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## The Mediating Role of Workload on the Relationship Between Leader Member Exchange (LMX) and Job Satisfaction

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### Abstract

The goal of this study is to analyze the mediating role of workload on the relationship between leader member exchange (LMX) and job satisfaction. Another objective of this study is to examine the relationship between LMX, workload, job satisfaction and demographic variables. Additionally, the differences of LMX, workload and job satisfaction according to demographic variables are investigated. The major aim is to reflect the issues that lead to job dissatisfaction. It is indicated that LMX and workload can be two of the most fundamental determinants for understanding this issue. In order to clarify this assumption, the research was conducted with one of the largest municipality in Istanbul, Turkey, with 255 participants. The result of this research suggests that workload is a partial mediator in the relationship between LMX and job satisfaction. Meanwhile, no differences were found in LMX, job satisfaction or workload according to gender, education and status, but were found according to age, job seniority and organizational seniority.

**Key words:** Leader member exchange (LMX); Job satisfaction; Workload

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### INTRODUCTION

A large number of researches have been dedicated to understanding the causes and effects of job satisfaction. Job satisfaction is the positive emotion that people feel towards their job. A variety of variables have been identified as indicating job satisfaction. These include performance, turnover, organizational citizenship behavior, leadership, workload and social support.

Researchers have stated that there is a paucity of research on the relationship between job satisfaction, workload and leader member exchange (LMX). In order to address this gap, this study has concentrated on job satisfaction and how LMX and workload can function together to effect job satisfaction. These topics are critical for the public sector, where employees who work have problems with job satisfaction and its antecedents, workload and LMX.

Employees who are dissatisfied with their job are not able to establish a good relationship with their leaders. Therefore, LMX play important roles in this relationship. LMX refers to the quality of the relationship between employees and leaders. At the same time, employees can easily be dissatisfied with their job due to workload, that is, the perception of having to do too many things without having enough time.

As a result, the purpose of this study is to focus on the factors that affect employee's job satisfaction. In other words, the relationship between LMX, job satisfaction and workload will be examined. In addition, it is possible to study whether there is a difference in the demographic characteristics and LMX, job satisfaction and workload.

### 1. LITERATURE BACKGROUND

#### 1.1 Leader Member Exchange

Many of the traditional leadership theories are simply based on the characteristics of leaders, such as trait

theories, behavioral or situational approaches. According to Gerstner and Day (1998, p.827), these traditional leadership approaches define leadership as a “product of the personal characteristics of the leader and features of the situation, or interactions of both.” Leader member exchange (LMX) theory is a unique model that assumes leaders interact differently with all subordinates in their workplace. This theory was originally based on the vertical dyad linkage (VDL) between leaders and subordinates (Danserau, Cashman & Graen, 1973; Danserau, Graen & Haga, 1975).

Theoretically, LMX is dependent upon the basis of role theory and social exchange theory. In the perspective of role theory, leaders test subordinates in work-related issues. The concerns and successes of subordinates in relation to these issues and assignments establish the quality and type of LMX relationships. Correspondingly, the quality of LMX determines the leader’s work oriented actions, such as task assignments, information sharing, etc. In terms of social exchange theory, it has been stated that advice, workflow and friendship are highly relevant to LMX (Liden & Maslyn, 1998, p.44).

Liden and Graen (1980, p.451) summarized that during the interaction between leaders and subordinates, certain subordinates are chosen because of their “(a) individual competences and skills, (b) being able to be trusted or not, and (c) motivation to assume more responsibility than expected within the unit.” These mutual relationships between leader and subordinates result in a privileged type of exchange (LMX). The quality of this exchange is generated by a group of subordinates, members of the “in group” (characterized by high trust, interaction, support and formal/informal rewards etc.) and others members of the “out group” (characterized by low trust, interaction, support and formal/informal rewards etc.) (Dienesch & Liden, 1986, p.622; Liden & Graen, 1980, p.452).

