

THE MEDIATING ROLE OF WORK ENGAGEMENT IN THE EFFECT OF LEADER-MEMBER EXCHANGE ON JOB PERFORMANCE**Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK*** **(Ph.D.)Tayfur EGE*** **ABSTRACT**

Today, in order for businesses to sustain their presence and gain a competitive advantage in the sector in which they operate, their employees must be able to achieve a high level of performance consistently. Although there are many factors affecting job performance, a leader-member exchange is an important concept used to explain the relationship between manager and employee. This study aims to determine to what extent leader-member exchange affects job performance levels and to determine the mediating role of work engagement in this interaction. The research population of this study consists of business employees operating in the textile sector in Gaziantep 5th Organized Industrial Region. The sample size reached for this study is 284 participants. The data obtained from the participants by the face-to-face survey was tested by performing explanatory and confirmatory factor analysis, descriptive statistics, correlation, and bootstrap regression analysis. The results of conceptual and empirical studies clearly show that there is a statistically significant relation between leader-member exchange and job performance. However, work engagement has a partial mediating role in the relation between job performance and leader-member exchange.

Key Words: Work Engagement, Job Performance, Leader-Member Exchange.

Jel Codes: M10, M12, M19.

LİDER-ÜYE ETKİLEŞİMİNİN İŞ PERFORMANSI ÜZERİNDEKİ ETKİSİNDE İŞE ADANMIŞLIĞIN ARACILIK ROLÜ**ÖZET**

Günümüzde işletmelerin faaliyetlerini sürdürdükleri sektörde varlıklarını sürdürebilmesi ve rekabet üstünlüğü elde edebilmesi için çalışanlarının sürdürülebilir bir şekilde yüksek düzeyde performans elde edebilmesi gerekmektedir. İş performansını etkileyen birçok faktör bulunmakla birlikte,

* Gaziantep University, İslahiye Economics, and Administrative Sciences, E-mail: dilekozbezek@gmail.com.

* KOSGEB SME Expert, E-mail: tayfur.ege84@gmail.com.

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lider/yönetici ve üye/çalışan arasındaki ilişkiyi açıklamak için kullanılan lider üye etkileşim ilişkileri önemli bir kavram olarak karşımıza çıkmaktadır. Bu çerçevede, araştırmanın temel amacı, lider üye etkileşim ilişkilerinin iş performansı ne ölçüde etkilediği ve bu etkileşimde işe adanmışlığın aracılık rolünü incelemektir. Araştırmanın evrenini Gaziantep 5. Organize Sanayi Bölgesinde tekstil sektöründe faaliyet gösteren işletme çalışanları oluşturmaktadır. Araştırma kapsamında 284 katılımcıdan yüz yüze anket tekniği elde edilen veriler, açıklayıcı ve doğrulayıcı faktör analizi, tanımlayıcı istatistikler, korelasyon ve bootstrap regresyon analizleri yapılarak test edilmiştir. Kavramsal ve ampirik araştırma sonucu elde edilen bulgular lider üye etkileşiminin iş performansı üzerinde önemli bir etkiye sahip olduğunu açıkça göstermektedir. Bununla birlikte, işe adanmışlığın lider üye değişimine ve iş performansı arasındaki ilişkide kısmi aracılık rolü olduğunu ortaya konmuştur.

Anahtar Kelimeler: *İşe Adanmışlık, İş Performansı, Lider Üye Etkileşimi.*

Jel Kodları: *M10, M12, M19.*

1. INTRODUCTION

With the rapid changes and technological innovations in today's work environment, there are significant changes in business dynamics. To survive in a competitive environment, businesses have to increase their performance with their employee. Businesses that have high-performance employees are in an advantageous position by getting more profits and getting competitive performance with the help of increasing productivity (Akkoç, 2012: 18; Tekin, 2018: 344; Biçer, 2021: 1526). For this reason, businesses need employees with high performance in their work in order to reach their goals with sure steps and to win the competition in the sector they are in (Utami and Zakiy, 2020: 122). However, high performance of work is very important for not only businesses but also employees. Doing jobs as required and being successful is very important for self-confidence and the source of satisfaction, and also, it helps workers to get high performance for their jobs, get high-income, better carriers for their work-life and get a social reputation. But it has to point out that in order to get expected high-performance for their jobs, employees need to get motivated (Çalışkan, 2018: 108). Because there are a lot of factors that can affect job performance positively or negatively. Managers of the business should analyse employees' family relations, friendly relations, health conditions, and every other factor that can affect employees' job performance. With the analysis of these effects, the manager should support workers for the sake of the business (Uludağ, 2019: 725).

Factors that affect job performance can be obtained as social and organizational culture, but leadership is also accepted as one of the crucial factors for job performance. Especially the relationship between managers and employees is a very important factor for self-performance (Joo, 2012: 25). At this point, The Leader-Member Exchange (LMX) theory which explains the relationship between leader and members attracted scholars (Tekin, 2018: 344). LMX relationships mean that it is a process of

relationship and interaction between leader and member which works and moves because of the leader and in the meantime it is a mutual interaction between leader and member inside an organization (Aslaner and Artan, 2019: 1659). LMX theory attention to the relationship between a leader and each of his subordinates and also gives attention way of the behavioral difference of leaders or managers toward each subordinate (Sepdiningtyas and Santoso, 2017: 285). According to this theory, low-quality relationships improve based on a formal employment contract (Babadağ, 2020: 335; Duyan and Yıldız, 2018: 1130). On the other hand, high-quality relations have a lot of qualities, such as commitment, respect, knowledge shared by leaders, participation decision-making process, professional support, extended and contractual role responsibility, and supportive behaviors (Cerit, 2012: 34). According to Joo (2012: 26), the quality of relationships between the leader and subordinates also affects some important organizational results. Relevant literature about LMX theory shows that the quality of the relationship between a leader and a member can affect an employee's job performance. However, the literature also points out that the relation between two structures cannot be only directly (Li et al., 2012: 1060; Biao and Shuping, 2014: 244; Kim et al., 2014: 1; Akman, 2021: 1310). In this context, the research examines the mediating role of work engagement in the effect of LMX on job performance to address gaps in the literature.

