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RESEARCH ARTICLE

A Research on the Relationship of Social Intelligence and Cultural Intelligence with Leadership Styles*

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Abstract

Technological and social changes have made the organizational nature more open and accessible than ever. In recent years, modern leadership styles are used to efficiently manage these radical changes, and social intelligence and cultural intelligence concepts are used to get an edge over these changes correctly. In this study, based on the interaction of different intelligence types with the leadership styles exhibited, the factors affecting the leadership style were examined. The concept of leadership was carefully considered by associating the sub-dimensions of social intelligence and cultural intelligence, and assessing them in terms of demographics. The research sample is selected as Technopark employees in Istanbul. The sample reflects one of the increasingly widespread Technology Development Zones in Turkey, and welcomes technological developments as well as foreign cultural companies within. By analyzing the obtained data from 354 participants with descriptive and explanatory statistical methods, the relationships between leadership styles in the Multi-Factor Leadership Questionnaire, a comprehensive leadership tendency measurement tool, and social intelligence and cultural intelligence have been revealed. In addition, the effects of social intelligence's and cultural intelligence's sub-dimensions on four different leadership styles, and demographic differentiations are detected. The research provides guiding outputs for future research and business reflections.

Keywords

Social intelligence, Cultural intelligence, Transformational leadership, Transactional leadership, Leadership styles

Introduction

With the emergence of the phenomenon of globalization, it did not take long to realize that more importance should be attached to human differences. Attaining high efficiency from employees who have different personality traits, abilities, origins, beliefs and values within the same organization has become one of the main responsibilities of the leader (Fettahlıoğlu, 2018). The leadership approach, which has evolved from early management approaches to the present and continues to evolve, has started to turn the light more on *"people"* and *"relations"*.

Leadership and intelligence are deep-rooted concepts that have been associated with each other for centuries. In traditional leadership studies, it is stated that leadership depends on the personal characteristics of the individual and that one of these characteristics should be intelligence (Stodgill, 1948). In intelligence research, while the leading ability is considered as a determining variable in intelligence tests (Hollingworth, 2015), the Marland Report (1972), which compiles the areas where high intelligence can manifest itself, stated intellectual and academic ability and creative thinking, as well as the ability to lead as a criterion of high intelligence (Harrington, Harrington & Karns, 1991).

In modern organizations, the leader is expected to have social skills such as having effective communication skills, being successful in interpersonal relationships, and perceiving and meeting the needs of the followers. At this point, the concept of social intelligence has a supportive role in managerial areas by enabling people to understand and act intelligently in human relations (Thorndike, 1920a). In addition to social needs, the ability to lead in a global context has become invaluable for many organizations. Hereby, the guiding influences of the leader are expected to vary according to their ability to distinguish the cultural characteristics of followers. Social and cultural intelligence is important not only for organizations operating on a global scale, but also for local organizations that incorporate diversity such as ethnic differences or social expectations (Sharma & Hussain, 2020).

Within the scope of this research, it aimed to explain the relationship between the social and cultural intelligence of employees and their leadership styles in a Technopark sample, where the reverberations of the new business world order can be frankly observed.

Literature Review

This section includes a conceptual review and discussion of empirical findings on research variables to construct hypotheses.

Leadership Styles

Transformational Leadership
Transformational leadership became the center of attention after Burns' approached political leadership in 1977 with transformational and transactional leadership sub-dimensions. This leadership style is among the neo-charismatic approaches and it enables the leader to transform the beliefs, values and needs of followers (Luthans, 2011). According to this style, the leader has a moral duty that aims to bring all the followers in the leadership process to a high level of human development (Bass & Avolio, 1989).

With a radical and modernist approach, the leadership phenomenon, which has been at the top of the hierarchical pyramid for years, has been taken to the horizontal plane, thereby the

need for transformational leaders has arisen. With this breakthrough, leaders began to be able to comprehensively analyze the environment of the organization and create strategic goals that attract followers' attention and provide efficiency. Thus, transformational leaders have the ability to express their goals effectively and spread them faster (Berson & Avolio, 2004). In this context, it is inevitable for a transformational leader in an organization to provide a suitable field for understanding and adopting strategic visions, missions, and organizational goals.

Transformational leadership consists of four dimensions of leadership style according to the Multi-Factor Leadership Questionnaire. These are called Charisma, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration (Bass & Avolio, 1990). In order to increase work efficiency during transformation process, leaders must first create a strong bond with their followers (Çakar & Arbak, 2003). At this point, each leadership characteristic given below forms the basis of transformational leadership (Bass & Avolio, 1990).

- Charisma is effective in setting a vision, creating mission awareness and instilling self-confidence.

- Inspirational motivation is giving followers a meaning to the work done in order to achieve predetermined goals and motivating followers in line with this meaning.

- Intellectual stimulation pushes followers to think, gives new perspectives on old problems, ensures realism, and allows creative intelligence to shine.

- Individualized consideration allows leaders to recognize their followers and train them appropriately by establishing special but equal relationships with each follower.

Transactional Leadership

Transactional leadership is a traditional and retrospective leadership style conceptualized by Burns, is based on the mutual interaction between the leader and the follower (Luthans, 2011). The effectiveness of transactional leadership is closely related to how much the needs of followers are fulfilled (Eraslan, 2006). In this style, while the followers are directed to act to reach a reward or avoid a punishment, the behavior of the leader is shaped depending on whether the followers accomplished the predetermined tasks or not (Bass & Avolio, 1989). There is a clear agreement between the leader and the followers on the completion of the task (Buluç, 2009).

Transactional leadership, when applied with a laissez-faire leadership approach, allows the followers to exhibit risk taking and initiative behaviors. In addition, transactional leadership contributes positively to the increase of the performance of the followers (Changar & Atan, 2021) by increasing social-based activities in organizations (Achmad & Ftriansyah, 2021).

