styles, ideologies, cultural patterns and organizational behaviors. Cultural values affect how subordinates perceive their managers' behaviors and attitudes and leadership style of leaders. Therefore, leadership differs across cultures,

highlighting the fact that diverse traits and characteristics rooted in community or location are employed to define a leader (Rao-Nicholson et al., 2020).

Individualism-collectivism impacts whether leadership style is authoritarian or democratic. Leaders may face difficulties enforcing an authoritarian leadership style in cultures that respect independence and autonomy and place significant value on being part of decision-making processes. In contrast, individuals in collectivistic societies want leaders to give care and safety, especially in certain conditions (Janićijević, 2019). The effectiveness of different leadership strategies and the formation of leadership styles are influenced by culture. The level of individualism and collectivism within a culture will determine the success of leadership methods, such as those that focus on individual versus team-oriented practices or participative versus autocratic styles (Motta and Gomes, 2022).

Turkish culture consists of high-power distance, collectivist. These characteristics make authoritarian leadership style is the most common leadership style for the Turkish managers (Ersoy et al., 2012). Turkish subordinates are willing to tolerate autocratic leadership styles. Turkish managers exhibit both paternalistic and autocratic leadership styles, and their subordinates frequently expect them to be caring and supportive figures. Due to the considerable power distance in Turkish culture, reputation, position, authority, power highly regarded in organizations (Gürcan, 2021).

Hungary demonstrated an individualistic tendency, emphasizing the well-being of their immediate family over collective goals. This displays two primary ways at workplace. Firstly, in management and compensation practices, there is a strong emphasis on evaluating employees based on their individual achievements rather than team performance, emphasizing the greater importance placed on individual contributions. Leaders in SMEs are often viewed as having consultative and participative leadership styles Hungarian managers are increasingly acknowledging the benefits of participative leadership, who apply this style often foster a more welcoming environment, motivating team members to share their perspectives (Tóth et al., 2022).

As indicated above, the main objective of this dissertation is to investigate the compare preferred leadership styles of both Hungarian and Turkish subordinates based on cultural dimensions.

2. MATERIALS AND METHODS

2.1. Hypotheses and Research Questions

All hypotheses and research questions were created based on literature. My first research question and first two hypotheses test if a country has impact on cultural patterns of Hungarian subordinates and Turkish subordinates.

H1: ***Turkish subordinates prefer Vertical Collectivism and Turks have higher score than Hungarian subordinates on this dimension.***

H2: ***Hungarian subordinates prefer Horizontal Individualism and Hungarians have higher score than Turkish subordinates on this dimension.***

R1: ***Do Turkish and Hungarian subordinates prefer different cultural patterns?***

Second research question, third and fourth hypotheses identify highly favored leadership method could vary dramatically distinctive among Turkish and Hungarian individuals. Turkish will choose more authoritarian leadership style than Hungarian participants. Hungarian participants will choose more participative leadership style than the Turkish participants.

H3: ***Hungarian subordinates prefer a more participative leadership style than Turkish subordinates.***

H4: ***Turkish subordinates prefer a more authoritarian leadership style than Hungarian participants.***

R2: ***Do Turkish and Hungarian subordinates prefer different leadership styles?***

Authoritarian leadership approaches could be linked to the vertical dimensions and participative leadership approaches could be linked to the horizontal dimensions. Therefore, fifth hypothesis was created below by me.

H5: ***There is correlation between Leadership Styles and Cultural Patterns. Vertical Individualism and Vertical Collectivism are correlated to authoritarian leadership styles. Horizontal Collectivism and Horizontal Individualism are correlated to participative leadership style.***

R3: ***Is there any link between cultural patterns and subordinates' preferred leadership style?***

Our other aim is to investigate if any demographic factor such as age, gender, education level impact on cultural patterns and their preferred leadership styles of Hungarian and Turkish subordinates. Therefore, we created another research question to investigate this further.

R4: Do demographic factors (e.g., age, gender, education) influence the cultural patterns and preferred leadership styles among Turkish and Hungarian subordinates?

Research questions and hypotheses formed the foundation of conceptual modeling. Figure 1 shows the conceptual model of my study.

