

RESEARCH ARTICLE

Exploring the Emotional Intelligence and Transformational Leadership Relation in Organizations through a Meta-Analysis Study in the Context of Turkey

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Abstract

In cases where radical changes are needed, the existence of transformational leaders who will lead this change is important for corporations. The relationship of these leaders with the achievements of various types of intelligence has also been discussed by both academics and practitioners. In addition to intellectual intelligence, the relationship between social intelligence and emotional intelligence, one of its subsets, whose importance began to be grasped at the end of the 19th century, with business relations and leadership behaviors is also investigated within this framework. From this point of view, there are many studies in the academic literature examining the existence of the relationship between emotional intelligence and transformational leadership. Considering the large number of these studies, the importance of complying with the results of the study and examining them within the scope of a single analysis has been determined. With the meta-analysis study carried out in this direction, studies that reveal the relationship between emotional intelligence and transformational leadership variables with correlation analysis in the context of Turkey were examined. As a result of the study, it was concluded that there was a moderate statistically significant relationship between the variables. This study is important in that it represents a sample of 2102 people obtained as a result of 12 studies, and it has a very high level of generalizability and is a summary of studies examining the relationship between variables in the context of Turkey.

Keywords: Emotional Intelligence, Transformational Leadership, Meta-Analysis

Öz

Köklü değişikliklere ihtiyaç duyulan durumlarda bu değişime öncülük edecek dönüştürücü liderlerin varlığı işletmeler açısından önem taşımaktadır. Bu liderlerin çeşitli türlerdeki zekâ düzeylerinin başarıları ile olan ilişkileri de hem akademisyenler hem uygulayıcılar tarafından tartışılmaktadır. Entelektüel zekaya ek olarak önemi 19.yüzyılın sonlarında kavranmaya başlanan sosyal zekâ ve alt kümelerinden biri olan duygusal zekanın iş ilişkileri ve liderlik davranışları ile olan ilişkileri de bu çerçevede araştırılmaktadır. Buradan hareketle akademik yazında duygusal zekâ ve dönüştürücü liderlik arasındaki ilişkinin varlığını irdeleyen çok sayıda çalışma yapılmaktadır. Bu çalışmaların sayıca çokluğu dikkate alındığında çalışma sonuçlarının derlenerek tek bir analiz kapsamında irdelemesinin önemi tespit edilmiştir. Bu doğrultuda gerçekleştirilen meta analiz çalışması ile Türkiye bağlamında duygusal zekâ ve dönüştürücü liderlik değişkenleri arasındaki ilişkiyi korelasyon analizi ile ortaya koyan çalışmalar irdelemiştir. Çalışma sonucunda değişkenler arası orta düzeyde istatistiksel olarak anlamlı ilişki olduğu sonucuna ulaşılmıştır. Çalışmanın 12 araştırma sonucunda elde edilen 2102 kişilik örnekleme temsil etmesi sayesinde genellenabilirlik düzeyinin oldukça yüksek olması ve değişkenler arası ilişkiyi Türkiye bağlamında inceleyen çalışmaların bir özeti olma niteliği taşıması açısından önem taşıdığı düşünülmektedir.

Anahtar Kelimeler: Duygusal Zekâ, Dönüştürücü Liderlik, Meta-Analiz

Introduction

The argument that emotional intelligence affects leadership behaviors is widely covered in the literature. Relationships between various types of leadership and emotional intelligence have been demonstrated by many studies (Kim & Kim 2017, Goleman, 1998; Cooper & Sawaf, 1997; Yaşlıoğlu et al., 2013). On the other hand, in studies on transformational leadership, many findings show that variables such as empathy, motivation, self-awareness, and self-confidence affect the leader's behavior. The existence of a positive relationship between motivation and transformational leadership behavior has been widely revealed in the literature. Motivation, one of the dimensions of emotional intelligence, takes its place in the literature as the most valuable power of transformational leaders (Mandell & Pherwani, 2003).

The great amount of study outcomes indicating a connection between emotional intelligence and transformational leadership has necessitated the building of a general framework for this hypothesis. Meta-analysis studies aim to gather the answers given to the research questions that have been studied extensively in the literature, to reach a larger sample size, and to reach results with stronger generalizability. This study is aimed to support the research hypothesis that there is a relationship between emotional intelligence and transformational leadership variables, which is observed in the literature, with a larger sample. The meta-analysis study and the studies examining the relationship between the two variables in the context of Turkey were brought together in line with the inclusion criteria and a result with a much higher generalizability power was reached.