Differentiated LMX relationships have been studied in many organizational variables, and have been summarized extensively in meta-analytic reviews. Most of the studies have investigated the relationships between LMX and performance, turn over, job satisfaction, organizational commitment, organizational citizenship, organizational justice and empowerment (Graen & Uhl-Bien, 1995, p.228; Gerstner & Day, 1997, pp.834-835; Dulebohn et al, 2012, p.1735; Bauer & Green, 1996, p.1539; Liden & Maslyn, 1998, p.43).

## 1.2 Workload

The concept of workload first originated in occupational psychology. Later on, it was improved by ergonomics (Vitório et al., 2012, p.2834). Workload is the extent that force and urgency dominate the work surroundings (Lacey et al., 2009, p.8). It could also be measured as the quantity of work completed by an employee in a certain amount of time (Lea et al., 2012, p.261). In other words, workload is the cost incurred by an individual, given their abilities

while performing at a specific level of performance on a job that has particular demands (Arellano et al., 2012, p.1790); this also means “the perception of having too many things to do or not having enough time to do the things one has to do” (Shirom et al, 543).

Due to limited resources, like restricted budget and staffs, organizations might not be able to hire a sufficient number of employees. For this reason, the organization gives the employees responsibilities that are not included in their job descriptions, thus increasing the workload (Chen et al., 2009, p.43).

Workload is divided into physical and mental workload (Kawada et al., 2010, p.333). Physical workload is created by the technical requirements for processing the work, both in and outside the workplace (Vitório et al., 2012, p.2834). However, mental workload is “the amount of the subject’s processing capacity which is required for the performance of a task at a given time” (Subramanyam et al, 2013, p.29).

It is important to determine the elements that organizations have to consider in order to reduce the workload of the employee. Firstly, they need to identify the crucial element that has the strongest effect on the workload of an employee. After this, the organization must take the necessary actions to reduce workload (Chen et al., 2009, p.43). It is clear that organizations and in particular human research departments should consider this issue. The work schedule, working day, job description, job specification, etc should be clearly set out. (Guimarães et al., 2012, p.1647).

## 1.3 Job Satisfaction

Job satisfaction has been defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job seniorities” by Locke (1976, p.1300). These positive emotional states result from reciprocal relationships between the organization and the employee. Employees’ feelings that result from the circumstances of their job are very important for organizations. Thoughts such as “happy workers are satisfied workers” and “satisfied workers are more productive workers” are basic reasons for trying to increase job satisfaction in organizations (Fisher, 2003, p.754; Cleare, 2013, p.201). Due to overall tendencies to increase job satisfaction, for several years researchers and managers have expressed a great interest in concepts related to job satisfaction.

The studies of job satisfaction can be divided into three major areas. The first area includes job satisfaction as an antecedent of organizational outcomes (such as performance, turnover, and organizational citizenship behavior). The second area regards job satisfaction as an outcome of organizational conditions (such as leadership, social support, task characteristics). According to researchers into the third area, job satisfaction is influenced by some personality traits (Schyns and Croon, 2006, p.602).

In the context of the variables of this study, several studies found a direct relationship between LMX and job satisfaction (Wech, 2002, p.356; Fix and Sias, 2006, p.41; Mardanov et al., 2008, p.170; Jordan and Troth, 2011, p.269; Volmer et al., 2011, p.534; Cheung and Wu, 2012, p.72). In their meta-analytic study, Lapiere and Hackett (2007, p.539) determined that higher quality LMX leads to greater job satisfaction. Bang (2011, p.95) revealed that only the affect facet of LMX has a significant effect on job satisfaction. Schyns and Croon's (2006, p.611) study included four facets of job satisfaction (satisfaction with the supervisor; with colleagues; with job conditions and with the task) and they found a relationship between LMX and satisfaction with only the supervisor. Liu et al. (2013, p.363) found that both LMX and job satisfaction have a negative impact on unethical behaviors. Thus, organizations can reduce unethical behavior by increasing positive employee-supervisor relationships and job satisfaction.