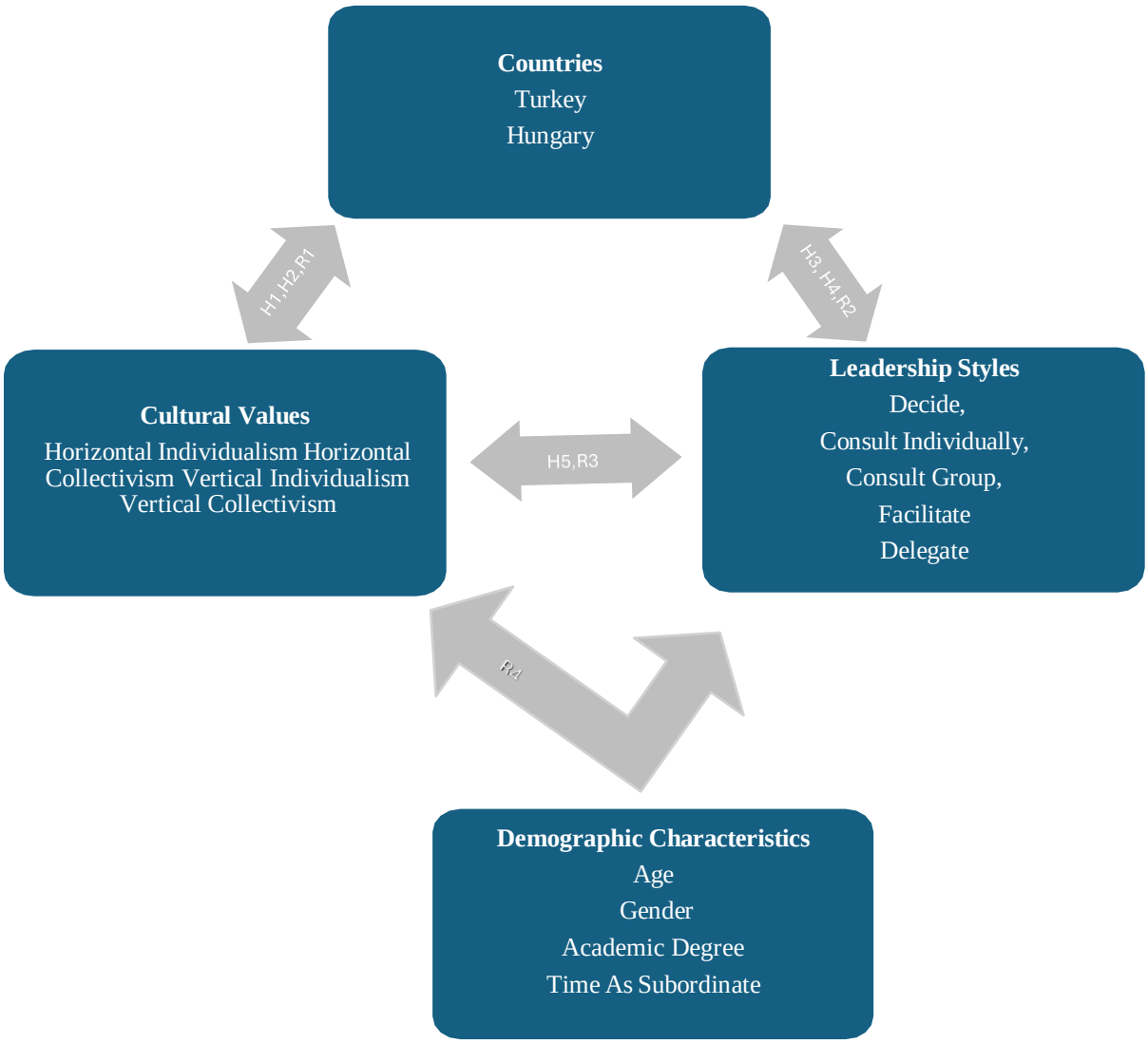


Figure 1. Conceptual Model

Source: Author's own source

2.2. SAMPLE

2.2.1. Characteristics of Sample

In this chapter, the results of the study were presented, utilizing the Leadership Questionnaire and Values Scale. These tools were applied to collect data from 806 participants, comprising 408 subordinates from Izmir, Turkey, and 398 from Budapest, Hungary. Table 1 provides a demographic breakdown of the participants by country, detailing educational qualifications, gender, tenure as subordinates, and age. Initially, questionnaires were distributed to 420 subordinates in each location, but the final number of respondents was slightly lower in both groups.

Table 1. Characteristics of Participants

		Age (years)		Gender		Academic Degree				TAS (years)
Countries	N	Mean	Range	Male	Female	P.hD	Msc	Bsc	High School	Mean
Hungary	398	33,44	23 to 59	186	212	4	89	261	44	7,30
Turkey	408	39,44	25 to 65	214	194	38	100	232	38	11,94
Total (N)	806	72,88	23 to 65	400	406	42	189	493	82	19,24

Source: Author's own source

The study examined demographic differences between Hungarian (n = 398) and Turkish (n = 408) participants. The Hungarian cohort had a mean age of 33.44 years (age range: 23–59), while the Turkish cohort had a higher mean age of 39.44 years (age range: 25–65). Turkish participants also reported greater average professional experience (11.94 years) compared to their Hungarian counterparts (7.30 years). In terms of educational attainment, Turkish participants demonstrated higher levels, with 38 holding doctoral degrees compared to 4 among Hungarians. Gender distribution varied, with a higher proportion of females in the Hungarian sample and more males in the Turkish sample. These results indicate significant demographic differences between the two groups in terms of age, education, and professional experience.

Figure 2 showcases the wide range of sectors and industries represented by our Hungarian survey participants.

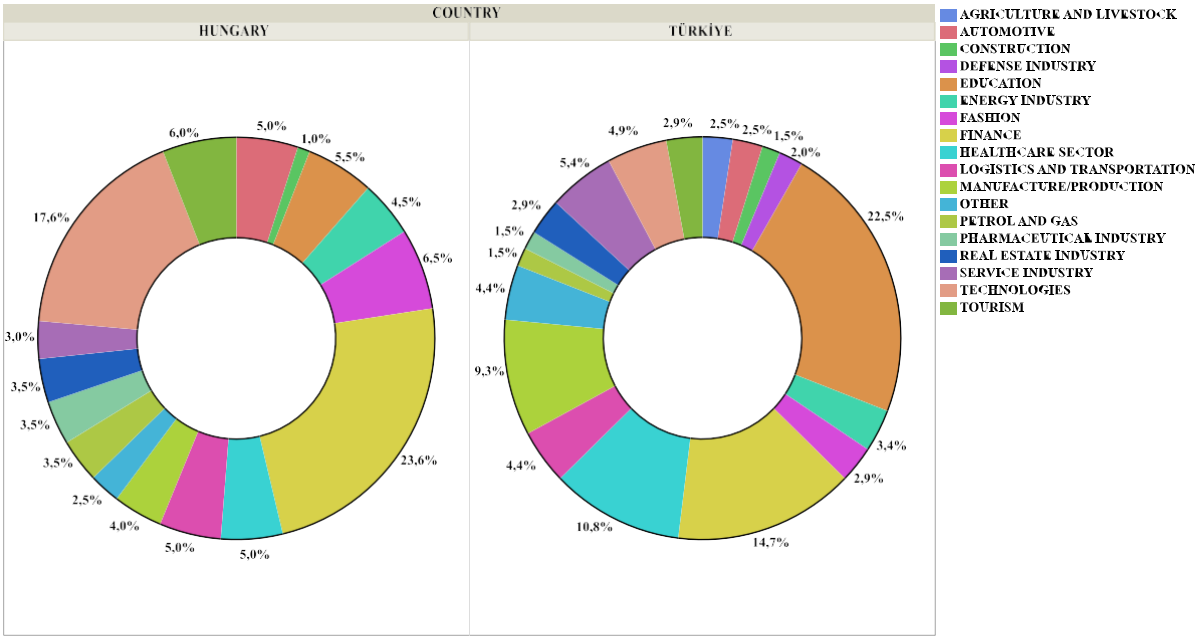


Figure 2. Sectors

Source: Author's own source

The study analyzed participants' sectors of employment. Among Hungarian participants, the finance sector had the highest representation (22.5%), followed by technology (17.6%) and fashion (6.5%). Other sectors, including tourism, education, healthcare, automotive, and logistics, ranged between 5% and 3%, with construction being the least represented (1%).