Dimensions of transactional leadership are mentioned as Management by Exception, Contingent Reward, and Laissez-Faire (Bass, Avolio & Atwater, 1996):

- Management by exception allows leaders to observe their followers and give directions for performance increase when deemed necessary.

- In contingent reward, leaders reward or deliberately fail to reward followers when they achieve their desired performance or goals after giving them full instructions on the task.

- Laissez-faire is the leader's giving their followers unlimited freedom to do their job or the disregard of the leadership.

Types of Intelligence and Relationships with Leadership Styles

When research studies on intelligence are examined, it is seen that there are various studies on many types of intelligence. The treatment of intelligence as a plural capacity dates back to ancient times. Plato (427-347 BC) argued that the natural tendencies of individuals should be discovered and they should be educated on the basis of this, and in the relatively recent past, J. J. Rousseau (18th century) argued that intelligence is fed not only from books but also from real life experiences (Türkuzan, 2004).

In more recent past; Terman (1916) argued that it was wrong to accept intelligence as a single and irrefutable fact. A few years later, Thorndike proved that when verbal and numerical tests based on speed are compared, the results do not give the same success scores for individuals (Thorndike, 1920b). For this reason, he mentioned that three types of intelligence should be examined separately for human beings: mechanical intelligence, social intelligence, and abstract intelligence. With this study, studies on the types of intelligence gained momentum. Spearman's (1927) Two-Factor Theory and Thurstone's (1943) Group Factor Theory revealed the necessity of re-evaluation of intelligence tests applied.

In 1983, Howard Gardner explained the Theory of Multiple Intelligences in his book *Frames of Mind*. In this book, it is suggested that intelligence is affected by cultural factors as well as biological factors. The type of intelligence accepted in a culture is expected to be open to development in that specific culture. For this reason, it is argued that intelligence is an improvable potential that is not limited to inherited traits. According to Gardner, intelligence has eight distinct components: linguistic, logical/mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalist (Gardner, 2011).

This masterpiece and its likes have pushed researchers to research different types of intelligence for years and caused the popularization of social and cultural intelligence, which has also determined the subject of this paper.

Social Intelligence (SQ)

Beyond the traditional understanding of intelligence, social intelligence was first used in 1920 by Thorndike to measure an individual's social competence and success in dealing with interpersonal relationships (Albrecht, 2006). Social intelligence is not only the ability to understand and manage people, but also the ability to understand and manage oneself (Salovey & Mayer, 1990). It is cited as the reason why some people can communicate more easily and overcome relational problems (Goleman, 2010).

Empathy, the abilities promoted by social intelligence, positively affects the social interaction between the leader and followers (Jones, 1983). Another encouraged ability, emotional analysis allows the leader to organize in-group and out-group followers (Densereau, Graen & Haga, 1975). Establishing relationships and effective communicating skills, prepare the ground for the leader to show sensitivity to the needs of followers (Papa & Tracy, 1988), it also enables the followers to emerge feelings such as happiness, life satisfaction and optimism (Doğan & Eryılmaz, 2014).

Based on previous studies, the first hypothesis is developed to examine the relationship between social intelligence and leadership through the lens of particular leadership styles.

H_{1a}: There is a positive relationship between social intelligence and "transformational leadership".

H_{1b}: There is a positive relationship between social intelligence and "transformational and transactional leadership".

H_{1c}: There is a positive relationship between social intelligence and "management by exceptions and laissez-faire leadership".

H_{1d}: There is a positive relationship between social intelligence and "charisma and inspirational leadership".

Cultural Intelligence (CQ)

The concept of cultural intelligence was first introduced by Earley and Ang (2003), and defined as the ability of the individual to adapt effectively to new cultural contexts. Cultural intelligence enables individuals to interpret behaviors that do not belong to their own culture (Earley & Mosakowski, 2004) and act in accordance with the requirements of the culture they just met (Ang, Van Dyne & Koh, 2006). Although cultural intelligence studies are on the increase, it is recommended by many researchers to carry out studies from different perspectives on this type of intelligence. (Afsar, Al-Ghazali, Cheema & Javed, 2020; Doğan & Uysal, 2020).

Cultural intelligence interacts with variables closely related to leadership such as being able to make effective decisions (Ang, et al., 2007), effective communication (Bücker, 2014), improving team performance (Şahin & Gürbüz, 2012), and coping with confusion (Plum, 2009), international leader development (Ng, Van Dyne & Ang, 2009) and diversity management (Ersoy & Ehtiyar, 2015). In addition, cultural intelligence has a share in the achievement of effective leadership behaviors expected from leaders in different cultures by supporting the skills of managing differences, being innovative and looking from different perspectives (Dilek & Topaloğlu, 2017).

According to the literature review, it was envisioned that the cultural intelligence has a strong influence on the leadership phenomenon in the current dynamic business world and therefore it was taken as the second hypothesis of the study.

H_{2a}: *There is a positive relationship between cultural intelligence and "transformational leadership".*

H_{2b}: *There is a positive relationship between cultural intelligence and "transformational and transactional leadership".*

H_{2c}: *There is a positive relationship between cultural intelligence and "management by exceptions and laissez-faire leadership".*

H_{2d}: *There is a positive relationship between cultural intelligence and "charisma and inspirational leadership".*

In addition to the given research hypotheses, the third and final hypothesis was developed to test whether the dependent and independent variables differ in terms of demographics.

H_3: *Social intelligence, cultural intelligence and four leadership styles of the participants differ according to demographics.*

Research Method

Purpose and Importance of the Research

The aim of this research is to examine the relationship between social intelligence and cultural intelligence with transformational and transactional leadership styles. It has been revealed that the exhibited leadership styles have a relationship with which sub-dimensions of social intelligence and cultural intelligence, and how these variables differ in the context of demographics. Intelligence, which is often associated with leadership, was studied in the light of modern approaches. Spotlighting social intelligence and cultural intelligence, which are in the shadow of emotional intelligence in Turkey, points to the importance of the research.