In line with the purpose of the study, first of all, emotional intelligence and transformational leadership variables were revealed in terms of their conceptual frameworks, and then the effect size data, meta-analysis model, and publication bias test method adopted for the meta-analysis study were mentioned. In the analysis phase of the study, the findings and results of the meta-analysis were considered.

Conceptual Framework

In this section, the definitions of the concepts of emotional intelligence and transformational leadership, their development processes in the literature, and their dimensions in the context of accepted models regarding variables are given. From this point of view, it is aimed to determine 'what' is meant when the terms 'emotional intelligence' and 'transformational leadership' are used throughout the study under the title of conceptual framework and convey them to the reader.

Emotional Intelligence

With the discovery of various types of intelligence in the late 19th century, the concept of emotional intelligence as a subset of social intelligence began to be examined, and the concept gained popularity in academic literature with Goleman's book 'Working with Emotional Intelligence' (Schutte et al., 1998). The concept of emotional intelligence, which has been widely defined since then, has been examined within the scope of various models and is now in its current form.

Salovey and Mayer, whose publications are important building blocks in emotional intelligence literature, evaluated emotional intelligence as a part of social intelligence and made the first definition of the concept as "a subset of social intelligence that includes the ability to observe one's own and others' feelings and emotions, to distinguish one's own and other's feelings, and to use this information to guide their thoughts and actions" (Salovey et al. Mayer, 1990). Cooper & Sawaf, who signed lots of landmark research in the field, argued that emotional intelligence is "the ability to perceive, understand and effectively apply the power and sharpness of emotions as the source of human energy, knowledge, connection, and influence" (Cooper & Sawaf, 1998). Emotional intelligence, like almost every concept in social sciences, has been defined in many different ways since the day it was first defined, and the concept has been discussed from various angles. Considering the studies, the importance of emotional intelligence for businesses is emphasized. Goleman, in his book on which the concept of emotional intelligence is

based, puts emotions at the center of life and argues that emotions gain the ability to make a difference in business life and that those who lack this skill are unsuccessful in relationship management. Goleman mentions that in the absence of emotional intelligence, which he emphasizes in business life, physical problems will increase due to the inability to manage toxic emotions (Goleman, 2009). It observed that a technically competent employee with a high level of emotional intelligence acts more easily, skillfully, and faster than others on organizational problems that need to be resolved and conflict management (Cooper & Sawaf, 1998).

Emotional intelligence, whose importance in business life began to be emphasized with the laying of its first foundations, has been dimensioned within the scope of various models since the day it entered the literature, and its measurement has developed in this direction.

Mayer and Salovey (1990) categorized the concept under three dimensions in their first study in which they defined emotional intelligence. According to the researchers, the concept of emotional intelligence is the appraisal and expression of emotion, regulation of emotion, and utilization of emotion. As Mayer and Salovey (1997) deepened their work in the field of emotional intelligence and improved dimensions as; the dimensions of the concept; regulating emotions, understanding emotions, assimilating emotion in toto, perceiving and expressing emotion (Mayer et al., 1997).

Focusing on the measurement of emotional intelligence and achieving successful results in this direction, Bar-On; first measured emotional intelligence in ten dimensions, by defining the term as "a set of interrelated emotional, personal, and social abilities that affect our ability to deal actively and effectively with daily demands and pressures." As a result of his factor analysis, its dimensions are; self-regard, emotional self-awareness, assertiveness, empathy, interpersonal relationship, stress tolerance, impulse control, reality testing, flexibility, and problem-solving, Bar-On (2000) then reduced the measurement material to five dimensions. In the last case, Bar-On's emotional intelligence measurement tool's

dimensions are stated as; intrapersonal, interpersonal, adaptability, stress management, and general mood components (Mishar & Bangun, 2014).

Another important model of emotional intelligence; Goleman's model, considers the variable to consist of five dimensions, these dimensions are self-awareness, self-regulation, motivation, empathy, and social skills. Goleman et al. defines emotional intelligence as "a person's ability to show the competencies that constitute self-awareness, self-management, social awareness, and social skills in order to be effective in a situation" and includes 25 different sub-dimensions under these five dimensions (Boatzis et al., 2000).