The relationship between excessive workload and job satisfaction has also been investigated in several studies (Butt and Lance, 2005; Houston et al., 2006; Lea et al., 2012); in some studies, a negative relationship has been established (Keser, 2006, p.113; Zeytinoglu et al.2007, p.43; Karakus, 2011, p.55). Sone et al. (2013, p.368) revealed that increasing workload may cause decrease in job satisfaction. The study of Lim (2013, p.221) on online journalists showed that greater workloads cause unsatisfied employees. In another study on nurses, Stuart (2008, p.3019) found that excessive workloads have considerable negative effects on job satisfaction. Another research was conducted on 232 social workers in Maryland; it was claimed that both perceived workload and the quality of supervision were predictive of job satisfaction (Cole et al.,2004, p.1). Other research carried out by Cox et al. (2006, p.14) indicates that there is a strong relationship between workload and job satisfaction. If the workload increases, this will lead to a decrease in job satisfaction. This result is also supported by the research carried out by Lea et al.; (2012, p.259) it is asserted that in the UK the workload increases job-related stress and reduces job satisfaction. In light of the above results, this study considers the relationship between LMX, workload and job satisfaction.

## 2. RESEARCH METHODOLOGY

A quantitative paradigm was used to investigate the mediating effect of workload on the relationships between LMX and job satisfaction. Descriptive, relational and comparative statistical models have been used. The objectives, conceptual scheme and research hypotheses of this research are given in the following sections.

### 2.1 Objective of the Research

The objective of this study is to examine the mediating effect of the workload on the relationship between LMX

and job satisfaction. Another objective of this study is to examine the relationship between LMX, workload, job satisfaction and demographic variables. Additionally, the differences of LMX, workload and job satisfaction according to demographic variables are investigated. The main purpose is to consider the problems that lead to job dissatisfaction. Two of the most important criteria for understanding this problem are thought to be LMX and workload.

### 2.2 Conceptual Scheme

The conceptual scheme of this research is illustrated in Figure 1 below.

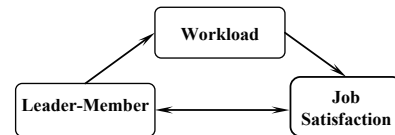


Figure 1  
Conceptual Scheme

### 2.3 Research Hypotheses

Specifically, this exploratory research focuses on these hypotheses:

1.  $H_1$ : Workload significantly mediates the relationship between LMX and job satisfaction.

### 2.4 Measurement Instruments

LMX and workload scales were used with five-point Likert type scales from 1 (Strongly Disagree) to 5 (Strongly Agree). At the same time, the job satisfaction scale is also measured on a five point Likert type scale from 1 (Strongly Dissatisfied) to 5 (Strongly Satisfied).

#### Demographic data form

This form includes gender, age, education, job status, job, seniority and organization seniority.

#### Dependent variable

Job Satisfaction: This variable was measured on a scale developed by Smith (1969). This scale consists of 9 items. Due to the date when the scale was developed the researchers were unable to attain the original scale. For this reason, the scale used was taken from the dissertation of Mousa (1990) (Mousa, 2004, p.244).

#### Independent variables

LMX: This variable was measured on the scale developed by Liden and Maslyn (1998), which has 11 items.

#### Mediator

Workload: This variable was measured using the workload scale which was developed by Cox (2003), and which has 6 items. This scale is received from Cox via e-mail.

## 3. RESULTS

### 3.1 Reliability and Validity of Instruments

According to the reliability analysis, the reliability of the LMX and job satisfaction scales was 0.94 and 0.85, respectively. No items were eliminated from both scales.

On the other hand, for the workload scale, 2 items were dismissed and the reliability score of this scale was 0.75. These results show us the reliability of the scale is extremely high (Kalaycı, 2006, p.405).