2. CONCEPTUAL FRAMEWORK

2.1. Leader-Member Exchange

LMX theory was first developed by Dansereau, Graen, and Haga (1975: 47), who explained the interaction between the leader/manager and the members/subordinates with a vertical dyadic approach. This approach was called "Vertical Dyad Linkage Model", and then the theory was named again LMX in the meanings of today's world (Özutku et al., 2008: 193; Karcıoğlu and Kahya, 2011: 339). According to Liden and Maslyn (1998: 43), in the theory of LMX leaders don't use the same method, attitude, and behaviors in their relationship with their subordinates and he makes different relations with each subordinate. LMX theory is different from other classic theories in the meaning of dual interactions with leaders and subordinates (Graen and Uhl-Bien, 1995: 221).

According to LMX theory when leaders and subordinates can improve mature relations (partnership) and access a lot of benefits from these relations, an impressive leadership process can occur (Karayel et al., 2018: 305). According to this theory, the leader establishes relationships with his subordinates in different ways due to time and limited resources or other reasons. This situation causes the quality of LMX relationship to be at different levels from low to high and is defined as "leader-member exchange differentiation" (Çalışkan, 2018: 108). As a result of differences between leader-subordinate relations two classes occur. These are "in-group" and "out-group". Out-group relations are based on the low level of leader-subordinate relations, and these relations are based on a limited and formal employment contract. On the other hand, in-group relations are characterized, by high-level

leader-subordinate interactions, beyond the official labor contract provide other sources such as mutual respect, trust and sharing of information and assigning duties, education opportunities, mutual interactions, and emotional support (Liden and Maslyn, 1998: 43; Huang, 2010: 1126).

LMX theory is shaped by the effect of expectancy, role, social exchange theories, and the norm of reciprocity (Tekin, 2018: 245). According to these theories, different models are suggested for analyzing leader-member exchange in organizations. Among these models, scholars often use the four dimension model which was suggested by Liden and Maslyn (1998). That model is analyzed in four-dimensional. These are contribution, loyalty, affect, and professional respect (Akman, 2021: 1309). **Contribution** means; additional works which were done by employees voluntarily out of formal employment contract with taking responsibilities and such supports are made for these additional works and the level of possibilities and providing supports by leaders. **Loyalty** means; trust and commitment level between leader and employee. **Affect** means; the emotions between leader and employee out of professional values in their working life in the official process. **Professional respect** means feeling the prestige inside and outside of the organization in order to do work successfully (Turgut et al., 2015: 420; Biçer, 2021: 1524).

2.2. The Relation Between Job Performance and Leader-Member Exchange

Performance is a concept that includes the completion of a certain goal, function, or task in organizations (Akkoc, 2012: 21). The concept means that the level of success achieved by an employee as a result of all the efforts and attempts to complete the activities performed within a certain period of time (Sepdiningtyas and Santoso, 2017: 289; Biçer, 2021: 1525). Job performance is defined as the actions of the employees, the effort they make, and the degree to which the organization achieves its goals as a result of these efforts and actions (Choy vd., 2016: 7; Naz, 2019: 59). Job performance is the quantity and quality of successful that an individual or a group contributes to the organization (Duyan and Yıldız, 2018: 1130). In this sense, job performance is accepted as the amount of goods or services produced at a certain time for the organization, and the level of personal “productivity” and “effectiveness” for reaching the goal for the employee (Turgut et al., 2015: 419).

LMX theory points out that leader and subordinate can improve their relations differently (Biao and Shuping, 2014: 245). According to Breevaart et al. (2015: 755), the quality of the LMX relationships is determined by the degree to which the leader meets employees’ specific job demands with additional resources such as autonomy, information, and the opportunity to participate in the decision-making process. High-quality LMX relationships are associated with high expectancies for employees’ performance in return for the leader’s investments. According to Janssen and van Yperen’e (2004: 371), if subordinates have a high-quality relationship with their leader, subordinates will get more authority and responsibility, more important and forceful tasks, and more organizational sources, thus subordinates can be expected to perform higher. According to studies on LMX theory, the quality of

relationships between subordinates and their superiors are directly related to the job process connected with high performance, especially for subordinates (Özutku et al., 2008: 197; Tekin, 2018: 345). Choy et al. (2016: 8) asserted that, in high-quality relationships between leader and subordinate, both sides have great adaptable emotions about the work environment. In this situation, subordinates can predict which movements can be rewarded by the leader. This approach also can provide that, subordinates can move in the right steps in parallel with leader expectations on behalf of high performance for the job.

The relation between LMX and job performance can be expressed as the results occur in the organization according to the quality of the LMX relationship. If in-group employees have high-quality relationships with the leader, they can establish more open communication than employees who are out-group. In-group employees with the help of taking responsibility and authority can reach organizational sources and can understand clearly the behavior that was required. In regards to several benefits which were taken from managers, employees can be willing to provide high performance and make contributions beyond far more than the formal employment contract (Howell and Hall-Merenda, 1999: 682; Cerit, 2012: 36; Çalışkan, 2018: 109). Relevant literature also supports that high-quality LMX relationships have a positive effect on job performance (Özutku et al., 2008; Loi et al., 2011; Akkoç, 2012; Turgut et al., 2015; Karayel et al, 2018; Tekin, 2018; Duyan and Yıldız, 2018; Akman, 2021; Biçer, 2021).

H₁= LMX has a positive effect on job performance.

2.3. Mediating Role of Work Engagement

Positive psychology emphasizes empowering people's strength, optimal functioning, and well-being to get the advantage of competition and be successful at work. The concept of work engagement is a positive organizational behavior that has emerged in recent years (Agarwal et al., 2012: 210). The concept represents "a positive, fulfilling, work-related cognitive state signalized by vigor, dedication, and absorption". Work engagement is more than momentary emotion in a certain situation. It is a kind of participation and mentions not focusing on a certain person, thing, or behavior and more permanent and general emotional-cognitive situations (Schaufeli et al., 2002: 74). In this structure, **vigor** means that during work, a person has high performance, energy, and mind willingness can stand in tough times. **Dedication** is expressed as an individual's feeling of job commitment, pride, and inspiration about his work by being deeply connected to his work. **Absorption** is defined as the individual work fully concentrating on work and individual doesn't notice how time passes (Schaufeli et.al., 2008: 176; Çiftçi, 2019: 170).