Transformational Leadership

Transformational leadership occurs when a leader inspires or changes his followers to trust the leader and perform at a higher level to achieve organizational goals (Loon et al., 2012). The first theoretical definition of the concept is based on Downton's definition of rebel leadership in 1973. Downton (1973) first introduced a transactional, charismatic, and inspirational theory of leadership in the context of the rebel political leader. Along with this study, Burns made the first concrete contribution to the theoretical foundations of the concept with his work defining transactional and transformational leadership in 1978 (Day & Antonakis, 2012). The most important studies that strengthened the theoretical foundations of the concept were carried out under the leadership of Bernard Bass.

Burns (1978) argued that transformational leadership derives its fundamental power from a moral perspective, and it has a transformative effect on both sides by raising the level of human behavior and ethical aspirations of both the leader and his followers. To put it another way, this type of leadership is rooted in morality and brings both parties together.

Bernard Bass (1990) revealed that transformational leadership, which he described as superior leadership performance, occurs when "leaders expand and leverage the interests of their

employees, create awareness and acceptance of the goals and mission of the group, and encourage their employees to look beyond their interests for the group's sake". Transformational leaders can achieve these goals in several ways;

They can be charismatic to their followers and therefore inspire them; they can meet the emotional needs of each employee and/or stimulate them intellectually.

Charismatic leaders impart significant persuasion skills. Followers who find the leader charismatic are attached to him with a high degree of trust. In addition to being charismatic, another distinguishing power of transformational leaders is that they deal with their followers individually and treat them in line with their differences. Employees' special attention to the problems they encounter and suggesting solutions other than routine solutions make employees feel special and connect to the leader even more (Bass, 1990).

From this point of view, transformational leadership characteristics are categorized under four dimensions; idealized influence, individualized attention, inspirational motivation, and intellectual stimulation (Bass, 1998 cited in Krishinan, 2005; Avolio et al., 1999; Bass et al., 2003). The idealized effect can be further divided into two sub-factors; attributed idealized influence and idealized influence behavior. Thus, it is possible to talk about five dimensions related to the formation of the concept (Bass et al., 2003; Krishinan, 2005; Loon et al., 2012);

Attributed idealized influence: Transformational leaders instill confidence in their followers and inspire them through feelings of dignity, honesty, dedication, and respect. Followers identify with and emulate their leaders. One of the things a leader does to gain credibility with his followers is to consider the needs of his followers more than his own.

Idealized influence behavior: Transformational leaders are goal-oriented and promote work completion based on a collective sense of belief, value, purpose, and mission.

Individualized attention: Transformational leaders have a goal and encourage the completion of their work based on a shared sense of belief, value, and purpose. Leaders consider the individual's need for success and growth.

Followers develop their potential performance over time. A supportive climate is created and learning opportunities are created. Individual differences are taken into account in terms of needs and wishes.

Inspirational motivation: Transformational leaders are optimistic, visionary, and passionate about business. Leader awakens team spirit, enthusiasm, and optimism are displayed.

Intellectual stimulation: Transformational leaders foster innovation and creative problem-solving. By questioning assumptions, reframing problems, and approaching old situations in new ways, leaders encourage followers' efforts to be innovative and creative.

Within the framework of transformational leadership theory, the leader and the follower seem to be inseparable as a whole and mutually harmonious relationship, but they assume different roles from each other in the process. The leader takes the initiative regarding the process; it is the leader who creates the connections that enable communication and exchange to take place. It is the leader who balances the factors affecting the followers' motivation in the process, makes predictions about their attitudes, and organizes these necessary balances in line with the purpose. The most important feature that distinguishes the transformational leader from other followers and leader types is that they address the wishes, needs, and other motivations of their followers as well as their priorities, and thus they have the power to change the structure of the motivational bases of their followers (Burns, 1978). Transformational leadership improves leader-follower ultimate value system harmony, followers' identification with the organization, and followers' commitment and emotional commitment to the organization (Krishinan, 2005).