Research Model

The research model as the basis of the research is shown in the figure below.
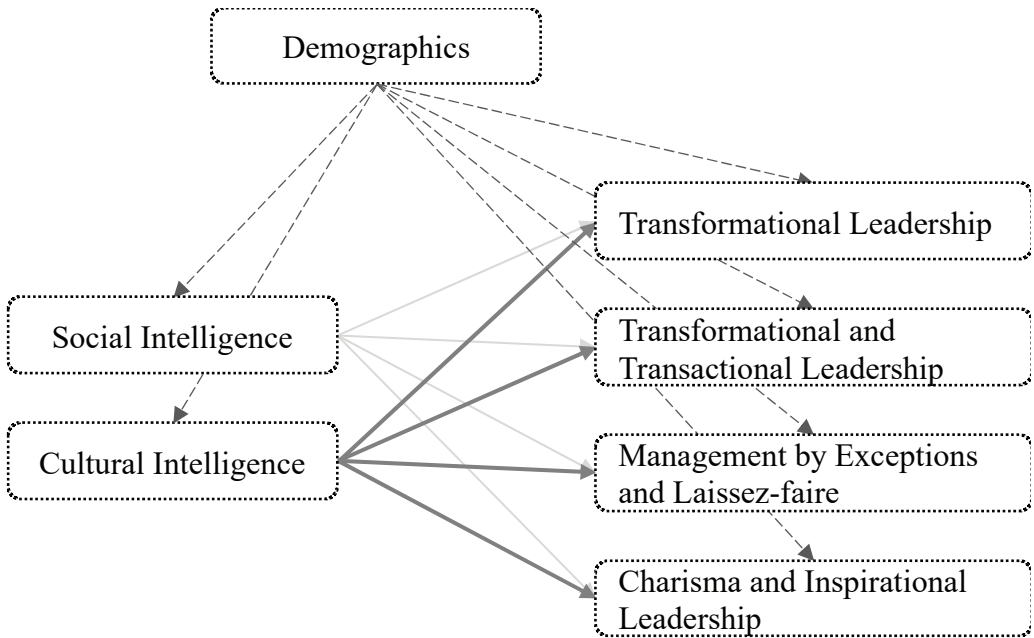
Figure 1. Research model

Research Population and Sample

Technoparks is one of the increasingly common Technology Development Zones in Turkey and establish a bridge between universities and industrial cooperation. With the support of research and development activities, these zones are closely related to technological developments. Companies operating in foreign cultures located in this region, provide the opportunity to observe change and transformation in detail. For this reason, the employees of a Technopark within the body of a state university in Istanbul with a large number of employees was determined as the population of the research.

The online questionnaire form prepared was sent to Technopark employees in collaboration with the Corporate Communication Department, and 374 employees participated in the questionnaire. After the missing data were identified, extreme value analysis was performed and extreme values were excluded in order not to prevent obtaining normal results (Kalaycı, 2018). In this case, the data gathered from 20 participants were excluded and the analysis proceeded with the data submitted by 354 participants.

Scales

The questionnaire form consists of four parts. In the first part, the demographics of the participants (gender, age, education level, position level, organizational tenure and professional tenure) are included. In the second part, a Turkish adapted version of the Tromso Social Intelligence Scale (TSIS) by Doğan and Çetin (2009) was placed. TSIS, consists of social information processes, social skills and social awareness sub-dimensions and 21 items in total. In the third part, the version of the Cultural Intelligence Scale (CIS) adapted to Turkish by İlhan and Çetin (2014), which is a 20-item scale, was used, with its structure consisting of metacognitive, cognitive, behavioral and motivational sub-dimensions. In the last part, the Turkish translation of the Multi-Factor Leadership Scale (MLQ) developed by Bass and Avolio (1992) taken from the study of Tarım (2010), was included in the questionnaire form. The MLQ is a 21-item scale and includes idealized influence, inspirational motivation, intellectual stimulation, individual attention, contingent rewarding, management by exceptions, and laisez-faire leadership sub-dimensions that determine transformational and transactional leadership characteristics. The statement sets in the questionnaire form consist of three different scales and 62 statements in total. The scales were prepared in five-point likert scale and ranked as "1: Strongly Disagree", "2: Disagree", "3: Neutral", "4: Agree", "5: Strongly Agree".

Research Methodology

The research was conducted on the employees of a Technopark in Istanbul. The convenience sampling method was used as it facilitates access to employees in terms of time and cost. Following the process, which was managed jointly with the Technopark's Corporate Communication Department, an online questionnaire form was sent to the employees' contact addresses. Also, after face to face interviews, some of the participants filled out the questionnaire form by hand. The collected data was subjected to descriptive and explanatory analysis with the SPSS 25.0 program.

Findings

Demographics

Participants were asked to share their *age* [20-24 age range (11,3%), 25-29 age range (38,7%), 30-34 age range (20,6%), 35-39 age range (12,4%), 40 age and older (13,8%), not specified (3,1%)], *gender* [female (39%), male (61%)], *education level* [high school and associate degree (6,5%), bachelor's degree (54,8%), postgraduate (38,7%)], *level of position* [manager (37%), employee (62,4%), not specified (0,6%)], *organizational tenure* [less than 1 year (23,2%), 1-5 years (54,8%), 6-10 years (12,1%), 16 years and more (9,3%), not specified (0,6%)], and *professional tenure* [less than 1 year (12,4%), 1-5 years (37,6%), 6-10 years (20,1%), 11-15 years (13,8%), 16 years and more (15,5%), not specified (0,6%)].