For Turkish participants, the education sector had the highest representation (22.5%), followed by the finance sector (14.7%) and healthcare (10.8%). Other significant sectors included manufacturing (9.3%), service (5.4%), and technology (4.9%). Representation in other industries ranged from 4.4% to 1.5%.

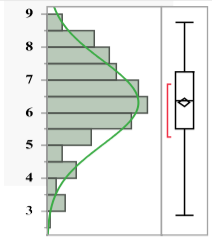
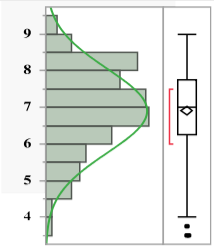
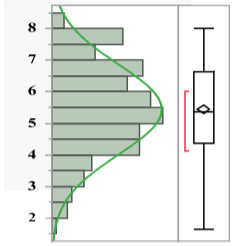
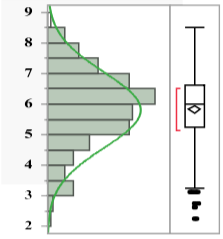
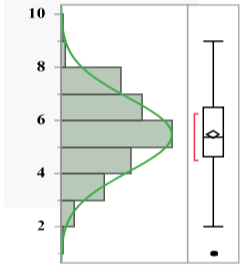
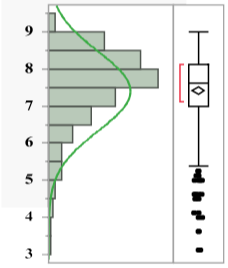
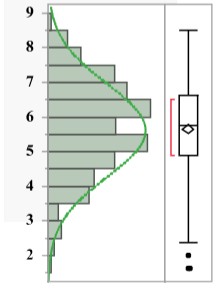
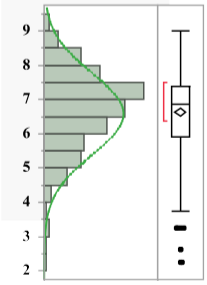
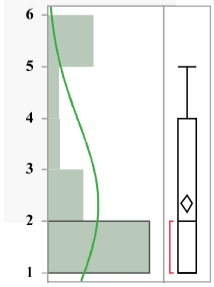
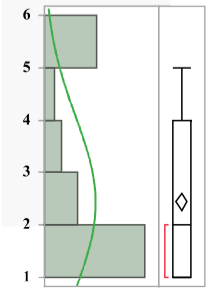
Overall, the finance sector dominated among Hungarian participants, while the education sector had the largest share among Turkish participants.

2.3. Data Distribution

2.3.1. Validity of the Data

The data was evaluated regarding its distribution, along with the occurrence and potential impacts of single variable outliers and multivariate outliers, as previously noted. Also, I applied

expert validation procedure to validate my data. Kolmogorov-Smirnov and Levene Test, Shapiro-Wilk Skewness and Kurtosis tests were conducted for each factor to determine if all factors followed a normal distribution (Tabachnick and Fidell, 2013).

HUNGARY		TURKEY	
HI			
	**Summary Statistics** **Skewness** **-0,523124** **Kurtosis** **-0,021904**		**Summary Statistics** **Skewness** **-0,499302** **Kurtosis** **-0,154001**
VI			
	**Summary Statistics** **Skewness** **-0,189965** **Kurtosis** **-0,504484**		**Summary Statistics** **Skewness** **-0,468761** **Kurtosis** **0,03516**
HC			
	**Summary Statistics** **Skewness** **-0,224565** **Kurtosis** **-0,158086**		**Summary Statistics** **Skewness** **-1,28705** **Kurtosis** **2,0861418**
VC			
	**Summary Statistics** **Skewness** **-0,347957** **Kurtosis** **-0,134265**		**Summary Statistics** **Skewness** **-0,768625** **Kurtosis** **0,8928244**
DECİDE			
	**Summary Statistics** **Skewness** **0,7520045** **Kurtosis** **-1,134054**		**Summary Statistics** **Skewness** **0,6324812** **Kurtosis** **-1,311215**