According to the LMX theory, it is argued that leaders establish sustainable social and interactive relationships with subordinates that encourage work engagement (Naz, 2019: 60). According to Babadağ (2020: 3351); the relationship between the leader and the employee in an organization not only can be shaped by the formal rules specified in the employment contract but also can be developed outside

of these formal rules. In addition, in organizational life, the relationship between leader/manager and member/employee is considered an important factor that affects the engagement process as well as behavioral results. The quality of the exchange relationship between leader/manager and member/employee determines an employee's degree of engagement in their job role (Chaurasia and Shukla, 2013: 468). According to Wagner and Koob (2022:2), when LMX relationships are interpreted positively by employees, they are more likely to respond with a strong engagement to work in the form of vigor, dedication, and absorption.

Leaders can improve relationships with their own subordinates. It can be either high-quality relation reflects trust, respect, and loyalty, or low-quality relation reflects untrust, disrespect, and lack of loyalty (Agarwal et al., 2012: 212). In high-quality LMX relationships, managers/leaders provide more two-way resources such as trust, knowledge sharing, desired assignments, and educational opportunities. Because of that high-quality LMX relationships are associated with an exchange of effort and emotional support (Burch and Guarana, 2014: 8) and it is believed that when the relationship matures, it develops into a partnership. This situation can help employees to develop constructive behaviors such as work engagement (Els et al., 2016: 22). According to Breevaart et al. (2015: 757) the employee, with whom the leader has a high-quality exchange, evaluates this behavior as a positive input, values this relationship, and thus can develop positive feelings about their job. It can be expected that these positive emotional situations will make it easier for the person to voluntarily give all her physical and cognition energy to his/her work and positively affect the level of work engagement (Çiftçi, 2019: 171). Relevant literature also supports that high-quality LMX relationships have a positive effect on work engagement (Agarwal et al., 2012; Altınay et al., 2019; Garg and Dhar, 2015; Aggarwal et al., 2020; Wagner & Koob, 2022).

H₂ = LMX has a positive effect on work engagement.

Work engagement is considered a motivational concept. Because it forces employees to fight for challenging goals and inspires them to succeed (Aggarwal et al., 2020: 3). Els et al. (2020:3) asserted that dedicated employees are more productive and more willing to fulfill their job requirements. In addition, work engagement is associated with lower health problems, increased life satisfaction, and job performance. Sepdiningtyas and Santoso (2017: 286) state that “work engagement is considered the most inclusive attitude variable in explaining the relationship between stimulus and behavior”. Work engagement leads to higher job performance by providing a high level of energy, cognition flexibility, and willingness to exert effort when faced with difficulties. Relevant literature also supports that work engagement has a positive effect on job performance (Breevaart et al., 2015; Chaurasia and Shukla, 2013; Utami and Zakiy, 2020; Tanskanen et al., 2019).

H₃= Work engagement has a positive effect on job performance.

Assuming that LMX and work engagement are positively associated with job performance, and high-quality LMX relationships are also positively associated with the work engagement process, it is possible that work engagement mediates the relationship between LMX and job performance (Chaurasia and Shukla, 2013: 471). Sepdiningtyas and Santoso (2017: 291) assert that: “LMX relationships as a positive stimulus can improve job performance through work engagement”. High-quality LMX relationships will generate a positive attitude in employees towards their leaders and enable them to use more of their physical energies, emotions, and cognition to increase job performance. Relevant literature supports the mediating role of work engagement in the relationship between LMX and job performance (Li et al., 2012; Chaurasia and Shukla, 2013; Breevaart et al., 2015; Naz, 2019; Utami and Zakiy, 2020).

H₄= Work engagement has a mediator role in the relationship between LMX and job performance.

3. METHODOLOGY

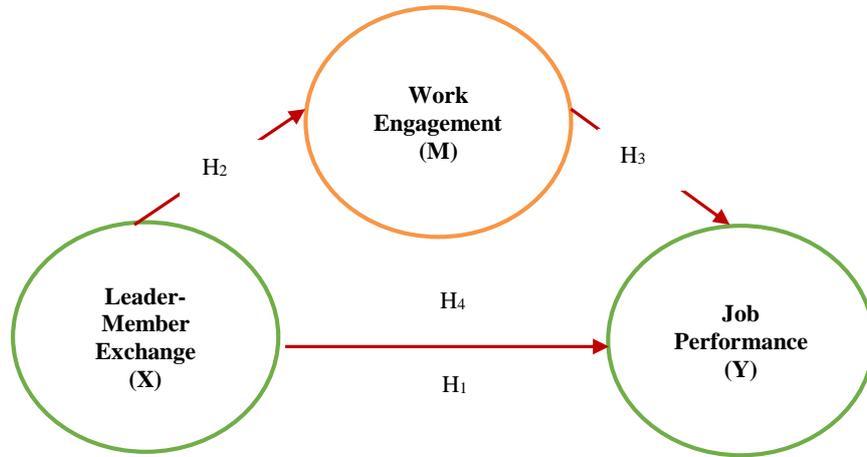
3.1. Research Framework

This study aims to examine to what extent LMX affects job performance levels and to examine the mediating role of work engagement in this interaction. Before starting this study, the ethics committee approval was obtained from Gaziantep University Social and Human Sciences Ethics Committee with decision number 06 dated 04.02.2022. Within the scope of the research, first of all, the literature was searched and the relations related to the variables were examined and the conceptual structure of the research was formed. A survey technique is used in this study, and the face-to-face survey was conducted by 284 participants selected by a simple random method among the employees of a business operating in the textile sector in Gaziantep 5th Organized Industrial Region.

3.2. Data Analysis

IBM SPSS 25 and AMOS 24 programs were used to analyze the data collected from the face-to-face survey, and PROCESS v3.4 macro developed by Hayes (2018) was used to research the effect of mediating variables (<http://afhayes.com>). The first step of the study was to determine the reliability and construct validity of the scales. Subsequently, correlation analysis was performed to determine the direction and severity of the relationship between the variables. Finally, according to the research model created by using PROCESS v3.4 (Model 4) running on IBM SPSS, analyzes were made to determine the relationships and mediation between the variables. The research model is presented in Figure 1.

Figure 1. Research Model



3.3. Measurement

A survey technique, one of the qualitative data collection techniques, was preferred in the study. The questionnaire form created for the research includes statements about socio-demographic questions, LMX, job performance, and work engagement. This survey contains a total of 25 questions with a Likert scale, and the answers given to each item are graded between “strongly disagree” and “strongly agree”, which are scored between 1-5.