Tests of Normality and Homogeneity of Variances

In Table 1, since the n>50, Kolmogorov-Smirnov values are given to test the normal distribution. When we look at Kolmogorov-Smirnov values, intelligence types indicate normal distribution, while leadership styles do not. In large samples, the results of one test or both may be significant, even if there is only a small deviation from the normal distribution. Therefore, normality should be evaluated together with the values of skewness and kurtosis (İslamoğlu & Alnıaçık, 2014). Table 2 presents descriptive statistics prepared to provide a more comprehensive perspective.

Table 1

Test of Normality

	Kolmogorov-Smirnov[a]		
	Statistic	**df**	**Sig.**
Social Intelligence	.027	354	.200*
Cultural Intelligence	.040	354	.200*
Transform. L.	.154	354	<.001
Transform. and Transact. L.	.094	354	<.001
Charisma and Inspirational L.	.170	354	<.001
Manage.by Except. Laissez-faire L.	.110	354	<.001

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 2

Test of Normality -Descriptive Statistics

		Statistic	**Std. Error**
Social Intelligence	Skewness	-.244	.130
	Kurtosis	.415	.259
Cultural Intelligence	Skewness	.004	.130
	Kurtosis	-.021	.259
Transform. L.	Skewness	-.677	.130
	Kurtosis	.424	.259
Transform. and Transact. L.	Skewness	-.836	.130
	Kurtosis	1.309	.259
Charisma and Inspirational L.	Skewness	-.360	.130
	Kurtosis	-.060	.259
Manage.by Except. Laissez-faire L.	Skewness	-.364	.130
	Kurtosis	.112	.259

According to the George and Mallery's (2003) classification, skewness and kourtosis values between +2 and -2 indicate compliance with normal distribution. While the leadership styles variables were not normally distributed according to the Kolmogorov-Smirnov value, it is considered to be normally distributed based on the skewness and kourtosis values and the homogeneity of the variances test results. Table 3 shows the Test of Homogeneity of Variances.

Table 3

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Social Intelligence	Based on Mean	.458	10	1045	.917
Cultural Intelligence	Based on Mean	.599	3	350	.616
Transform. L.	Based on Mean	1.822	4	347	.124
Transform. and Transact. L.	Based on Mean	2.196	9	825	.120
Charisma and Inspirational L.	Based on Mean	1.137	4	347	.339
Manage.by Except. Laissez-faire L.	Based on Mean	1.418	8	771	.185

Validity and Reliability Analysis of the Scales

The Multi-Factor Leadership Scale is distributed under four dimensions in this study. Five statements were not included in the analysis due to their low factor loadings. These four dimensions are as follows: "*transformational and transactional leadership*", "*transformational leadership*", "*management by exceptions and laissez-faire leadership*" and "*charisma and inspirational leadership*". In addition, according to the factor analysis results, four statements in the Tromso Social Intelligence Scale were excluded from the analysis due to their low factor loadings.

Table 4

Validity and Reliability Analysis

Scale	Kaiser-Meyer-Olkin (KMO)	Barlett Test of Sphericity	p	Cronbach's Alpha
MLQ	0,845	1417,321	0,000	0,794
SQ	0,837	2081,263	0,000	0,817
CQ	0,890	3228,996	0,000	0,901

Notes: Factor loadings are between 0,561-0,867 for TSIS (SQ), 0,567-0,824 for CIS (CQ), and ,0546-0,786 for MLQ.

Hypotheses Testing

Correlation Analysis: The Levels of Intelligence and Leadership

In correlation analysis, the relationships between the main variables and their sub-dimensions and the direction of these relationships were examined.

The correlation matrix above demonstrates that there is a statistically significant relationships between social intelligence, cultural intelligence and all leadership styles except management by exceptions and laissez-faire leadership. Results of previous studies support these positive relationships between social intelligence and leadership styles. (see: Cavins, 2021; Goleman & Boyatzis, 2008; Zaccaro, Gilbert, Thor & Mumford, 1991). Furthermore, the statistically significant positive relationship between cultural intelligence and leadership styles has also obtained similarity with different comprehensive studies in the literature (see: Solomon & Steyn, 2017; Deng & Gibson, 2008).

Table 5

Correlation Analysis

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Social Info. Processing.	1												
2. Social Skills	.211**	1											
3. Social Awareness	.202**	.323**	1										
4. Metacognitive	.322**	.182**	-.014	1									
5. Cognitive	.190**	.054	-.136*	.427**	1								
6. Motivational	.184**	.402**	.145**	.412**	.376**	1							
7. Behavioral	.203**	.240**	.068	.467**	.465**	.502**	1						
8. Transform. L.	.169**	.244**	.010	.281**	.203**	.241**	.272**	1					
9. Transform. and Transact. L.	.130*	.170**	-.053	.219**	.195**	.195**	.239**	.469**	1				
10. Charisma and Inspirational L.	.183**	.245**	.138**	.144**	.136*	.186**	.193**	.291**	.393**	1			
11. Manage.by Except. Laissez-faire L.	.061	-.137**	-.134*	.144**	.137**	-.035	.066	.112*	.124*	.086	1		
12. Social Intelligence	.583**	.772**	.747**	.209**	.031	.355**	.237**	.198**	.112*	.268**	-.117*	1	
13. Cultural Intelligence	.288**	.291**	.025	.724**	.746**	.760**	.815**	.324**	.277**	.218**	.097	.274**	1

* Correlation is significant at the 0,01 level (2-tailed).
** Correlation is significant at the 0,05 level (2-tailed).

The table indicates that the sub-dimensions of social intelligence have statistically significant both positive and negative relationships with leadership styles exhibited while the sub-dimensions of cultural intelligence have only positive relationships. These findings confirm the H_1 and H_2 hypotheses of the research. However, in order to examine the interaction between variables in detail, regression analysis was conducted.