Factor analysis results demonstrate that LMX, job satisfaction and workload scales items are strongly and distinctively reflected (Durmuş et al., 2011, p.80) for separate factors. The factor loading of the LMX scale was 0.893 and the total explained variance was 63.43. The factor loading of the job satisfaction scale was 0.86 and the total explained variance was 46.17. The factor loading of the workload scale was 0.70 and the total explained variance was 57.48.

### 3.2 Descriptive Statistics

#### Participants

In this study, data were collected from one of the largest municipalities in Istanbul, Turkey. The sample consisted of 255 participants. More women participated than men (54.5% were women, and 45.5 % were men). Their ages

ranged from 12% at 20 to 25, 30% at 26 to 30, 17% at 31 to 35, 11% at 36 to 40, and 30% at 41 and above. In terms of education levels, 38 % of the participants had graduated from secondary school, 48% had graduate from university and 14% were graduate students. The number of years that the participants had been involved in the job was 30% at 1 to 3 years, 29% at 4 to 6 years, 41% at 7 or more. The number of years that the participants had been involved in their organization ranged from 32% at 1 to 3 years, 29% at 4 to 6 years, 39% at 7 years or longer.

### 3.3 Hypotheses Testing

#### 3.3.1 The Levels of LMX, Job Satisfaction and Workload

The means and standard deviations of LMX, job satisfaction and scores are illustrated in Table 1.

**Table 1**  
**Descriptive Statistics and Correlations**

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. LMX	3.87	.93	1	.706**	.718**	.087	.034	.043	.003	.124*	-.025
2. Workload	3.94	.78		1	.749**	.171**	.070	-.053	-.045	.188**	.005
3. Job satisfaction	3.87	.90			1	.134*	.047	-.092	.005	.151*	.010
4. Age						1	.091	-.202**	.181**	.840**	.504**
5. Gender							1	.042	.144*	.072	-.042
6. Education								1	.267**	-.257**	-.155*
7. Status									1	.118	.014
8. Job seniority										1	.569**
9. Org. seniority											1

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

Table 1 reveals that LMX, job satisfaction and workload are statistically meaningful correlations when examining municipality employees. In addition to the above, the interactions between the variables were evaluated using pearson (for LMX, workload and job satisfaction) and Spearman's rho (for demographic variables) correlation coefficients. The relationship between LMX and job satisfaction was positive and significant ( $r=.718, p<.00$ ). LMX and workload were also positively and significantly correlated ( $r = .706, p< .00$ ). A high, positive and significant relationship was also determined between job satisfaction and workload ( $r=.749, p<.00$ ).

In keeping with the correlation results, a significant and positive correlation between age and job satisfaction ( $r=.146, p<.00$ ) and workload ( $r=.177, p<.00$ ) was found. Furthermore, the relationship between job seniority and

job satisfaction ( $r=.132, p<.00$ ) and workload ( $r=.185, p<.00$ ) was positively and significantly correlated.

#### 3.3.2 Regression Analysis: Measuring Mediating Effect

The quality of LMX and the individuals' workload were regressed on to job satisfaction scores of employees. In order to measure the mediating effect, the workload regression analysis was applied in three steps. As suggested by Baron and Kenney (1986), first step is to take job satisfaction as a dependent variable and LMX as an independent variable. In the second step of regression analysis LMX is considered to be a dependent variable, whereas workload is as an independent variable. In the last step of the regression analysis, the dependent variable is job satisfaction and independent variables are LMX and workload. The coefficients of the regression analysis are given in Table 2.