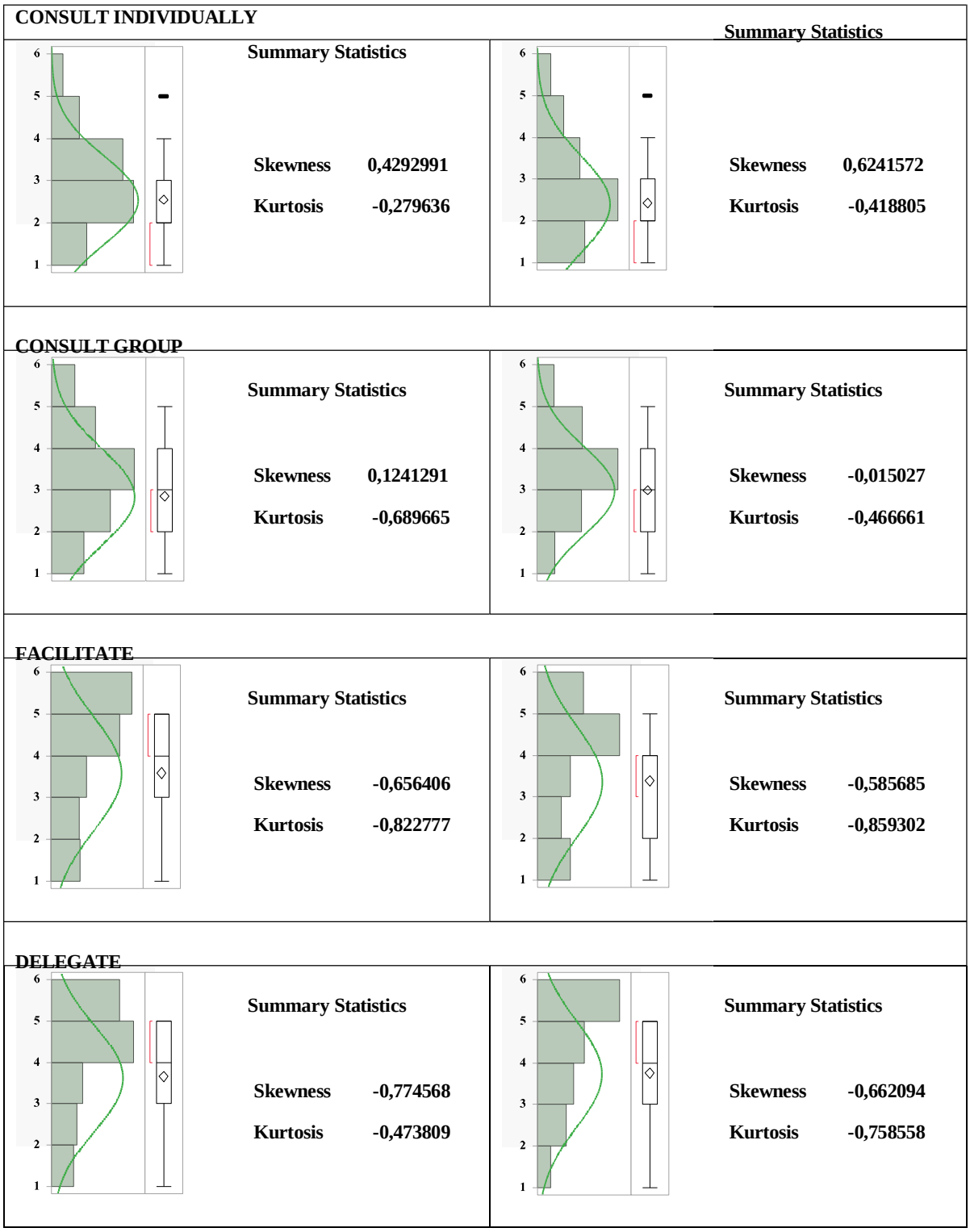


Figure 3. Skewness and Kurtosis for Each Variable by Country

Source: Author's own source

Figure 3 displays the Skewness and Kurtosis values for each cultural pattern and leadership style in both Hungary and Turkey. In both samples, all cultural dimensions (HI, VI, HC, VC) show negative skewness, indicating left-skewed distributions. For Hungary, HI (-0.52), VI (-

0.19), HC (-0.22), and VC (-0.34) are moderately left-skewed, while Turkey shows a stronger left skew, particularly in HC (-1.28) and VC (-0.77).

Leadership styles in both countries reveal a mix of skewness. In Hungary, "Decide" (0.75), "Consult Individually" (0.43), and "Consult Group" (0.12) are right-skewed, while "Facilitate" (-0.66) and "Delegate" (-0.77) are left-skewed. The Turkish sample shows similar patterns, with "Decide" (0.63) and "Consult Individually" (0.62) right-skewed, and the rest leaning slightly or moderately to the left.

Regarding kurtosis, most variables fall within the flat or near-normal range. Hungary's cultural dimensions show kurtosis close to normal (HI: -0.02, HC: -0.15, VC: -0.13) or slightly flat (VI: -0.50). Turkish values are similar, though HC (2.08) and VC (0.89) indicate more peaked distributions. For leadership styles, both countries display mostly flat distributions, with kurtosis values between -0.27 and -1.31.

In summary, both samples exhibit non-normal distributions, as indicated by skewness and kurtosis values, meaning the assumption of normality is not met.

Table 2. Levene Test for Each Variable

Parameters	**Level**	**Count**	**Std Dev**	**Levene F Ratio**	**p-Value**
HI	HUNGARY	398	1,282718	2,7586	0,0971
	TURKEY	408	1,149545		
VI	HUNGARY	398	1,432309	12,5868	0,0004*
	TURKEY	408	1,235424		
HC	HUNGARY	398	1,396483	35,0422	0,0001*
	TURKEY	408	1,067335		
VC	HUNGARY	398	1,345246	9,4171	0,0022*
	TURKEY	408	1,187611		
DECIDE	HUNGARY	398	1,629025	1,1694	0,2799
	TURKEY	408	1,662262		
CONSULT INDİVİDUALLY	HUNGARY	398	1,050962	3,9588	0,0470*
	TURKEY	408	1,155576		
CONSULT GROUP	HUNGARY	398	1,154159	7,9575	0,0049*
	TURKEY	408	1,060794		
FACILITATE	HUNGARY	398	1,367002	0,2765	0,5992
	TURKEY	408	1,338169		
DELEGATE	HUNGARY	398	1,273486	0,9902	0,9107
	TURKEY	408	1,280635		

Source: Author's own source

Table 2 shows The Levene's test results for cultural patterns and leadership styles showed varying significant levels. For the cultural patterns, HI showed no significant difference in variances ($p = 0.0971$), while VI, HC, and VC had statistically significant differences ($p < 0.05$ for all). For leadership styles, "Decide" showed no significant difference in variances ($p = 0.2799$), while "Consult Individually" and "Consult Group" showed significant differences ($p = 0.0470$ and $p = 0.0049$, respectively). "Facilitate" showed no significant difference in variances ($p = 0.5992$). In summary, significant variance differences were found for several cultural patterns and leadership styles, while others showed no significant differences.

Table 3. Kolmogorov-Smirnov-Shapiro Wilk Test for Each Variable

Cultural Patterns	Countries	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
HI	TURKEY	,065	408	,000	,975	408	,000
	HUNGARY	,068	398	,000	,973	398	,000
VI	TURKEY	,075	408	,000	,978	408	,000
	HUNGARY	,054	398	,007	,983	398	,000
HC	TURKEY	,134	408	,000	,909	408	,000
	HUNGARY	,056	398	,004	,990	398	,011
VC	TURKEY	,105	408	,000	,963	408	,000
	HUNGARY	,065	398	,000	,986	398	,001
Decide	TURKEY	,278	408	,000	,747	408	,000
	HUNGARY	,287	398	,000	,735	398	,000
Consult Individually	TURKEY	,250	408	,000	,878	408	,000
	HUNGARY	,215	398	,000	,899	398	,000
Consult Group	TURKEY	,198	408	,000	,913	408	,000
	HUNGARY	,174	398	,000	,915	398	,000
Facilitate	TURKEY	,265	408	,000	,857	408	,000
	HUNGARY	,234	398	,000	,844	398	,000
Delegate	TURKEY	,232	408	,000	,838	408	,000
	HUNGARY	,265	398	,000	,844	398	,000

Source: Author's own source

Table 3 shows Kolmogorov-Smirnov-Shapiro Wilk test results for each variable. HI, VI, HC, VC, decide, delegate, consult individually, facilitate, consult group were separately calculated for both Turks and Hungarians. The results from the Shapiro-Wilk, Kolmogorov fall beneath 0.05 verge revealing that dataset does not adhere to a normal distribution. As a result, all variables do not comply with normal distribution for both Turkey and Hungary.