Regression Analysis

In line with the hypotheses of the research, the interaction between social intelligence and cultural intelligence and leadership styles exhibited was examined through enter regression analysis. The results of the regression analysis and the effects between dependent and independent variables are given in Table 6.

Table 6

Regression Analysis of Independent Variables and Leadership Styles

Model	Dependent Variable	Adjusted R^2	Independent Variable	β	t	p	F
Model 1	*Transform. L.*	0,118	Social Intelligence	,128	2,258	,025	23,491
			Cultural Intelligence	,280	5,606	,000	
Model 2	*Transform. and Transact. L.*	0,078	Social Intelligence	,049	,729	,467	14,913
			Cultural Intelligence	,294	5,006	,000	
Model 3	*Charisma and Inspirational L.*	0,094	Social Intelligence	,288	4,254	,000	18,254
			Cultural Intelligence	,177	2,963	,003	
Model 4	*Manage.by Except. Laissez-faire L.*	0,032	Social Intelligence	-,263	-2,845	,005	5,749
			Cultural Intelligence	,208	2,553	,011	

Notes: The table contains four regression models for each dependent leadership style. For four models p<0,001.

At the statistical level, the proposed models are significant (p<0,001). According to the results of the regression analysis seen on Table 6, it is revealed that social intelligence and cultural intelligence have significant positive effects on leadership styles.

In the following regression analysis, the sub-dimensions of independent variables were analyzed for each leadership style separately. The results are shown in Table 7.

Table 7

Regression Analysis of Sub-Dimensions of Variables

Model	Dependent Variable	Adjusted R^2	Independent Variable	β	t	p	F
Model 1	*Transform. L.*	0,125	Social Info. Processing	,061	1,112	,267	8,208
			Social Skills	,184	3,199	,002	
			Social Awareness	-,066	-1,202	,230	
			Metacognitive	,139	2,260	,024	
			Cognitive	,047	,769	,442	
			Motivational	,031	,492	,623	
			Behavioral	,117	1,845	,066	
Model 2	*Transform. and Transact. L.*	0,082	Social Info. Processing	,056	1,008	,314	8,208
			Social Skills	,135	2,292	,023	
			Social Awareness	-,111	-1,992	,047	
			Metacognitive	,079	1,259	,209	
			Cognitive	,059	,956	,340	
			Motivational	,030	,461	,645	
			Behavioral	,123	1,882	,061	
Model 3	*Charisma and Inspirational L.*	0,081	Social Info. Processing	,099	1,767	,078	5,504
			Social Skills	,171	2,900	,004	
			Social Awareness	,064	1,146	,253	
			Metacognitive	,006	,091	,927	
			Cognitive	,068	1,092	,276	
			Motivational	,020	,307	,759	
			Behavioral	,084	1,282	,201	
Model 4	*Manage.by Except. Laissez-faire L.*	0,048	Social Info. Processing	,054	,954	,340	5,420
			Social Skills	-,124	-2,069	,039	
			Social Awareness	-,081	-1,425	,155	
			Metacognitive	,132	2,063	,040	
			Cognitive	,083	1,306	,192	
			Motivational	-,086	-1,294	,197	
			Behavioral	,033	,504	,614	

Notes: The table contains four regression models for each dependent leadership style. For four models p<0,001.

In accordance with Table 7, the models are significant (p<0,001). There is an effect between the sub-dimensions of social intelligence and cultural intelligence and leadership styles exhibited which theoretically supported by the literature (see: Beheshtifar & Roasaei, 2012; Keung & Rockinson-Szapkiw, 2013).

When overall findings are summarized, the effects of

- cultural intelligence on each leadership style positively,

- social intelligence on "*transformational leadership*", and "*charisma and inspirational*

leadership" positively and on *"management by exceptions and laissez-faire leadership"* negatively,

- social skills on each leadership style positively,

- metacognitive cultural intelligence on *"transformational leadership"* and *"management by exceptions and laissez-faire leadership"* positively,

- social awareness on *"transformational and transactional leadership"* positively

were determined to be statistically significant.

Analysis of Intelligence and Leadership Depending on Demographics

Comparison of the participants according to their demographics in the direction of variables was also examined within the scope of the research hypotheses. Demographics with two groups (gender and position level) were analyzed by t-test analysis, and those with more than two groups (age, education level, organizational tenure, and occupational tenure) were analyzed by Analysis of Variance. In cases where differences are detected, the differences were determined by t-test group statistics and multiple comparison analysis (Scheffe and Tamhane). Only statistically significant variables are included in Table 8 and Table 9.

Table 8

T-Test Results of Gender and Position Level

Demographics	Variables		N	Mean	SS	t	p
	Metacognitive	Female	138	3,95	0,55	-2,251	,025
		Male	216	4,08	0,58		
	Cognitive	Female	138	3,11	0,62	-3,181	,002
		Male	216	3,35	0,72		
Gender	Cultural Intelligence	Female	138	3,64	0,48	-2,305	,022
		Male	216	3,78	0,54		
	Transform. L.	Female	138	4,27	0,54	-3,195	,002
		Male	216	4,44	0,46		
	Transform. and Transact. L.	Female	138	4,05	0,62	-2,168	0,31
		Male	216	4,18	0,54		
	Manage. by Except. and Laissez-faire L.	Manager	131	3,32	0,80	-3,352	,001
		Employee	221	3,60	0,74		
Position Level	Transform. and Transact. L.	Manager	131	4,31	0,49	4,679	,000
		Employee	221	4,02	0,60		