Leader-Member Exchange Scale: “Multidimensionality of Leader-Member Exchange 12 (LMX-MDX-12)” developed by Liden and Maslyn (1998) and adapted into Turkish by Baş, Keskin, and Mert (2010: 1025) was used to determine the level of LMX of the participants. The scale includes 12 statements that address the exchange between leader-member or manager and employee in 4 dimensions: affect (3 statements), loyalty (3 statements), contribution (3 statements), and professional respect (3 statements) (Tetik, 2016: 127).

Work Engagement Scale: “Utrecht Work Engagement Scale-9 (UWES-9)” developed by Schaufeli and Bakker (2003) and adapted into Turkish by Özkalp and Meydan (2015: 11) was used to determine the level of work engagement of the participants. The scale includes 9 statements that address the level of work engagement of the employees in three dimensions: vigor (3 statements), dedication (3 statements), and absorption (3 statements).

Job Performance Scale: In order to determine the job performance level of the participants, the “Job Performance Scale”, which was used in the studies conducted by Kirkman and Rosen (1999), Sigler and Pearson (2000), and adapted into Turkish by Çöl (2008: 41). The scale deals with the job performance level of the employees in 4 statements.

3.4. Sampling

The population of this research consists of 680 employees in a business operating in the textile sector in Gaziantep 5th Organized Industrial Region. By taking the acceptable sample size table as a reference for the generalization prepared by Yazıcıoğlu and Erdoğan (2004: 50), it was revealed that the sample size should be between 217 and 254 employees with a 95% confidence interval and a 5% margin of error. After interviewing the relevant business for the research and obtaining the necessary permissions, a questionnaire was applied to 300 employees working in different departments in the business between 01-15 April 2022. However, 16 questionnaires were excluded from the evaluation because they were marked as missing/wrong or unilateral. Analyzes were made on the data obtained from 284 questionnaires.

According to data 273 (%96.1) men, and 153 (%53.9) married people joined this survey. 51 (%18) participants are 25 or below age, 156 (%54.9) participants are between 26 and 30 age, 65 (%22.9) participants are between 31 and 40 age and 12 (%4.2) participants are 41 or above age. In terms of education level, 22 (%7.7) participants have graduated from middle school, 117 (%41.2) participants have high school graduates, 103'ü (%36.3) participants have an institute degree, 31 (%10.9) have bachelor's degree and 11 (%3.9) have a master's degree or higher. The work experiences of the participants are as follows: participants 100 (%35.2) have a work experience of 1-5 years, 83 (%29.2) have 6-10 years of experience, 61 (%21.5) have 11-15 years of experience, 26 (%9.2) have 16-20 years of experience and 14 (%4.9) have 21 years and above of experience.

4. FINDINGS

Explanatory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used to test the basic dimensions and construct validity of the scales used in this study. Table 1 shows the EFA results performed by applying the basic component analysis and varimax rotation method for the “Multidimensional LMX Scale”, “Work Engagement Scale” and “Job Performance Scale”.

Table 1. Explanatory Factor Analysis Results

Scales	Question	Factor Loads (min-max)	Eigen Value	Variance%	Explained Variance	K-M-O Value	Bartlett Test of Sphericity	Sig.
LMX	Affect	3 0.742-0.877	2.247	18.728	72.678	0.804	1311.724	,000
	Loyalty	3 0.814-0.854	2.243	18.695				
	Contribution	3 0.790-0.847	2.220	18.503				
	Respect	3 0.772-0.810	2.010	16.753				
Work Engagement	Vigor	3 0.691-0.834	2.064	22.932	63.251	0.817	646.130	,000
	Dedication	3 0.672-0.809	1.836	20.399				
	Absorption	3 0.676-0.746	1.793	19.920				
Job Performance	Performance	4 0.753-0.815	2.489	62.213	62.213	0.785	329.455	,000

As seen in Table 2, the KMO values for LMX (KMO=0.804; $\chi^2=13110.724$; $p=0.000$), work engagement (KMO=0.817; $\chi^2=646.130$; $p=0.000$), and job performance (KMO=0.785; $\chi^2=329.455$; $p=0.000$) are greater than 0.60. In addition, the significant chi-square value as a result of the Bartlett Sphericity test indicates that the data are suitable for factor analysis. It seems that the LMX explained 72,678% of the total variance with four factors with an eigenvalue greater than one. It was determined that the work engagement scale explained 63.251% of the total variance with three factors with an eigenvalue greater than one, and 62.213% of the total variance with a single factor with an eigenvalue of greater than one. Factor loadings of the LMX scale were between 0.742 and 0.854, that of the work engagement scale was between 0.676 to 0.834 and that of the job performance scale was between 0.753 to 0.815. On the other hand, the skewness and kurtosis values of the expressions were examined in order to determine whether the expressions of the scales used in the research provided the normality assumption, and these values were found to be in the range of ± 1 (Tabachnick and Fidell, 2013: 133).

CFA was performed to confirm the construct validity of the scales used for the research. In this context, first-level CFA was conducted to confirm the four-factor (contribution, loyalty, affect, and professional respect) structure of the leader-member exchange scale obtained by EFA, the three-factor structure of the work engagement scale, and the single-factor structure of job performance. Second-level CFA analysis was then conducted for the overall leader-member interaction and work engagement scales. The goodness of fit values obtained by CFA is given in Table 2.

Table 2. Confirmatory Factor Analysis Goodness of Fit Values

Scale	Model	$\Delta\chi^2$	df	$\Delta\chi^2/df$ ≤ 3	RMSEA $\leq,08$	AGFI $\geq,90$	GFI $\geq,90$	CFI $\geq,90$	NFI $\geq,90$
LMX	First-level	92.323	48	1.923	0.057	0.918	0.949	0.965	0.931
LMX	Second-level	104.989	50	2.100	0.062	0.906	0.940	0.957	0.921
Work Engagement	First-level	43.177	23	1.877	0.056	0.939	0.969	0.967	0.934
Work Engagement	Second-level	48.967	24	2.040	0.061	0.935	0.965	0.960	0.925
Job Performance	First-level	4.896	2	2.448	0.072	0.956	0.991	0.991	0.985

As seen in Table 2, it has been determined that LMX scale, work engagement scale, and job performance scale meet the criteria of good fit in terms of model fit index values obtained as a result of CFA (Meydan and Şeşen, 2011: 37).