**Table 2**  
**Regression Analysis**

<i>Hypotheses 1-First step of regression analysis</i>			
<b>Dependent variable:</b> Job satisfaction			
Independent variable:	$\beta$	t	p
LMX	0.718	16.400	0.000
<b>R=0.718; Adjusted R<sup>2</sup>=0.513; F=268.960; p=0.000</b>			
<i>Hypotheses 1-Second step of regression analysis</i>			
<b>Dependent variable:</b> LMX			
Independent variable:	$\beta$	t	p
Workload	0.706	15.846	0.000
<b>R=0.706; Adjusted R<sup>2</sup>=0.498; F=251.088; p=0.000</b>			
<i>Hypotheses 1-Third step of regression analysis</i>			
<b>Dependent variable:</b> Job satisfaction			
Independent variable:	$\beta$	t	p
LMX	0.377	6.996	0.000
Workload	0.483	8.947	0.000
<b>R=0.795; Adjusted R<sup>2</sup>=0.629; F=216.529; p=0.000</b>			

As shown in Table 2, for measuring  $H_1$ , (Baron & Kenney 1986, p.1176) there must be a significant relationship between LMX and job satisfaction. In the second step, the mediating variable, which is workload, there was a significant correlation with LMX. For the third step, while controlling for LMX, there was also a significant relation between job satisfaction and workload. In order to determine the mediating role of the workload according to the relationship between LMX and job satisfaction, both steps were examined. The results demonstrated that the effect of LMX on job satisfaction when controlling for workload ( $\beta$  in step-3 (0,377) is significantly less than  $\beta$  in step-1 (0,718); thus,  $H_1$  is supported and workload is accepted as a partial mediator of the relationship between LMX and job satisfaction.

**3.3.3 Analysis of LMX, Job Satisfaction and Workload Depending on Demographic Variables**

The participants' perceived quality of LMX, their job satisfaction and their workloads were evaluated according to demographic data. A number of variance analyses were conducted. No differences were found in LMX, job satisfaction or workload according to gender, status or education in the t-test or in the ANOVA analysis.

When compared to the ages of participants, there were significant differences on the perceptions of workload [F (4, 243) =3.924, p < .05] and on job satisfaction [F (4, 243) =4.584, p < .05]. Post-hoc analysis (Scheffe & Tamhane) reveals that perceptions of workload in the 41 years and over group (M= 4.13, SD= 0.89) were significantly higher than that of participants aged 26 through 30 years (M= 3.66, SD= 0.89), and 31 through 35 ages (M= 3.58, SD= 0.93). On the other hand, in a different study it has been claimed that among textile workers workload in age groups was not significant (Safari et al, 2013).

Job satisfaction in the 41 years and over group (M= 4.18, SD= 0.73) was significantly higher than that of the 26 through 30 years group (M= 3.75, SD= 0.78). In literature there are comprehensive studies concerning age and job satisfaction. Our findings are similar to a study carried out by Beseb et al. (2013, p.269), in which 1,873 employees indicate that there is a positive relationships between job satisfaction and age. As employee age increases, their job satisfaction also increases. Another study made by Bernal and McDaniel (1998:287) asserts that there is a significant but weak positive relationship between age and job satisfaction. Contrary to these studies, a study carried out by Onuoha and Segun-Martins (2013, p.5745) on married female employees reports a significant negative relationship between age and job satisfaction. Another study, carried out on public and private sector employees in Pakistan, demonstrates that age is not significantly correlated to job satisfaction (Malik et al., 2009, p.23, p.29).

Another result of this study clarifies that the perceptions of workload [F (2, 251) =5.032, p < .01] and satisfaction [F (2, 251) =4.345, p < .05] significantly change according to job seniority. Perceptions of workload for employees who were 7 years or more job seniority (M= 4.07, SD= 0.87) were significantly higher than those with 1 to 3 years of job seniority (M= 3.68, SD= 0.91) and 4 to 6 years of job seniority (M= 3.74, SD= 0.90). Our results were in keeping with a study carried out by Apaydın (2012). Apaydın's results demonstrate that when the seniority of academics increases, faculty members perceive a greater workload [t (65) = .005, p < .05].