Table 9
ANOVA Test Results of Age, Organizational Tenure and Professional Tenure

Demographics	Variables		Sum of Squares	df	Mean Square	F	p
Age	Social Info. Processing	Between Groups	3,620	5	,724		
		Within Groups	87,473	348	,251	2,880	,015
		Total	91,093	353			
	Metacognitive	Between Groups	3,722	5	,744		
		Within Groups	110,744	348	,318	2,339	,041
		Total	114,467	353			
	Behavioral	Between Groups	8,202	5	1,640		
		Within Groups	192,525	348	,553	2,965	,012
		Total	200,727	353			
	Cultural Intelligence	Between Groups	4,869	5	,974		
		Within Groups	91,087	348	,262	3,720	,003
		Total	95,956	353			
	Transform. Transact. L.	Between Groups	5,968	5	1,194		
		Within Groups	110,911	348	,319	3,745	,003
		Total	116,880	353			
Education Level	Social Skills	Between Groups	6,817	4	1,704	3,256	,012
		Within Groups	182,697	349	,523		
		Total	189,514	353			
Org. Tenure	Transform. Transact. L.	Between Groups	4,678	6	,780		
		Within Groups	112,202	347	,323	2,411	,027
		Total	116,880	353			
Profession. Tenure	Social Info. Processing	Between Groups	4,285	6	,714		
		Within Groups	86,808	347	,250	2,855	,010
		Total	91,093	353			
	Transform. Transact. L	Between Groups	6,904	6	1,151		
		Within Groups	109,976	347	,317	3,631	,002
		Total	116,880	353			

According to Table 8 and Table 9, the main variables of the study differ according to age, gender, education level, level of position, organizational tenure and professional tenure. Statistical test and analysis of variance allow us to accept the H_3.

Results and Discussion

The relationship between the leader and follower is considered as the key pair for organizational success (Kim, et al., 2020). As the leadership process interplay of many factors, the effective use of the style in this process is closely related to the intelligence of the leader.

Leaders' social intelligence and cultural intelligence levels can give clues about what kind of leader they will be.

In this study, the relationship between social intelligence and cultural intelligence levels of a Technopark employees and their exhibited leadership styles were examined and the effect of demographics was determined. Based on the percentages of demographics, Generation Y constitutes the majority of the research sample. Currently, this generation, which has the ability to obtain information from different sources and to use it effectively in problem solving, lean towards the leader's transformational principles (Davutoğlu, Muğaloğlu & Arslan, 2020). The reason behind this is shown as the young workforce's demand to being aware of their individual differences and to being guided by each and every individual expectations and skills (Yeşil & Fırat, 2020).

When the findings of the study are examined, it is seen that social intelligence and cultural intelligence are in relationships with leadership styles. Today, the understanding that the leader should be intelligent, which has been maintained since the traditional leadership approaches; diversifies towards the need of the leader to have intellectual knowledge and skills and to be aware of cultural values, norms and expectations (Aycan, Kanungo & Mendonca 2016; Harrington, et al., 1991; Stogdill, 1948). These needs of modern day support the hypotheses of the research by revealing the expectations from today's leaders.

Considering the studies in the literature in line with the research hypotheses, the relationship between cultural intelligence and transformational and transactional leadership styles eliminates many conflicts in various cultural and social contexts (Ansari, Reza & Mehdi, 2012). In addition, social intelligence and emotional intelligence, which is accepted as a direction of social intelligence by many researchers, positively affects transactional leadership by causing the leader to exhibit more sensitive and supportive behaviors (Cavins, 2005). In this context, social intelligence and cultural intelligence can be seen as the two main predictors of a leader's success.

In the literature, besides the main variables of the research, closely related concepts are also discussed. It is known that cultural intelligence has a supportive relationship with effective decision-making, enhancing task performance, conflict management and diversity management. Social intelligence, on the other hand, affects leadership characteristics positively such as effective communication and solution generation. In all, the effect of these types of intelligence on leadership processes is undeniable.

According to the results of the research, the social skills is statistically related to all leadership styles in the study. It is possible for leaders with high social skills to be responsive to the needs of their followers and to perform a management process that reduces conflict within the organization (Papa & Tracy, 1988). Social skills is negatively related to mana-

gement by exceptions and laissez-faire leadership within the scope of this study. In these leadership styles with minimum communication processes with followers, the leader does not participate in the business process of the followers or is ignored as a guide (Çakınberk & Demirel, 2010; Demir & Okan, 2008), which prevent the active use of social skills. The ability of socially conscious leaders to see the norms, characteristics, or expectations of a context as a whole parallels transformational and transactional leadership characteristic. The ability of transactional leaders to work without losing control over their followers but also without straining them is an important social balance skill (Cıranoğlu, 2020). In other respects, transformational leaders are seen as a highly effective role model in determining future goals with their environmental analysis capabilities and drawing the road map to these goals (Şimşek, 2020). When considered in alignment with the characteristics of leadership styles, it is possible to say that social awareness will be a useful equipment for both styles.

Metacognitive cultural intelligence positively affects transformational leadership and management by exceptions and laissez-faire leadership. Metacognitive cultural intelligence brings along compromise behavior (Kenar & Bektaş, 2020). This feature of metacognitive intelligence reinforces the principle of transactional leadership to enable followers to participate in the decision-making process, while supporting transformational leadership's ability to deal with confusion, uncertainty, and conflict (Luthans, 2011).

As a result of this research, it was revealed that cultural intelligence has a positive relationship with all leadership styles discussed in the study. Social intelligence was found to be in a positive relationship with transformational leadership and charisma and inspirational leadership, and negatively with management by exceptions and laissez-faire leadership. The practical implications for the business world compiled from the results of the research are summarized below.

- While social intelligence increases the positive emotional state of individuals in the organization, it enables to prevent negative emotions, thoughts and behaviors. Identifying the emotional states of followers that cause negative behaviors helps to eliminate devastating problems such as intention to quit. Therefore, qualified and trained workforce continues to be valuable resources of the organization (Diktaş & Özgeldi, 2020).