While transformational leaders are thought to be successful in making sense of and controlling their own emotions, they can also direct their followers toward individual attention and empathy. When both variables are evaluated within the scope of their subdimensions, they contain points that support each other. Transformational leaders motivate and mobilize their teammates through their inspiring vision. Studies have shown that leaders with high EI

levels of emotional intelligence have transformational leadership characteristics. On the other hand, researchers such as Avolio and Gardner (2005) have pointed out that transformational leadership can improve emotional intelligence skills by increasing leaders' self-awareness. Within the scope of this study, the level of the relationship between the two variables in the Turkish context was considered, and the research hypothesis created in this direction is given below.

H₁: A correlation between emotional intelligence and transformational leadership variables exists.

Methodology

The argument that leaders with a high level of emotional intelligence also have a high potential for transformational leadership has led to many studies on the relationship between the two variables. The fact that there are many studies on the level and direction of the relationship between the variables associated with their various dimensions confuses and it becomes necessary to compile these studies into a single conclusion. The aim of the study on the determination of this requirement was to examine the relationship between emotional intelligence and transformational leadership within the scope of the studies carried out in the context of Turkey, and to connect the results of the quantitative studies to a clear general result by analyzing the meta-analysis method. With the meta-analysis study conducted in this direction, the relationship between the two variables was handled within the scope of studies conducted in the context of Turkey. I

As in all academic studies, the necessity to impose a limitation on the sample has arisen within the scope of this study. DERGİPARK-ULAKBİM, EBSCHO, EMERALD, GOOGLE SCHOLAR, SAGE JOURNALS, SCIENCE DIRECT, SCOPUS, WEB OF SCIENCE, YÖKTEZ databases were scanned in line with the determined keywords. Studies in the context of Turkey examining the relationship between variables were included in the research dataset without looking for language and year restrictions. The data set of the meta-analysis study was created by including

quantitative studies containing correlation data, in line with the inclusion criteria and the requirement of the research hypothesis.

Inclusion-Exclusion criteria of the study

Studies examining the relationship between emotional intelligence and transformational leadership and containing quantitative data were included in the research to be evaluated within the scope of the meta-analysis study.

No restrictions were placed on the studies included in the research in terms of sample characteristics. There are no restrictions in terms of publication year and geographical region.

Studies whose publication languages were English and Turkish were included in the study so that the researcher could make an evaluation.

Correlation was preferred as the effect size of the meta-analysis study. Accordingly, studies obtained in the literature review on the subject that did not contain "Pearson correlation value" data were excluded from the analysis.

Studies containing the Pearson correlation value for the general relationship of the variables, not on the basis of the dimensions of the variables, were included in the research.

In line with the research purpose, studies carried out in the context of Turkey were included in the analysis.

Results of 12 studies that met the inclusion criteria constitute the research dataset (The table which includes the dataset's details is available in Appendix 1). The meta-analysis carried out within the scope of the research was carried out within the working practice of the CMA package program. A detailed explanation of the effect size data, meta-analysis model, and the preferred method regarding publication bias used within the framework of the meta-analysis carried out in line with the purpose of the study is given in this section.

Effect Size Data

Lipsey and Wilson (2001) defined effect size within the scope of meta-analysis as "a statistic that encodes critical quantitative information obtained from the findings of each study included in the study". Within the scope of this study, the research

hypothesis aims to reveal the relationship between two variables. For this reason, correlation value was appropriate for and preferred as meta-analysis effect size data.

Meta-Analysis Model

Fixed effect and random effects models are two statistical methods used in meta-analysis studies (Hedges & Vevea, 1998). The fixed effect is used for inferences regarding the observed effect coefficients, and the random effects model is used to infer the distribution of the effect coefficients (Borenstein et al., 2009). The distribution of the effect sizes of the studies included in the study is associated with the model. According to Hedges and Vevea (1998), a fixed effect model should be used when effect sizes are homogeneously distributed, and random effects model should be used when heterogeneously distributed. In this study, the random effects model was used because of the structure of the data set and the aim of achieving generalizable results. The accuracy of the selected model was confirmed when the homogeneity test of the studies included in the data set was performed.