Job satisfaction in the 7 years and above of job seniority group (M= 4.10, SD= 0.77) was significantly higher than in the 4 to 6 years of job seniority (M= 3.77, SD= 0.80). Thus, as the job seniority of participants' increases, the individuals are more likely to perceive greater satisfaction. Demirtaş and Ersözlü (2010, p.207) report that the job satisfaction expectations of teachers who have 5 to 10 years of job seniority were significantly higher than those who have 5 years job seniority; however, this decreases after 15 years of seniority (F= 2.897, p < .05). Moreover, in a different study, according to Alderfer (1967) "satisfaction with superiors decreases as seniority increases" (1967, p.440). In addition, Alderfer suggests that in order to explain the decrease in satisfaction that occurs with seniority a process that extends over time is necessary (Alderfer, 1967, p.457).

In this study, the context of organizational seniority significantly differentiates in job satisfaction [F (2, 250) =4.441, p < .05]. Contrary to job seniority, perceptions of satisfaction for those with 1 to 3 years of organizational seniority (M= 4.05, SD= 0.69) were significantly higher than those of the 4 to 6 years of organizational seniority group (M= 3.71, SD= 0.82).

A summary of the results of the variance analysis of LMX, job satisfaction and workload depending on demographic variables is given in Table 3 below:

**Table 3**  
**Summary of the Variance Analysis Results**

Variable	Gender	age	education	Status	Job seniority	Org. seniority
LMX	-	-	-	-	-	-
Workload	-	√	-	-	√	-
Job satisfaction	-	√	-	-	√	√

## DISCUSSION AND LIMITATIONS

The purpose of this study was to explore the mediating effect of workload on the relationship between leader member exchange (LMX) and job satisfaction. Additionally, the differences of LMX, workload and job satisfaction according to demographic variables are investigated. At the same time, the relation between demographic data and LMX, job satisfaction and workload have also been examined. The results demonstrate that LMX has a direct positive effect on job satisfaction. This is compatible with the results of Lapierre and Hackett (2007, p.539). Increasing the quality of LMX could cause higher job satisfaction in employees. Another result of the study shows that workload has a positive impact on the job satisfaction of the employees. In other words, there was a positive relationship between workload and job satisfaction. Our results seem to contradict other studies that are in the literature; this latter group indicates that there is a negative relationship between workload and job satisfaction (Keser, 2006; Zeytinoglu, 2007; Karakus, 2011; Sone et al., 2013; Lim, 2013). The reason why our findings are contrary to other research is based on the characteristics of the study sample. Participants were working in one of the largest municipal organization in Istanbul. All of them are government employees, i.e., they have job security. According to our findings, despite the heavy workload, they were satisfied with their jobs. The reason for this was job security. In other words, due to the negative economic conditions in Turkey, and indeed, globally, people have difficulty finding a job. Therefore, they do not want to leave their job, even if they have a workload perception. At the same time, they are satisfied with their employment, as being a government employee gives them greater benefits. Their salaries, fringe benefits, working conditions and working schedules are better than that of people working in different sectors.

Above all, in our study it was discovered that workload is a partial mediator for the relationship between LMX and job satisfaction. In other words, this study provides evidence that LMX and workload influence job satisfaction. And this study also reveals that workload is an important variable between the LMX and job satisfaction relationship. Bölükbaşı and Çakmur Yıldıztan (2009, p.361) conducted a study in a municipal corporation in

Istanbul and they stated that the supervisor-subordinate relationship has an important effect on job satisfaction; this corresponds with our results. What these results demonstrate is that due to their influence on employee job satisfaction, the quality of LMX and workload has to be considered in an organization. Thus, in order to ensure the advantages provided by job satisfaction, greater effort should be made to improve leader member relationships and increase the workload of employees.

In this study, LMX, job satisfaction and workload were not differentiated according to gender, status and education. On the other hand, the age of participants was significant for workload and job satisfaction. Similar to age, job satisfaction and workload differ according to job seniority. Greater seniority causes greater job satisfaction and workload perceptions. Moreover, organizational seniority affects job satisfaction. Contrary to job seniority results, in our sample of employees lower organizational seniority causes higher job satisfaction.