The mean, standard deviation, Pearson correlation, and Cronbach α values reflecting the evaluations of the participants regarding LMX, work engagement, and job performance are given in Table 3.

Table 3. Mean, Standard Deviation, Correlation and Cronbach α Values

Variable	Mean	Standard Deviation	LMX	Work Engagement	Job Performance
LMX	4.018	0.504	(0.813)		
Work Engagement	4.199	0.459	0.420**	(0.799)	
Job Performance	4.130	0.558	0.345**	0.517**	(0.797)

**p<0,01

The results of the correlation analysis in Table 3 indicate that there is a moderate and positive relationship between LMX and work engagement (0.420**) and job performance (0.345**), and that there is a moderate and positive relationship between work engagement and job performance (0.517**). The mean values of the responses of the participants are as follows: 4.018±0.504 for the LMX scale, 4.199±0.459 for the work engagement scale, and 4.130±0.558 for the job performance scale. It was observed that the Cronbach α coefficient of each scale used for the research was also greater than 0.70.

The mediating role of work engagement, the relationship between leader-member exchange and job performance was examined with the PROCESS v3.4 macro developed by Andrew F. Hayes (2013) (<http://afhayes.com>) working on the SPSS 25 program. Using “model 4” for the mediating role tested according to Hayes’ approach, LMX (**X**) was defined as the independent variable, job performance (**Y**)

as the dependent variable, and work engagement (**M**) as the mediator variable. For the regression (mediation effect analysis) analysis performed with the indirect effect approach based on this bootstrap technique, the bootstrap technique coefficient was extracted with 5000 bootstrap technique samples accordingly, the 95% confidence intervals (BootCI [BootLLCI lower limit and BootULCI upper limit] values were zero (0) value was created (Hayes, 2009: 414).

Table 4. The Effect of LMX (X) on Job Performance (Y)

Result Variables	Regression				BootCI		Model Summary		
	b	SE	t	Sig.	BootLLCI	BootULCI	R ²	Model F	Sig. F
Constant	2.5945	0.2506	10.3547	0.000	2.1013	3.0878	0.1192	38.1549	0.000
(X) → (Y)	0.3822	0.0619	6.1770	0.000	0.2604	0.5040			

Table 4 shows the results of the regression analysis performed with the indirect effect approach based on the bootstrap technique to examine the effect of LMX on job performance. The results of regression analysis without this mediating variable show that the effect of LMX on job performance is statistically significant and positive (95% CI [0.2604; 0.5040]; b=0.3822; t=6.1770; p=0.000). The results of the regression analysis also show that 11.92% of the variation in job performance can be explained by the LMX (R²=0.1192; F=38.1549; p=0.000).

Table 5. The Effect of LMX (X) on Work Engagement (M)

Result Variables	Regression				BootCI		Model Summary		
	b	SE	t	Sig.	BootLLCI	BootULCI	R ²	Model F	Sig. F
Constant	2.6639	0.1992	13.3729	0.000	2.2718	3.0560	0.1763	60.3652	0.000
(X) → (M)	0.3822	0.0492	7.7695	0.000	0.2854	0.4790			

Table 5 shows the results of the regression analysis performed with the indirect impact approach based on the bootstrap technique to examine the effect of LMX on work engagement. These regression analysis results show that the effect of LMX on work engagement is statistically significant and positive (95% CI [0.2854; 0.4790]; b=0.3822; t=7.7695; p =0.000). The results of the regression analysis also show that 17.63% of the variation in work engagement can be explained by the LMX (R²=0.1763; F=60.3652; p=0.000).

Table 6. The LMX (X) and Work Engagement (M) on Job Performance (Y)

Result Variables	Regression				BootCI		Model Summary		
	b	SE	t	Sig.	BootLLCI	BootULCI	R ²	Model F	Sig. F
Constant	1.1308	0.2886	3.9177	0.000	0.5627	1.6990	0.2872	56.6232	0.000
(X) → (Y)	0.1722	0.0614	2.8029	0.005	0.0513	0.2931			
(M) → (Y)	0.5495	0.0675	8.1401	0.000	0.4166	0.6823			

Table 6 shows the results of the regression analysis performed with the indirect effect approach based on the bootstrap technique to examine the effect of LMX and work engagement on work performance. The results of these regression analyzes show that when work engagement (95% CI [0.4166; 0.6823]; b=0.5495; t=8.1401; p=0.000) is included in the regression model, LMX (95% CI [0.0513; 0.2931]; b=0.1722; t=2.8029; p=0.005) shows that although the effect on job performance decreases, it continues and it is statistically significant. When work engagement (M) is included in the relationship between LMX (X) and job performance (Y), the decrease in the level of influence (partial mediation effect) indicates the existence of a mediating effect (Preacher and Hayes, 2004: 719). The results of the regression analysis also show that 28.72% of the variation in job performance can be explained by LMX and work engagement (R²=0.2872; F=56.6232; p=0.000).

Table 7. Total, Direct and Indirect Effects of LMX (X) on Job Performance (Y)

Leader-Member Exchange (X) → Job Performance (Y)	Effect	BootSE	t	Sig.	BootCI	
					BootLLCI	BootULCI
Direct effect	0.1722	0.0614	2.8029	0.005	0.0513	0.2931
Total effect	0.3822	0.0629	6.1770	0.000	0.2604	0.5040

Leader-Member Exchange (X) → Work Engagement (M) → Job Performance (Y)	Effect	BootSE	BootCI		Mediating Effect
			BootLLCI	BootULCI	
Indirect effect	0.2100	0.0466	0.1294	0.3092	Partial Mediating
Sobel Test	Z Score				Sig.
	2.3772				0.017

Table 7 shows the total, direct and indirect effects of LMX on job performance and the bootstrap confidence interval values showing the significance of these effects. The difference between the total effect (95% CI [0.2604; 0.5040]; b=0.3822; t=6.1770; p=0.000) and direct effect (95% CI [0.0513; 0.2931]; b=0.1722, t=2.8029, p=0.005) reveals that there is a mediating (indirect) effect (b=0.2100).