Publication Bias

The publication bias problem, which is the general problem of meta-analysis studies, is due to the higher publication rate of studies with a high effect size. On the other hand, this problem is not only valid for meta-analysis studies (Borenstein et al., 2009). Not publishing studies with low effect size or lack of significance results in publication bias as a file drawer problem (Card, 2015). Within the scope of meta-analysis studies, there are various analysis methods to eliminate publication bias. Within the scope of the CMA package program, there are lots of methods like; forest plot, funnel plot, Begg and Mazumdar rank test, Egger test, Rosenthal's Safe N, Orwin's Safe N, Duval, and Tweedie's Cut and Add Methods (Üstün & Eryılmaz, 2014). In this study, the funnel plot and the Begg and Mazumdar rank test findings were used to detect and eliminate publication bias.

Findings

Fixed and Random Effects Models

The first step in meta-analysis studies is the determination of the analysis model. Within the scope of this study, the random effects model, which is the second of the fixed effects and random effects models, was chosen. The reason for this is, primarily the random effects model suitable for the purpose of the study, and the Hedges Q homogeneity test findings also support the selection of the random effects model (Hedges & Vevea, 1998).

Table 1. Meta-Analysis Model

Model	95% Confidence Interval					heterogeneity				
	k	effect size	lower limit	Upper limit	Z	P	Q value	df	P	I ²
Fixed Effect	12	0.329	0.290	0.367	15,544	0,000	157,772	11	0,00	93,028
Random Effects	12	0.343	0.186	0.482	4,150	0,000				

When the analysis findings of the fixed effect and random effects models (Table 1), which were revealed in line with the data set, are evaluated, it is seen that the Q test is significant ($p \leq 0.05$). This finding means that it is appropriate to use the random effects model in the interpretation of the data set. In line with the findings, it was seen that a heterogeneous data set was studied, and if the I² value was greater than 75%, the amount of heterogeneity was high (Higgins & Thompson, 2002).

Within the scope of this study, the use of the random effects model was deemed appropriate since it was aimed to generalize the research results and the studies included in the meta-analysis were taken from the published literature. As a result of the analysis, it was seen that the effect

sizes of the studies in the sample were distributed heterogeneously, and random effects were observed. The accuracy of choosing the model was also confirmed by the analysis findings. Based on this finding, random effects model was used in the meta-analysis.

Publication Bias

The selection of the data set, the constraints on reaching the publications, and the existence of various problems in obtaining the data set are important constraints for all meta-analysis studies. In order not to allow this limitation to damage the validity and reliability of the study, analyses regarding the absence of publication bias are carried out, and studies that cause bias are removed from the data set. In the scope of the study, publication bias was examined with the funnel plot and the Begg and Mazumdar rank correlation test.

Table 2. Publication Bias Statistics- Begg & Mazumdar Rank Correlation Test

Tau	0.030
Z value	0.137
p value	0.890

As in the Begg and Mazumdar rank correlation analysis findings, the insignificance of the tau coefficient ($p > .05$) means that there is no publication bias. With this analysis finding, the hypothesis regarding the publication bias in the data set was rejected. The hypothesis regarding the bias of the data set analyzed using the random effects model was rejected with the Kendall τ (tau) coefficient to be insignificant ($p > .05$) (Bakioğlu & Özcan, 2016).