3. RESULTS

3.1. The Values Scale

Since noted already, the Values Scale consist of 32 components designed to determine horizontal and vertical dimensions. Singelis et al. (1995) created the Values Scale that measures the four Cultural patterns (dimensions); vertical-individualism, horizontal-individualism, horizontal-collectivism, vertical-collectivism.

Table 4 presents the coefficient reliability for each nation and entire dataset. Cronbach's Alpha value was utilized to assess the scale's reliability.

Table 4. Cronbach's Alpha Reliabilities of HI, VI, HC, VC for Countries and Whole Sample

	N	HI	VI	HC	VC
Whole Sample	806	α=,622	α=,,701	α=,,595	α=,,560
Hungary	398	α=,,442	α=,,604	α=,,480	α=,,353
Turkey	408	α=,,668	α=,,666	α=,,632	α=,,658

Source: Author's own source

In the overall sample, the VI subscale had the highest internal consistency (α = 0.701), and the VC subscale had the lowest internal consistency (α = 0.560). In Hungarian sample, VI had the highest internal consistency(α=604). HI (α=442) and HC(α=480) sub-scales were low reliable. In Turkish sample, Cronbach's Alpha values for all subscales are higher than both the overall sample and Hungarian sample. All Cronbach's Alpha values are between "0.60 < x < 0.80 that indicates all sub-scales are reliable. This indicates that Turkish sample provides more consistent results.

Table 5. Comparison of Means and Standard Deviations for *Countries* and Whole Sample

		HI		VI		HC		VC	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Whole Sample	806	52,91	10,02	45,09	10,79	51,64	12,61	49,12	10,85
Hungary	398	50,49	10,26	43,54	11,45	43,76	11,17	45,20	10,76
Turkey	408	55,27	9,19	46,62	9,88	59,33	8,53	52,94	9,50

Source: Author's own source

Table 5 reveals cultural preferences across groups. Horizontal individualism was most favored overall (52.91) and among Hungarians (50.49), while Turks preferred horizontal collectivism (59.33). The second choice was horizontal collectivism overall (51.64), vertical collectivism

for Hungarians (45.20), and horizontal individualism for Turks (55.27). Vertical collectivism ranked third overall (49.12), with Hungarians favoring horizontal collectivism (43.76) and Turks preferring vertical collectivism (52.94). Vertical individualism was the least preferred pattern for all groups. Preferences varied across Hungarian, Turkish, and overall samples.

Table 6. Percentages for HI, VI, VC, HC by Country

	Cultural Patterns				
	N	HI	VI	HC	VC
Hungary	398	%27,59	%23,91	%24,70	%23,79
Turkey	408	%25,80	%21,76	%27,70	%24,71

Source: Author's own source

Table 6 highlights cultural dimension distributions. Hungarians favor horizontal (27.59%) and vertical individualism (23.79%), while Turks prefer horizontal (27.70%) and vertical collectivism (24.71%). Vertical collectivism rates are nearly identical in both countries. Hungary reflects individualistic tendencies, whereas Turkey emphasizes collective values, showcasing differing social dynamics.

Table 7. Correlations Among HI, VI, VC, HC

	HI	VI	HC	VC
HI	---			

VI	,522**	---		
	<,001	---		
HC	,306**	,124**	---	
	<,001	<,001	---	
VC	,266**	,210**	,716**	---
	<,001	<,001	<,001	---

Source: Author's own source

Table 7 shows significant correlations between cultural dimensions. Vertical individualism (VI) and horizontal individualism (HI) have a moderate positive correlation ($r = 0.522$). Low positive correlations are observed between HI and horizontal collectivism (HC) ($r = 0.306$), HI and vertical collectivism (VC) ($r = 0.266$), and VI and HC ($r = 0.124$). The strongest correlation is between HC and VC ($r = 0.716$). All relationships are statistically significant ($p < 0.001$),

confirming the interconnectedness of these cultural patterns, consistent with Singelis et al. (1995).

3.2. The Leadership Questionnaire

Table 8 indicates that the most preferred leadership style for both Hungarian and Turkish participants is "Delegate," with an average score of 3.66 for Hungarian participants and 3.75 for Turkish participants. These results highlight a preference for participative leadership approaches, as higher scores (closer to 5) reflect more participative leadership, while lower scores (closer to 1) indicate more authoritarian tendencies.

Table 8. Comparison of Mean Values of Leadership Styles for Each Country

		Decide		Consult Individually		Consult Group		Facilitate		Delegate	
Countries	N	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Hungary	398	2,34	1,62	2,55	1,05	2,86	1,15	3,60	1,86	3,66	1,62
Turkey	408	2,44	1,66	2,42	1,15	3,00	1,06	3,39	1,33	3,75	1,28

Source: Author's own source

The least favored leadership approach is option 1(decide) with an average score of 2,34 by the Hungarian subordinates. Item 1 (consult individually) is least preferred leadership style with a mean of 2.42 by Turkish subordinates. Both countries' participants prefer participate leadership style. However Turkish participants prefer more participative leadership style than Hungarian subordinates.