The fact that the bootstrap confidence interval values for the indirect effect are above zero (95% CI [0.1294; 0.3092]) has a statistically significant and positive effect on the job performance (**Y**) through the LMX (**X**) work engagement (**M**) (Preacher and Hayes, 2008: 884). The result of the Sobel test ($z=2.3772 \rightarrow p=0.017$) also confirms that the indirect effect is significant (Frazier et al., 2004: 128). As a result, it has been revealed that work engagement has a partial mediating role in the relationship between LMX and job performance.

7. CONCLUSION AND DISCUSSION

This study examines the mediating role of work engagement in the effect of LMX relationships on job performance. For this purpose, a study was conducted on the employee of businesses operating in the textile sector in Gaziantep 5th Organized Industrial Region. Within the scope of the study, it was revealed that the LMX relationships had a positive and significant effect on job performance at the first stage (H_1 Accepted). These results indicate that the quality of the LMX relationship with the employees is important in order to achieve the desired results in terms of business. The results obtained in this study are supported by many studies in the literature, indicating that the quality of the LMX relationship, which is characterized by a high level of trust, commitment, and loyalty, that the leader will establish with his subordinates, affects the job performance of the subordinates positively (Özutku et al., 2008; Loi et al., 2011; Akkoç, 2012; Turgut et al., 2015; Karayel et al., 2018; Tekin, 2018; Duyan and Yıldız, 2018; Akman, 2021; Biçer, 2021). The conscious increase of the support received from the leader is reflected as a positive effect on the job performance of the employee.

In the second stage, it was determined that LMX had a positive and significant effect on work engagement (H_2 Accepted). This indicates that managers can encourage higher levels of work engagement among employees by investing in high-quality LMX relationships. The result obtained is in line with studies that provide strong support for the argument that LMX relationships affect work engagement (Agarwal et al., 2012; Garg and Dhar, 2015; Altinay et al., 2019; Aggarwal et al., 2020; Wagner & Koob, 2022). As long as leaders provide high-quality LMX relationships by offering their subordinates more interesting and desirable tasks, knowledge sharing, and providing resources, employees are probably to achieve greater status, affect, and benefits. These invaluable benefits allow the employee to exert higher levels of physical, cognitive, and emotional effort; this will increase the subordinates' sense of dedication to their work (Burch and Guarana, 2014: 19).

In the third stage, the mediating role of work engagement in the effect of LMX on job performance was confirmed (H_3 and H_4 Accepted). These results is generally consistent with prior studies (Li et al., 2012; Chaurasia and Shukla, 2013; Breevaart et al., 2015; Naz, 2019; Utami and Zakiy, 2020). However, while work engagement mediates the relationship between LMX and job performance, it is pointed out that there is a significant and direct relationship between LMX and job performance. In other words, it has been revealed that work engagement partially mediates the relationship between LMX and

job performance. There are two ways from LMX to job performance, one of them directly affects job performance; the other is much stronger than the direct effect, indirectly affecting job performance through work engagement. High-quality LMX can increase engagement, and the job performance of dedicated employees will increase. These results indicate that businesses should seek to promote high-quality LMX relationship that includes mutual respect, trust, and open communication rather than a formal employment contract relationship. A high-quality LMX relationship impacts employees' degree of engagement in their job role and enables better job performance. Therefore, businesses need to promote a healthy and transparent relationship between the leader or manager and the employee (Breevaart et al., 2015: 757; Chaurasia and Shukla, 2013: 471; Sepdiningtyas and Santoso, 2017: 287). In this context, it can be interpreted as increasing the work engagement of employees through the LMX that takes place in a healthy way, and then the work engagement will increase the work performance of the employees.

This research has limitations that provide opportunities for future studies. This study is limited to the employees of a business operating in the textile sector in Gaziantep 5th Organized Industrial Region. For this reason, it can be considered that it would be a correct approach to repeat the research results in different sectors and samples in terms of generalizability. Another limitation of this study is that although the causality relationship between its variables has been described theoretically, it was conducted in a single-source and cross-sectional time period, which does not allow us to draw definite conclusions about causality. Therefore, inferences about causality are limited and should be tested with an experimental or longitudinal research design that includes data collected from multiple sources to strengthen causality between variables in the future.

REFERENCES

- Agarwal, U.A., Datta, S., Blake-Beard, S., and Bhargava, S. (2012) "Linking LMX, Innovative Work Behavior and Turnover Intentions: The Mediating Role of Work Engagement", *Career Development International*, 17(3): 208-230.
- Aggarwal, A., Chand, P. K., Jham, D., and Mittal, A. (2020) "Leader-Member Exchange, Work Engagement, and Psychological Withdrawal Behavior: The Mediating Role of Psychological Empowerment", *Front. Psychol.* 11(423), doi: 10.3389/fpsyg.2020.00423.
- Akkoç, İ. (2012) "Grup ve Hiyerarşik Alt Kültürlerinin İş Performansına Etkisi: Lider-Üye Etkileşiminin Aracılık Rolü", *Çankırı Karatekin Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 3(2): 17-44.
- Akman, Y. (2021) "Lider-Üye Etkileşimi ile Performans Arasındaki İlişkinin İncelenmesi: Bir Meta-Analiz Çalışması", *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 23(4): 1308-1321.