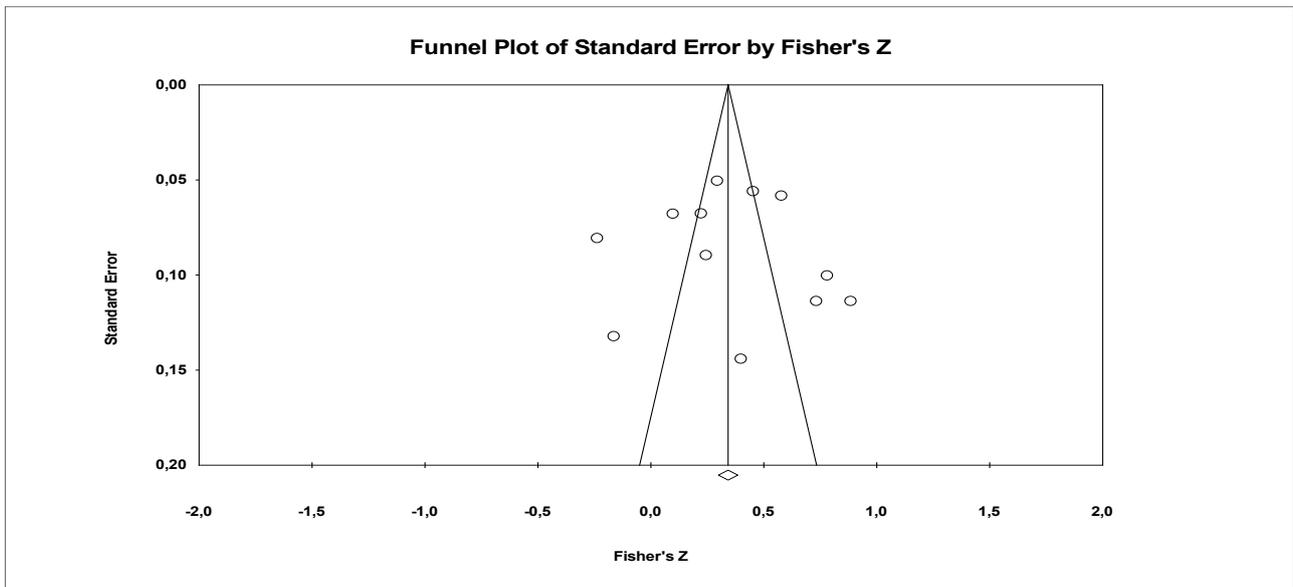


Figure 1. Emotional Intelligence and Transformational Leadership Relation Funnel Plot

In the funnel plot, it is observed that the scattering of the data set is not at a level to cause publication bias. However, Begg and Mazumdar rank correlation analysis of the data set was also performed in order to equalize the risk of making a subjective judgment with the help of only a visual graphic (table 2).

Effect Size Analysis

The study aims to reveal the relationship between the variables of emotional intelligence and transformational leadership in organizations in line with the studies conducted in the context of Turkey. The results of 12 studies obtained with the

inclusion criteria determined in line with this goal were examined and the findings regarding the

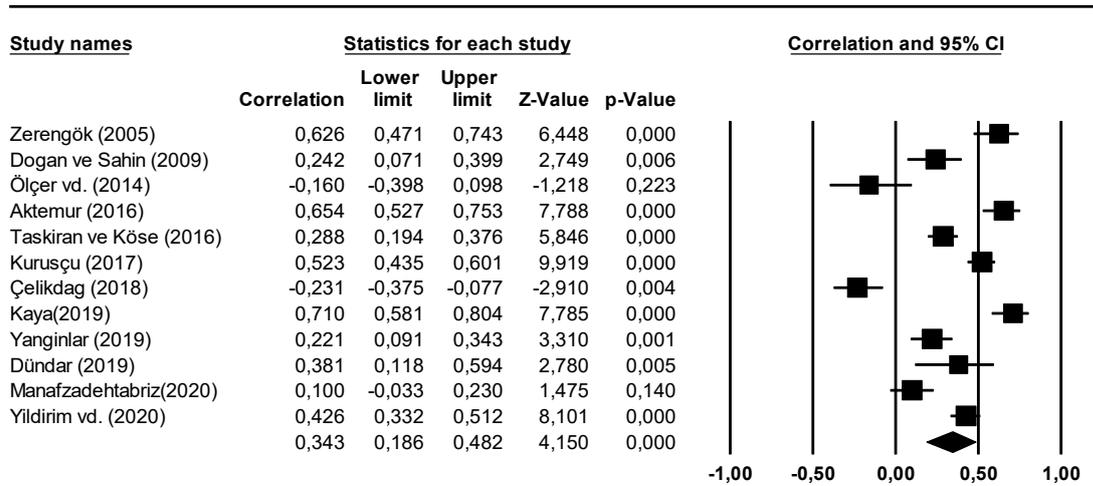


Figure 2 . Emotional Intelligence and Transformational Leadership Relation Forest Graph

relationship between the variables were reached. The research hypothesis created in line with the purpose of the research was tested at the 95% confidence interval and the findings were presented in the meta-analysis forest graph (Figure 2).

In line with the studies conducted in the context of Turkey, the effect sizes calculated on the relationship between emotional intelligence and transformational leadership variables vary between -0.231 and 0.710. The Z statistic of the meta-analysis test created within the framework of the random effects model was found to be significant. The fact that the Z statistic is significant ($p \leq .05$) reveals that the relationship between the two variables included in the analysis is statistically significant. As a result of the meta-analysis findings carried out with the random effects model, it was concluded that there was a significant relationship between the emotional intelligence and transformational leadership variables at the 95% confidence interval and the effect size was 0.343. When this relationship is interpreted by Cohen's meta-analysis effect sizes classification, it is considered a moderate relationship (Cohen, 1988).