Table 9. Percentage Distribution of Leaderships Styles by Country

	N	Decide	Consult Individually	Consult Group	Facilitate	Delegate
Hungary	398	%15,58	%16,98	%19,05	%23,98	%24,38
Turkey	408	%16,26	%16,13	%20,00	%22,60	%25,00

Source: Author's own source

Table 9 shows the percentage distribution of leadership styles by preference. The Delegate style is the most preferred among Hungarians (24.38%) and Turks (25.00%). Among Hungarian participants, decide (15.58%) is the least preferred, while Facilitate (23.98%) and Consult Group (19.05%) have notable rates. For Turkish participants, Consult Individually (16.13%) is the least preferred, with Consult Group (20.00%) and Facilitate (22.60%) also being

significant. The trends are similar in both countries, though Turkish participants show a lower preference for Consult Individually and a higher preference for Decide.

Table 10. Correlations Among Cultural Patterns and Characteristics of Participants

		HI	VI	HC	VC
Hungary	Age	-,161**	-,002	-,084	-,091
		<0,001	*,963*	*,094*	*,069*
	Gender	-,023	-,004	-,084	-,116*
		,648	*,938*	*,094*	*<,020*
	Time as Subordinate	-,163**	,037	-,198**	-169**
		<,001	*,466*	*<,001*	*<,001*
	Academic Degree	,172**	,041	,148**	,134**
		<,001	*,416*	*<,003*	*<,008*
Turkey	Age	-,058	-,043	,163**	,090
		,245	*,389*	*<,001*	*,068*
	Gender	-,170**	,054	,038	,203**
		<,001	*,280*	*,446*	*<,001*
	Time as Subordinate	-,080	,051	,175**	,169**
		,108	*,304*	*<,001*	*<,001*
	Academic Degree	,011	,043	,045	-,011
		,831	*,388*	*,367*	*,819*

Source: Author's own source

Table 10 highlights significant correlations between demographics and cultural dimensions for Turkish and Hungarian participants. In Turkey, age negatively correlates with horizontal individualism (HI) but positively with horizontal collectivism (HC). Gender shows a positive correlation with vertical collectivism (VC) and a negative correlation with HI. Time as subordinate is negatively correlated with HI, HC, and VC but positively with HC and VC. Academic degree positively correlates with HI, HC, and VC. These findings reveal significant relationships between age, gender, time as subordinate, and academic degree with cultural dimensions.

Table 11. Correlations Among Leadership styles and Characteristics of Participants

		Decide	Consult Individually	Consult Group	Facilitate	Delegate
Hungary	Age	,068	,088	,012	-,086	-,078
		,176	*,081*	*,809*	*,087*	*,120*
	Gender	,131**	,056	,012	-,136**	-079
		<,009	*,266*	*,819*	*<,007*	*,115*
	Time as Subordinate	,081	,006	-,003	-,028	-075
		,108	*,913*	*,945*	*,580*	*,137*
	Academic Degree	-,088	-,114*	,117*	,054	,042
		,079	*<,023*	*<,019*	*,282*	*,398*
Turkey	Age	-,052	-,085	,138**	-,008	,040
		,290	*,086*	*<,005*	*,866*	*,424*
	Gender	,005	-,069	-,014	-,033	,101*
		,925	*,164*	*,783*	*,512*	*<,040*
	Time as Subordinate	-,088	-,042	,034	-,028	,153**
		,076	*,400*	*,491*	*,572*	*<,002*
	Academic Degree	,705	-,054	,041	,007	-,017
		,408	*,275*	*,408*	*,892*	*,739*

Source: Author's own source

Table 11 highlights correlations between leadership styles and demographics. Among Hungarian participants, gender positively correlates with Decide and negatively with Facilitate, while academic degree negatively correlates with Consult Individually but positively with Consult Group. For Turkish participants, age positively correlates with Consult Group, gender with Delegate, and tenure with Delegate. These significant correlations suggest how demographics like age, gender, tenure, and academic degree influence leadership styles, particularly Consult Group and Delegate.

3.3. Hypothesis Testing

The primary purpose of our study was to evaluate the favored cultural dimensions of Turkish and Hungarian participants and examine whether they showed distinct choices for leadership approaches. In addition to that, our research assessed whether the cultural patterns (dimensions) and the leadership approaches would be related. The first two hypotheses assumed that nationality would be key impact on cultural dimensions. Therefore, hypotheses were created based on the literature that Hungarians and Turkish subordinates prefer different cultural patterns. However, neither the Turkish nor the Hungarian cultural patterns met the normality

assumption, as assessed by the Kolmogorov-Smirnov and Shapiro-Wilk tests. Consequently, the Kruskal-Wallis test was applied.

Table 12. Kruskal-Wallis Test for HI, VI, HC, VC by Country

	HUNGARY (N=398)	TURKEY (N=408)			
Cultural Patterns	Mean Rank	Mean Rank	Chi-square	Df	sig.
HI	348,33	457,32	44,20	1	<,001
VI	370,43	435,76	15,87	1	<,001
HC	252,42	550,88	331,34	1	<,000
VC	317,54	487,35	107,29	1	<,000

Source: Author's own source

Table 12 displays the numerical results of Kruskal-Wallis Test. Contrary to the first hypothesis; the results indicate difference on Horizontal-Collectivism (HC), Turkish participants showed higher mean rank on HC than their counterpart, the Hungarians. Contrary to the second hypothesis, Hungarian participants showed higher mean rank in Vertical Individualism. However, their ranking was not higher than that of their Turkish counterparts.

Table 13. One-Way ANOVA for HI, VI, HC, VC by Country

	HUNGARY (N=398)			TURKEY (N=408)					
Cultural Patterns	M	SD	SE	M	SD	SE	F	Df	sig.
HI	50,49	10,26	0,51	55,27	9,19	0,45	48,69	1	<,001
VI	43,54	11,45	0,57	46,62	9,88	0,48	16,66	1	<,001
HC	43,76	11,17	0,55	59,33	8,53	0,42	495,31	1	<,000
VC	45,20	10,76	0,53	52,94	9,50	0,47	117,24	1	<,000

Source: Author's own source

A One-Way ANOVA was conducted with Turkey and Hungary as independent variables and the cultural patterns as dependent variables. Table 13 shows significant differences in Horizontal Collectivism (HC), with Turkish participants having a higher mean rank. For Horizontal Individualism, Hungarian participants had a higher mean rank, but still lower than the Turkish participants, partially supporting the second hypothesis.