- In cases where working remotely, such as the Covid-19 pandemic, or where remote working is adopted as an organization strategy, the cultural intelligence of individuals who form virtual teams should be seen as a resource that increases interpersonal synergy (Presbitero, 2021). High cultural intelligence will increase the effectiveness of team members by promoting the establishment and participation of diverse work teams (Alexandra, Ehrhart, & Randel, 2021).

- The training and development of leaders with high social and cultural intelligence has become indispensable for the long-term success of organizations (Cavins, 2021). Being aware of the culturally differentiating social and emotional needs of individuals in

uncertain times and directing them is only possible with the leadership process of the mentioned types of intelligence.

- The business world is constantly changing with the effect of Industry 4.0. Values such as knowledge, learning and innovation, which are the sources of Industry 4.0, at an organizational level, is only possible with the ability of the transformational leader to create a vision. In order to benefit from transformational leadership in this dynamic order, it is necessary to have a learning organization mindset in order to reveal the potential of the young workforce that is open to differences and free from prejudices. (Davutoğlu, et al., 2020).

- Organizations determine their strategies according to environmental conditions. When aggressive and opportunistic innovation strategies are implemented, transformational leaders can provide local and global competitive advantage for organizations with the ability to analyze the external environment (Shibu & Uysal, 2020). However, when defensive and traditional innovation strategies are adopted with the desire to avoid uncertainty, task-oriented transactional leadership will guide organizations to mimic and survive.

- It should not be forgotten that today's global business world is not satisfied with a single leadership style in practice. Depending on the nature of the problem encountered, it may be necessary to borrow from the components of different leadership styles or to change the leadership style completely (Helmold, 2021). If it is desired to ensure the effectiveness of leaders in organizations, it is recommended to choose leaders with high social intelligence and cultural intelligence. Considering these preferences in the selection of leaders, analyzing the social needs in the globalizing business world, identifying feelings and thoughts, being aware of cultural differences and being successful in managing diversity will bring organizations one step ahead of their rivals.

As a result of this research, it has been revealed that leadership styles are in relation and affected by social intelligence and cultural intelligence. Within the scope of research limitations, it should not be overlooked that this research was conducted in solely a Technopark within the body of a state university in Istanbul. The implementation of the research in organizations that support and incorporate technological and social change, and globalization, such as Technology Development Zones in different cities, should be considered as a new research proposal. In addition, the fact that the demographic characteristics discussed in the study differ according to the variables of intelligence and leadership indicates that interesting results will be obtained when the study is redesigned with different samples. Finally, detecting the negative relationships between social intelligence, social skills and social awareness with management by exceptions and laissez-faire leadership, it presents valuable suggestions for future research.

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Appendix – Scales

A. Multi-Factor Leadership Questionnaire (MLQ)

(Bass & Avolio, 1992)	(Tarım, 2010)
I make others feel good to be around me.	Çalışanlarımın kendilerini iyi hissetmelerini sağlarım.
I express with a few simple words what we could and should do.	Birkaç basit kelimeyle ne yapabileceğimizi ve ne yapmamız gerektiğini anlatırım.
I enable others to think about old problems in new ways.	Çalışanlarımın problem çözümünde farklı bakış açıları geliştirmelerini sağlarım.
I help others develop themselves.	Çalışanlarımın kendilerini geliştirmelerine yardım ederim.
I tell others what to do if they wan t to be rewarded for their work.	Çalışanlarıma ödüllendirilmek istiyorlarsa neler yapmaları gerektiğini anlatırım.
I am satisfied when others meet agreed-upon standards.	Çalışanlarımın önceden belirlenen standartlara ulaşması beni mutlu eder.
I am content to let others continue working in the same ways always.	Çalışanlarımın her zamanki gibi çalışmalarına devam etmeleri beni memnun eder.
Others have complete faith in me.	Çalışanlarım bana tam anlamıyla güvenir.
I provide appealing images about what we can do.	Yapabileceğimiz işlerle ilgili örnek davranışlar sergilerim.
I provide others with new ways of looking at puzzling things.	Karmaşık şeyleri ele almaları için çalışanlarıma yeni yollar sunarım.
I let others know how I think they are doing.	Çalışanlarımın performansları konusunda ne düşündüğümü bilmelerini sağlarım.
I provide recognition/rewards when others reach their goals.	Hedeflerine ulaştıklarında çalışanlarımın ödüllendirilmelerini sağlarım.
As long as things are working, I do not try to change anything.	İşler yolunda gittiği sürece değişiklik yapmaya çalışmam.
Whatever others want to do is OK with me.	Çalışanlarımın yapmak istediği her şey benim için uygundur.
Others are proud to be associated with me.	Çalışanlarım benimle çalıştıkları için gurur duyarlar.
I help others find meaning in their work.	Çalışanlarımın yaptıkları işlerin anlamını kavramalarına yardım ederim.
I get others to rethink ideas that they had never questioned before.	Çalışanlarımı daha önce hiç sorgulanmamış fikirleri düşünmeye sevk ederim
I give personal attention to others who seem rejected.	Dışlanmış görünenlere özel ilgi gösteririm.
I call attention to what others can get for what they accomplish.	Çalışanlarımın başarıları sonucunda neler elde edebileceklerine dikkat çekerim.
I tell others the standards they have to know to carry out their work.	Çalışanlarıma işlerini yapabilmeleri için gereken standartları anlatırım.
I ask no more of others than what is absolutely essential.	Çalışanlarımdan gerekenden daha fazlasını beklemem.