Conclusion

The realization of the fact that intellectual intelligence alone is not adequate to conduct social relations in business life came with the discovery of social intelligence and its subsets. Studies on the leadership characteristics of managers and various intelligence types have reached various results between different dimensions and types. Emotional intelligence, which has an undeniable importance in corporate life, and the relationship of this type of intelligence with transformational leadership have also been the subject of many studies. The dimensions of emotional intelligence can be described as concepts that enrich the transformational leader's hand.

By the way, the purpose of this study is to test the hypothesis of the existence of a relationship between the two variables with the meta-analysis method. In line with the purpose of the study, the results of studies examining the relationship between emotional intelligence and transformational leadership variables in the context of Turkey with correlation analysis were included in the research data set. The meta-analysis was carried out with the random effects model determined in line with the purpose of the study. The suitability of the data set for the model determined for the purpose was confirmed by the Hedges Q homogeneity test findings. Analysis of the absence of publication bias in the created data set; was tested with the help of a funnel plot and

the Begg and Mazumdar rank correlation test. The results obtained from these analyzes revealed that there was no publication bias problem in the meta-analysis study. As a consequence of the results obtained from 12 studies in the context of research inclusion criteria, it was concluded that there was a significant relationship at the level of 0.343 in the 95% confidence interval in the relationship between the variables. When evaluated according to Cohen's effect size classification; There is a moderately significant relationship between emotional intelligence and transformational leadership variables.

Revealing the moderate relationship between emotional intelligence and transformational leadership in the Turkish context in this meta-analysis shows that there is a certain level of connection between leaders' and employees' EI skills and transformational leadership in the Turkish context. A leader's emotional intelligence skills shape his leadership style and interact with transformational leadership characteristics. The relationship between transformational leadership and emotional intelligence enables a leader to be an effective transformational leader using emotional intelligence skills. This can increase the emotional intelligence level of both the leader and team members, thus creating a healthier and more effective work environment.

The limitations of this study include the accessibility of published studies within the scope of the study and the inability to obtain sufficient data in line with these dimensions. It is thought that as the number of studies examining the relationship between two variables increases, the data will become richer, and thus, the data constraint will decrease.

This study reveals the existence of a moderately positive relationship between the variables, representing a sample of 2102 individuals obtained from the 12 included studies. The study is considered to be important in terms of academic literature since it represents a much larger sample than other studies examining the relationship between emotional intelligence and transformational leadership variables. In terms of future research, it is thought that it would be beneficial for other meta-analysis studies to be

carried out on the subject by imposing restrictions on different contexts, enabling inter-context comparisons. In this way, it will be possible to reach findings on the importance of cultural elements in the relationship between the two variables. The study draws attention to the emotional intelligence levels of the employees who will be assigned to these positions in cases where transformational leadership is required. It is thought that the results obtained within the study are also important in terms of corporate life with this aspect.

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- *These papers were used to generate data for the meta-analysis conducted within the study.

APPENDIX 1. Dataset Details

	Author-Publication Year	Study Type	Language of Study	Sample Size	Correlation Coefficients
1	Zerengök (2005)	dissertation	Turkish	80	0,626
2	Doğan ve Şahin (2009)	article	Turkish	127	0,242
3	Ölçer vd. (2014)	article	English	60	-0,160
4	Aktemur (2016)	dissertation	Turkish	102	0,654
5	Taşkıran ve Köse (2016)	article	Turkish	392	0,288
6	Kuruşçu (2017)	dissertation	Turkish	295	0,523
7	Çelikdağ (2018)	dissertation	Turkish	156	-0,231
8	Kaya(2019)	dissertation	Turkish	80	0,710
9	Yangınlar (2019)	article	Turkish	220	0,221
10	Dündar (2019)	dissertation	Turkish	51	0,381
11	Manafzadehtabriz(2020)	dissertation	Turkish	219	0,100
12	Yıldırım vd. (2020)	article	English	320	0,426