- Altınay, L., Dai, Y.-D., Chang, J., Lee, C.-H., Zhuang, W.-L., and Liu, Y.-C. (2019) “How to Facilitate Hotel Employees’ Work Engagement: The Roles of Leader-Member Exchange, Role Overload, and Job Security”, *International Journal of Contemporary Hospitality Management*, 31(3): 1525-1542.
- Aslaner, F., ve Artan, İ. H. (2019) “Pozitif Psikolojik Sermayenin Lider-Üye Etkileşimi Vasıtasıyla Bireysel Performansı Etkilemedeki Rolü: Perakende Sektöründe Bir Araştırma”, *Business & Management Studies: An International Journal*, 7(4): 1657-1689.
- Babadağ, M. (2020) “Reviewing the Effects of Leader-Member Exchange on Job Crafting via Moderated-Mediation Analysis: A Study on Teachers”, *Journal of Business Research-Turk*, 12(4): 3350-3368.
- Baş, T., Keskin, N., and Mert, İ. S. (2010) “Lider Üye Etkileşimi (LÜE) Modeli ve Ölçme Aracının Türkçe’de Geçerlik ve Güvenilirlik Analizi”, *Ege Akademik Bakış*, 10(3): 1013-1039.
- Biao, L., and Shuping, C. (2014) “Leader-Member Exchange, Efficacy and Job Performance: A Cognitive Perspective Interpretation”, *Canadian Social Science*, 10(5): 244-248.
- Biçer, M. (2021) “Örgütsel Sadakat ve Lider-Üye Etkileşiminin Çalışanların Bireysel İş Performansları Üzerindeki Etkileri”, *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 10(2): 1518-1538.
- Breevaart, K., Bakker, A.B., Demerouti, E., and van den Heuvel, M. (2015) “Leader-Member Exchange, Work Engagement, and Job Performance”, *Journal of Managerial Psychology*, 30(7): 754-770.
- Burch, T. C., and Guarana, C. L. (2014) “The Comparative Influences of Transformational Leadership and Leader-Member Exchange on Follower Engagement”, *Journal of Leadership Studies* 8(3): 6-25.
- Cerit, Y. (2012) “Lider Üye Etkileşimi ile Öğretmenlerin Performansları Arasındaki İlişki”, *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(28): 33-46.
- Chaurasia, S., and Shukla, A. (2013) “The Influence of Leader-Member Exchange Relations on Employee Engagement and Work Role Performance”, *International Journal of Organization Theory & Behavior*, 16(4): 465-493.
- Choy, J., McCormack, D., and Djurkovic, N. (2016) “Leader-Member Exchange and Job Performance: The Mediating Roles of Delegation and Participation”, *Journal of Management Development*, 35(1): 104–119.
- Çalışkan, A. (2018) “Dönüşümcü Liderliğin İş Performansına Etkisi: Lider Üye Etkileşimi ve Örgütsel Bağlılığın Aracılık Rolü”, *Toros Üniversitesi İİSBF Sosyal Bilimler Dergisi*, 5(8): 104-140.

- Çiftçi, O. D. (2019) “Lider Üye Etkileşiminin İşe Adanmışlık Üzerindeki Etkisinde Psikolojik Güçlendirmenin Aracı Rolü”, *Business and Economics Research Journal*, 10(1): 167-186.
- Çöl, G. (2008) “Algılanan Güçlendirmenin İşgören Performansı Üzerine Etkileri”, *Doğuş Üniversitesi Dergisi*, 9(1): 35-46.
- Dansereau, JR. F., Graen, G, and Haga, W. J., (1975) “A Vertical Dyad Linkage Approach to Leadership within Formal Organizations: A Longitudinal Investigation of the Role Making Process”, *Organizational Behavior and Human Performance*, 13: 46-78.
- Duyan, M., and Yıldız, S. M. (2018) “The Effect of Leader-Member Exchange on Job Performance of Academic Staff: An Empirical Evidence from Higher Education Institutions”, *Journal of Human Sciences*, 15(2): 1129–1136.
- Els, C., Viljoen, J., de Beer, L., and Brand-Labuschagne, L. (2016) “The Mediating Effect of Leader-Member Exchange between Strengths Use and Work Engagement”, *Journal of Psychology in Africa*, 26(1): 22-28.
- Frazier, P. A., Tix, A. P. and Baron, K. E. (2004) “Testing Moderator and Mediator Effects in Counseling Psychology Research”, *Journal of Counseling Psychology*, 51(1): 115–34.
- Garg, S., and Dhar, R. (2017) “Employee Service Innovative Behavior: The Roles of Leader-Member Exchange (LMX), Work Engagement, and Job Autonomy”, *International Journal of Manpower*, 38(2): 242-258.
- Graen G. P., and Uhl-Bien M. (1995) “Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX) Theory of Leadership over 25 Years: Applying a Multi-Level Multi-Domain Perspective”, *Leadership Quarterly*, 6(2): 219-247.
- Hayes (2018) Retrieved 15.06.2022 from <https://afhayes.com/index.html>
- Hayes, A. F. (2009) “Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium”, *Communication Monographs*, 76(4): 408-420.
- Howell, J. M., and Hall-Merenda, K. E. (1999) “The Ties that Bind: The Impact of Leader-Member Exchange, Transformational and Transactional Leadership, and Distance on Predicting Follower Performance”, *Journal of Applied Psychology*, 84(5): 680–694.
- Huang, X., Chan, S. C.H., Lam, W., and Nan, X. (2010) “The Joint Effect of Leader-Member Exchange and Emotional Intelligence on Burnout and Work Performance in Call Centers in China”, *The International Journal of Human Resource Management*, 21(7): 1124-1144.
- Janssen, O., and Van Yperen, N. W. (2004) “Employees’ Goal Orientations, the Quality of Leader-Member Exchange, and The Outcomes of Job Performance and Job Satisfaction”, *Academy of Management Journal*, 47(3): 368-384.