B. Tromso Social Intelligence Scale (TSIS)

(Silvera, Martinussen & Dahl, 2001)	(Doğan & Çetin, 2009)
I can predict other people's behavior.	Diğer insanların davranışlarını önceden tahmin edebilirim.
I know how my actions will make others feel.	Davranışlarımın diğer insanlara ne hissettirdiğini bilirim.
I understand other people's feelings.	Diğer insanların duygularını anlayabilirim.
I understand other's wishes.	Başkalarının isteklerini anlarım.
I can often understand what others are trying to accomplish without the need for them to say anything.	Bir açıklama yapmalarına gerek duymadan insanların ne yapmaya çalıştıklarını çoğunlukla anlarım.
I can predict how others will react to my behavior.	Diğer insanların davranışlarıma nasıl tepki göstereceklerini bilirim.
I can often understand what others really mean through their expression, body language, etc.	Diğer insanların yüz ifadelerinden, beden dillerinden vs. gerçekte ne demek istediklerini çoğunlukla anlarım.
I often feel uncertain around new people who I don't know.	Tanımadığım yeni insanları olduğu bir ortamda genellikle tedirginlik hissederim.
I fit in easily in social situations.	Sosyal ortamlara kolaylıkla uyum sağlarım.
I am good at entering new situations and meeting people for the first time.	İnsanlarla ilk tanışmada ve yeni ortamlara girme konusunda iyiyimdir.
I have a hard time getting along with other people.	Başka insanlarla geçinebilmekte zorlanırım.
I takes a long time for me to get to know others well.	Başkalarını iyice tanımam uzun zaman alır.
I am good at getting on good terms with new people.	Yeni tanıştığım insanlarla iyi ilişkiler kurmada başarılıyımdır.
I frequently have problems finding good conversation topics.	Başkalarıyla konuşacak güzel sohbet konuları bulmakta çoğunlukla sıkıntı çekerim.
I often feel that it is difficult to understand other's choices.	Çoğunlukla başkalarının seçimlerini anlamanın zor olduğunu hissederim.
People often surprise me with the things they do.	İnsanlar yaptıkları şeylerle beni sık sık şaşırtırlar.
Other people become angry with me without me being able to explain why.	İnsanlar açıklama yapmama fırsat vermeden bana kızarlar.
It seems as though people are often angry or irritated with me when I say what I think.	Ne düşündüğümü söylediğimde insanlar genellikle benden rahatsız olmuş veya bana kızmış gibi görünürler.
I find people unpredictable.	İnsanları tahmin edilemez bulurum.
I have often hurt others without realizing it.	Farkına varmadan çoğu kez başkalarını incitirim.
I am often surprised by other's reactions to what I do.	Diğer insanların yaptıklarıma verdiği tepkiler beni çoğunlukla şaşırtır.

C. Cultural Intelligence Scale (CQS)

(Ang et al., 2007)	(İlhan & Çetin, 2014)
I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	Farklı kültürel geçmişe sahip insanlarla etkileşim kurarken kullandığım kültürel bilgilerin farkındayım.
I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	Bana yabancı bir kültürden gelen insanlarla etkileşim kurarken kültürel bilgimi ayarlarım.
I am conscious of the cultural knowledge I apply to cross-cultural interactions.	Kültürlerarası etkileşimlerde kullandığım kültürel bilgimin farkındayım.
I check the accuracy of my cultural knowledge as I interact with people from different cultures.	Farklı kültürlere sahip insanlarla etkileşim halindeyken, kültürel bilgilerimin doğruluğunu kontrol ederim.
I know the legal and economic systems of other cultures.	Diğer kültürlerin yasal ve ekonomik sistemlerini bilirim.
I know the rules (e.g., vocabulary, grammar) of other languages.	Diğer dillerin kurallarını (örneğin; kelime bilgisi, dil bilgisi) bilirim.
I know the cultural values and religious beliefs of other cultures.	Diğer kültürlerin dini inançlarını ve kültürel değerlerini bilirim.
I know the marriage systems of other cultures.	Diğer kültürlerin evlilik yapılarını bilirim.
I know the arts and crafts of other cultures.	Diğer kültürlerin sanat ve zanaatlarını bilirim.
I know the rules for expressing nonverbal behaviors in other cultures.	Diğer kültürlerin sözel olmayan davranışlarını (jest ve mimik) ifade etme şekillerini bilirim.
I enjoy interacting with people from different cultures.	Farklı kültürlerden insanlarla etkileşim kurmaktan zevk alırım.
I am confident that I can socialize with locals in a culture that is unfamiliar to me.	Bana yabancı bir kültürün halkı ile karşılaştığımda onlarla kaynaşabilme konusunda kendime güvenirim.
I am sure I can deal with the stresses of adjusting to a culture that is new to me.	Yeni bir kültüre uyum sağlama sürecinde yaşayacağım stres ile başa çıkabilme konusunda kendime güvenirim.
I enjoy living in cultures that are unfamiliar to me.	Yabancısı olduğum bir kültürde yaşamaktan hoşlanırım.
I am confident that I can get accustomed to the shopping conditions in a different culture.	Farklı bir kültürdeki alışveriş koşullarına alışabilme konusunda kendime güvenirim.
I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	Konuşma davranışlarımı (örneğin; ses tonu, aksan) kültürlerarası etkileşimin gereklerine göre ayarlarım.
I use pause and silence differently to suit different cross-cultural situations.	Farklı kültürlerarası durumlara uyum sağlamak için duruma göre duraksar ya da sessiz kalırım.
I vary the rate of my speaking when a cross-cultural situation requires it.	Konuşma hızını kültürlerarası etkileşimin gereklerine göre değiştirebilirim.
I change my nonverbal behavior when a cross-cultural situation requires it.	Sözel olmayan davranışlarımı kültürlerarası etkileşimin gereklerine göre değiştirebilirim.
I alter my facial expressions when a cross-cultural interaction requires it.	Yüz ifadelerimi kültürlerarası etkileşimin gereklerine göre değiştirebilirim.
I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	Farklı kültürel geçmişe sahip insanlarla etkileşim kurarken kullandığım kültürel bilgilerin farkındayım.