Table 14. Wilcoxon Signed- Rank Test: Comparison of HI and VC for Hungary

Ranks					**Test Statistics**	
		N	Mean Rank	Sum of Ranks		HI - VC
HI - VC	Negative Ranks	129[a]	156,05	20131,00	Z	-8,524[d]
	Positive Ranks	269[b]	220,33	59270,00	Asymp. Sig. (2-tailed)	,000
	Ties	0[c]				
	Total	398				
a. HI < VC b. HI > VC c. HI = VC d. Based on negative ranks p<0,01						

Source: Author's own source

To further test Hypotheses 1 and 2, non-parametric and parametric tests were applied to compare the two cultural patterns with the highest means in each group. Table 14 shows that 269 participants rated the VC cultural pattern as less effective than the HI pattern, while 129 rated VC as more effective. The mean rank for HI < VC is 156.05, and for HI > VC it is 220.33, indicating that VC has a lower impact than HI. The sum of ranks supports this, with HI < VC totaling 20,131.00 and HI > VC totaling 59,270.00. The Z value is -8.524 and the p-value is < 0.01, confirming a statistically significant difference, with HI being significantly higher than VC for Hungarians.

Table 15. T-test: Comparison of HI and VC for Hungary

Paired Differences						Test Statistics		
				%95 CI of the Difference				
	Mean	SD	SE Mean	Lower	Upper	t	df	Sig. (2-tailed)
HI-VC	5,29	14,42	0,72	5,30	8,14	9,29	397	<,000

Source: Author's own source

Table 15 presents a significant difference between the VC and HI cultural patterns among Hungarian participants ($p < 0.05$). The positive mean difference indicates that the HI cultural pattern has a higher value than the VC cultural pattern. The 95% confidence interval (CI) suggests that the true mean difference lies between 5.30 and 8.14. The t-value (9.29) confirms the significance of this difference, while the sample size (397) is sufficient to support the findings. These results reinforce the existence of a statistically significant difference between the HI and VC cultural patterns. Such non-parametric as well as parametric tests indicate that the Horizontal-Individualism is the predominant cultural pattern for Hungarian participants.

Table 16. Wilcoxon Signed-Rank Test: Comparison of HI and HC for Turkey

Ranks					**Test Statistics**	
		N	Mean Rank	Sum of Ranks		HI - HC
HI - HC	Negative Ranks	248[a]	226,51	56174,00	Z	-7,409[d]
	Positive Ranks	148[b]	151,57	22432,00	Asymp. Sig. (2-tailed)	,000
	Ties	12[c]				
	Total	408				
a. HI < HC b. HI > HC c. HI = HC d. Based on negative ranks p<0,01						

Source: Author's own source

Table 16 shows that 248 participants rated HI as less effective than HC, while 148 rated HI as more effective. The mean ranks are 226.51 for HI < HC and 151.57 for HI > HC, indicating HI has a lower impact. The sum of ranks is 56,174.00 for HI < HC and 22,432.00 for HI > HC. The Z value is -7.409 and the p-value is 0.000 ($p < 0.01$), confirming a statistically significant difference, with HC being more prominent than HI.

Table 17. T-test: Comparison of HC and HI for Turkey

Paired Differences						Test Statistics		
				%95 CI of the Difference				
	Mean	SD	SE Mean	Lower	Upper	t	df	Sig.(2 tailed)
HC-HI	4,05	9,97	0,49	3,08	5,02	8,20	407	<,000

Source: Author's own source

Table 17 shows a mean difference of 4.05, indicating that the HC cultural pattern has a higher score than the HI cultural pattern among Turkish participants. The standard deviation (SD) of 9.97 and standard error (SE) of 0.49 reflect the variability in the difference between HI and HC. The 95% confidence interval (CI) suggests that the actual mean difference falls between 3.08 and 5.02. Additionally, the t-value (8.20) and p-value (<0.000) indicate that this difference is statistically significant. Since the p-value is less than 0.05, the difference between HI and HC is not coincidence. These results show that there is a significant difference between HC dimension and HI dimension. Such non-parametric as well as parametric tests indicate that the Horizontal-Collectivism is the predominant cultural pattern for Turkish participants. At this stage, it is important to highlight that the two participant groups exhibited different preferences in the sequence of cultural sub-scales. Among Turkish participants, the order of preference was

HC, HI, VC, and VI, whereas for Hungarian participants, it was HI, VC, HC, and VI. Additionally, the results presented in Tables 12–17 indicate significant differences between the dominant cultural patterns within each group. For Turkish participants, the prevailing cultural patterns were Horizontal-Collectivism (HC) and Horizontal-Individualism (HI), while for Hungarian participants, they were Horizontal-Individualism (HI) and Vertical-Collectivism (VC). Based on these findings, the first hypothesis is rejected, as Horizontal-Collectivism emerged as the dominant cultural pattern among Turks. The second hypothesis is partially accepted, as findings from One-Way ANOVA, the Wilcoxon Signed-Rank Test, and the T-test confirm that Horizontal Individualism is the dominant cultural pattern among Hungarians. This outcome also provides an answer to the first research question.

Table 18. Kruskal-Wallis Test for Leadership Styles by Each Country

	HUNGARY (N=398)	TÜRKİYE (N=408)			
Leadership Styles	Mean Rank	Mean Rank	Chi-square	Df	sig.
Decide	397,08	409,76	0,68	1	,407
Consult Individually	421,30	386,14	4,97	1	<,025
Consult Group	388,51	418,12	3,51	1	,061
Facilitate	424,44	383,07	6,79	1	<,009
Delegate	392,35	414,38	1,94	1	,163

Source: Author's own source

Table 18 shows The Kruskal-Wallis test reveals significant differences in leadership style preferences between Hungary and Turkey. For the Decide style, there is no significant difference between the two countries ($p > 0.05$). However, for the Consult Individually style, Hungarians show a preference, with a significant difference observed ($p < 0.05$). Similarly, Hungarians prefer the Facilitate style more than Turks, with a significant difference ($p < 0.05$). There is no significant difference in the Consult Group and Delegate styles ($p > 0.05$). These findings partially support the third hypothesis, as Hungarians show a preference for both participative and autocratic leadership styles. The fourth hypothesis is rejected due to the lack of significant differences in the Decide, Consult Group, and Delegate styles, as Turks show no preference for autocratic leadership style. This outcome also answers the second research question.