- Joo B-K. (Brian) (2012) “Leader–Member Exchange Quality and In-Role Job Performance: The Moderating Role of Learning Organization Culture”, *Journal of Leadership & Organizational Studies*. 19(1): 25-34.
- Karayel, M., Akkoç, İ. ve Birer, İ. (2018) “Örgütsel Destek, Sosyal Destek Ve Lider Desteğinin İş Performansına Etkisinde Lider-Üye Etkileşiminin Aracılık Rolü”, *Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi*, 19(2): 301-332.
- Karcıoğlu, F. ve Kahya, C. (2012) “Lider-Üye Etkileşimi ve Çatışma Yönetim Stili İlişkisi”, *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15 (2): 337-352.
- Kim, T-Y., Liu, Z. Q., and Diefendorff, J. M. (2014) “Leader–Member Exchange and Job Performance: The Effects of Taking Charge and Organizational Tenure”, *Journal of Organizational Behavior*, DOI: 10.1002/job, 1-16.
- Kirkman, B. L. and Rosen B. (1999) “Beyond Self-Management: Antecedents and Consequences of Team Empowerment”, *Academy of Management Journal*, 42(1): 58-74.
- Li, X., Sanders, K., and Frenkel, S. (2012) “How Leader–Member Exchange, Work Engagement and HRM Consistency Explain Chinese Luxury Hotel Employees’ Job Performance”, *International Journal of Hospitality Management* 31: 1059-1066.
- Liden, R. C., and Maslyn, J. M. (1998) “Multidimensionality of Leader-Member Exchange: An Empirical Assessment Through Scale Development”, *Journal of Management*, 24(1): 43-72.
- Loi, R., Ngo, H.-Y., Zhang, L., and Lau, V. P. (2011) “The Interaction between Leader–Member Exchange and Perceived Job Security in Predicting Employee Altruism and Work Performance”, *Journal of Occupational and Organizational Psychology*, 84(4): 669–685.
- Meydan, C. H., ve Şeşen, H. (2011) “Yapısal Eşitlik Modellemesi AMOS Uygulamaları”, Detay Yayıncılık, Ankara.
- Naz, S. (2019) “Role of Work Engagement and Job Performance in an LMX Environment”, *Market Forces Research Journal*, 14(2): 56-77.
- Özkalp, P. E., ve Meydan, P. B. (2015) “Schaufeli ve Bakker Tarafından Geliştirilmiş Olan İşe Angaje Olma Ölçeğinin Türkçe’de Güvenilirlik ve Geçerliliğinin Analizi”, *ISGUC The Journal of Industrial Relations and Human Resources*, 17(3): 1-19.
- Özutku, H., Agca, V., ve Cevrioğlu, E. (2010) “Lider-Üye Etkileşim Teorisi Çerçevesinde, Yönetici-Ast Etkileşimi ile Örgütsel Bağlılık Boyutları ve İş Performansı Arasındaki İlişki: Ampirik Bir İnceleme”, *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 22(2): 193-210.

- Preacher, K. J., and Andrew A. F. (2008) “Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models”, *Behavior Research Methods*, 40(3): 879-891.
- Preacher, K. J., and Hayes, A. F. (2004) “SPSS and SAS Procedures for Estimating Indirect Effect in Simple Mediation Models, *Behavior Research Methods*”, *Instruments, & Computers*, 36(4): 717-731.
- Schaufeli W., and Bakker, A. (November 2003) “UWES Utrecht Work Engagement Scale”, 15.05.2022 Retrieved from https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf
- Schaufeli, W. B., Taris, T. W., and Van Rhenen, W. (2008) “Workaholism, Burnout, and Work Engagement: Three of a Kind or Three Different Kinds of Employee Well-being?”, *Applied Psychology: An International Review*, 57(2): 173–203.
- Schaufeli, W.B., Salanova, M., Gonzalez-Roma, V., and Bakker, A. (2002) “The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach”, *Journal of Happiness Studies*. 3: 71–92. Retrieved 24 March 2022 from <http://www.wilmarschaufeli.nl/publications/Schaufeli/178.pdf>
- Sepdiningtyas, R., and Santoso, C. B. (2017) “The Influence of Leader-Member Exchange on Individual Performance: The Roles of Work Engagement as a Mediating Variable and CoWorkers Support as a Moderating Variable”, *Review of Integrative Business and Economics Research*, 6(4): 285-305.
- Sigler, T.H. and Pearson C. M. (2000) “Creating An Empowering Culture: Examining the Relationship Between Organizational Culture and Perceptions of Empowerment” *Journal of Quality Management*, 5: 27-52.
- Tabachnick, B. G., and Fidell, L. S. (2013) “Using Multivariate Statistics” (sixth ed.) Pearson, Boston.
- Tanskanen, J., Mäkelä, L., and Viitala, R. (2019) “Linking Managerial Coaching and Leader–Member Exchange on Work Engagement and Performance”, *J Happiness Stud* 20: 1217-1240.
- Tekin, E. (2018) “Lider-Üye Etkileşiminin Çalışan Performansı Üzerindeki Etkisinde Örgütsel Vatandaşlık Davranışının Aracılık Rolü”, *Karadeniz Teknik Üniversitesi Sosyal Bilimler Enstitüsü Sosyal Bilimler Dergisi*, (16): 343-364.
- Tetik, H. T. (2016) “Psikolojik Sermaye, Lider-Üye Etkileşimi ve İş-Aile Çatışması Arasındaki İlişkilerin Hizmet Sektöründe Araştırılması”, (Yayınlanmamış Doktora Tezi) Manisa Celal Bayar Üniversitesi Sosyal Bilimler Enstitüsü.

- Turgut, H., Tokmak, İ., ve Ateş, M. (2015) “Lider-Üye Etkileşiminin İşgören Performansına Etkisinde Çalışanların Örgütsel Adalet Algılarının Rolü”, Çankırı Karatekin Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 5(2): 417-442.
- Uludağ, G. (2019) “Lider Üye Etkileşiminin İşgören Performansına Etkisi Üzerine Bir Alan Araştırması”, Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 23 (2): 719-739.
- Utami, V. P., and Zakiy, M. (2020) “Linking Leader-Member Exchange and person supervisor Fit with Employee Performance: The Mediating Role of Employee Work Engagement”, Journal of Leadership in Organizations, 2(2): 121-137.
- Wagner, B., and Koob, C. (2022) “The Relationship between Leader-Member Exchange and Work Engagement in Social Work: A Mediation Analysis of Job Resources”, Heliyon 8(1), e08793.
- Yazıcıoğlu, Y., ve Erdoğan, S. (2004) “SPSS Uygulamalı Bilimsel Araştırma Yöntemleri”, Detay Yayıncılık, Ankara.

KATKI ORANI / CONTRIBUTION RATE	AÇIKLAMA / EXPLANATION	KATKIDA BULUNANLAR / CONTRIBUTORS
Fikir veya Kavram / Idea or Notion	Araştırma hipotezini veya fikrini oluşturmak / Form the research hypothesis or idea	Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK (Ph.D.) Tayfur EGE
Tasarım / Design	Yöntemi, ölçeği ve deseni tasarlamak / Designing method, scale and pattern	Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK
Veri Toplama ve İşleme / Data Collecting and Processing	Verileri toplamak, düzenlenmek ve raporlamak / Collecting, organizing and reporting data	Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK
Tartışma ve Yorum / Discussion and Interpretation	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / Taking responsibility in evaluating and finalizing the findings	Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK (Ph.D.) Tayfur EGE
Literatür Taraması / Literature Review	Çalışma için gerekli literatürü taramak / Review the literature required for the study	Asst. Prof. (Ph.D.) B. Dilek ÖZBEZEK (Ph.D.) Tayfur EGE

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