Table 19. Correlations for Leadership Styles and Cultural Dimensions for Each Country and Whole Sample

Whole Sample (N=806)				
	HI	VI	HC	VC
Decide	-,037	-,177**	,065	,071*
	,297	*<,001*	*,806*	*<,044*
Consult Individually	-,063	-,050	-,116**	-,075*
	,076	*,157*	*<,001*	*<,034*
Consult Group	,013	-,023	,106**	,035
	,714	*,515*	*<,002*	*,323*
Facilitate	,028	,107**	-,061	-,056
	,430	*<,002*	*,086*	*,110*
Delegate	,061	,177**	-,011	,003
	,085	*<,001*	*,762*	*,934*
Hungary (N=398)				
Decide	,074	-,116*	,183**	,211**
	,138	*<,021*	*<,001*	*<,001*
Consult Individually	-,036	-,058	-,019	-,013
	,472	*,247*	*,700*	*,792*
Consult Group	,019	-,061	,194**	,078
	,704	*,222*	*<,001*	*,118*
Facilitate	-,042	,067	-,205	-,208
	,408	*,183*	*<,001*	*<,001*
Delegate	-,038	,180**	-,174**	-,107*
	,449	*<,001*	*<,001*	*<,033*
Turkey (N=408)				
Decide	-,173**	-,259**	-,096	-,094
	<,001	*<,001*	*,052*	*,057*
Consult Individually	-,065	-,026	-,202	-,103*
	,193	*,596*	*<,001*	*<,037*
Consult Group	-,027	,004	-,062	-,064
	,586	*,943*	*,210*	*,194*
Facilitate	,147**	,182**	,229**	,169**
	<,003	*<,001*	*<,001*	*<,001*
Delegate	,152**	,167**	,120*	,093
	<,002	*<,001*	*<,016*	*,062*

Source: Author's own source

Table 19 shows correlation between leadership styles and cultural dimensions. Correlations show that for the entire sample, the decide style negatively correlates with vertical individualism, consulting individually with horizontal collectivism, and the delegate style with vertical individualism (all $p < 0.01$). Among Hungarians, the decide style correlates positively with both collectivisms, and the delegate style positively with vertical individualism but negatively with horizontal collectivism. For Turks, the decide style correlates positively with

both individualisms, the facilitate style with all three dimensions, and the delegate style with vertical individualism. These findings indicate varying relationships between cultural dimensions and leadership styles, leading to the rejection of the final hypothesis and answering the third research question.

4. CONCLUSION

This dissertation explores the relationship between cultural dimensions (horizontal individualism, horizontal collectivism, vertical collectivism, and vertical individualism) and subordinates' preferred leadership styles (decide, consult individually, consult group, facilitate, delegate). Four research questions and five hypotheses were tested using Kruskal-Wallis, One-Way ANOVA, Wilcoxon Signed-Rank Test, T-test, and Pearson Correlation.

Findings show that Turkish participants preferred horizontal collectivism, contrary to the literature suggesting vertical collectivism. Turkish individuals value group membership and are less accepting of status disparity, challenging the traditional view. Hungarian participants, identified as horizontal individualists, prioritize autonomy and oppose inequality, with managers adopting participative leadership styles.

Hungarian subordinates showed a preference for both autocratic and participative leadership styles, while Turkish subordinates did not have a clear preference for autocracy. The study found no clear correlation between vertical dimensions and autocratic leadership or horizontal dimensions and participative leadership.

Demographic factors like age, gender, tenure, and academic degree influenced preferred leadership styles and cultural dimensions. Age affected the consultative group style (more autocratic), while gender and tenure influenced the delegative style (more participative). In Turkey, horizontal collectivism was influenced by age and tenure, while in Hungary, academic degree and tenure impacted leadership preferences. These findings emphasize the role of demographics in shaping leadership styles and cultural values.

5. NEW SCIENTIFIC RESULTS

My study offers groundbreaking insights and a refined perspective into the cultural dimensions of Hungary and Turkey, as well as the preferred leadership styles of participants in both countries. It goes further by exploring the relationship between cultural dimensions and leadership preferences. Future studies could consider additional variables, such as managerial perspectives, organizational culture, and improved methods for measuring cultural dimensions. The new scientific contributions of my study are summarized as follows:

1. This research extensively examines culture, leadership, cultural dimensions, and leadership styles, particularly how cultural patterns influence leadership preferences. Notably, it is the first study to compare Hungary and Turkey in terms of these dimensions and styles.
2. Turkish participants predominantly display collectivistic tendencies, with vertical collectivism influencing Turkish society. However, the findings reveal that while Turkey is viewed as a collectivistic society, horizontal collectivism, rather than vertical collectivism, better represents its core cultural dimension.
3. Hungarian participants, reflecting an individualistic culture, particularly horizontal individualism, tend to favor participative leadership styles. Interestingly, this study also shows that Hungarian participants exhibit a preference for both participative and autocratic leadership styles, filling a gap in the literature regarding Hungarian subordinates' leadership preferences.
4. Turkish managers are inclined toward autocratic leadership, shaped by collectivistic tendencies and vertical collectivism. However, this study provides no evidence of Turkish subordinates favoring autocratic leadership styles.
5. The research reveals that participative leadership is not inherently linked to horizontal dimensions, nor is autocratic leadership necessarily associated with vertical dimensions.
6. Factors such as education (academic degree), gender, age, and tenure (time as a subordinate) significantly affect cultural values and leadership preferences. For Turkish participants, age and tenure influence horizontal collectivism, while gender negatively impacts participative leadership and positively affects autocratic leadership. Academic

qualifications impact both autocratic and participative leadership styles. These findings contribute valuable insights into the interplay of demographics, culture, and leadership.

PUBLICATIONS

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2. **Cuhadar, S.,** & Rudnák, I. (2022). Literature review: Sustainable leadership. *Studia Mundi – Economica, 9*(3), 55-65. https://doi.org/10.18531/studia.mundi.2022.09.03.55-65
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