The main limitation of this study was the political structure of local governments. Employees are more subjective to and support the management of local government. This structure could affect the LMX result of our study. Furthermore, the employees of only one municipality were used as a sample. For future research, the sample could be widened to other municipalities, thus enabling a generalization of the results and helping to create new management policies for local government in Turkey.

## REFERENCES

- Alderfer, C. P. (1967). An organizational syndrome. *Administrative Science Quarterly*, 12(3), 440-460.
- Apaydin, C. (2012). The workload of faculty members: The example of educational faculties in Turkey. *College Student Journal*, 46(1), 203-213.
- Arellano, J. L. H., Mejía, G. I. J., Pérez, N. S., Alcaraz, J. L. G., & Brunette, M. J. (2012). Construction of a Survey to Assess Workload and Fatigue among AMT Operators in Mexico. *Work*, 41, 1790-1796.
- Bang, H. (2011). Leader-member exchange in nonprofit sport organizations. *Non Profit Management and Leadership*, 22(1), 85-105.
- Baron, R. M., & Kenney, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bauer, N. T., & Green, S. G. (1996). Development of leader-member exchange: A longitudinal test. *Academy of Management Journal*, 39(6), 1538-1567.
- Bernal, D., Snyder, D., & McDaniel, M. (1998). The age and job satisfaction relationship: does its shape and strength still evade us?. *The Journals of Gerontology Series B-Psychological Sciences and Social Sciences*, 53(5), 287-293.

- Besen, E., Matz-Costa, C., Brown, M., Smyer, M. A., & Pitt-Catsoupes, M. (2013). Job characteristics, core self-evaluations, and job satisfaction: What's age got to do with it?. *International Journal of Aging & Human Development*, 76(4), 269-95.
- Bosma, H., Van Boxtel, M. P. J., Ponds, R. W. H. M., Houx, P. J. H., & Jolles, J. (2003). Education and age related cognitive decline: The contribution of mental workload. *Educational Gerontology*, 29, 165-173.
- Bölükbaşı, A. G., & Çakmur Y. D. (2009). Yerel yönetimlerde iş tatminini etkileyen faktörleri belirlemesine yönelik alan araştırması [Factors affecting job satisfaction in local government: Towards the determination of field research]. *Marmara Üniversitesi, İ.İ.B.F. Dergisi*, 27(2), 345-366.
- Butt, Graham, & Ann Lance, (2005). Secondary teacher workload and job satisfaction: Do successful strategies for change exist?. *Educational Management Administration & Leadership*, 33(4), 401-422.
- Chen, T. H., Ho, C. H., Huang, C. M., & Nien, H. Y. (2009). Workloads Ranking and Improvement for Multidimensional Rating Techniques. *International Journal of Organizational Innovation*, 2(1), 41-52.
- Cheung, M. F. Y., & Wu, W.- P. (2012). Leader-member exchange and employee work outcomes in Chinese firms: The mediating role of job satisfaction. *Asia Pacific Business Review*, 18(1), 65-81.
- Cleare, L. (2013). Personality as a predictor of job satisfaction: Study of the relationship between personality and job satisfaction amongst workers in the Bahamas. *Journal of Management Research*, 5(3), 200-229.
- Cole, D., Panchanadeswaran, S., & Daining, C. (2004). Predictors of job satisfaction of licensed social workers: Perceived efficacy as a mediator of the relationship between workload and job satisfaction. *Journal of Social Service Research*, 31(1), 1-12.
- Cox, K. S., Teasley, S. L., Zeller, R. A., Lacey, S. R., Parsons, L., Carroll, C. A., & Ward-Smith, P. (2006). Know Staff's "Intent to Stay". *Nursing Management*, 37(1), 13-15.
- Danserau, F., Jr., Cashman, J., & Graen, G., (1973). Instrumentality theory and equity theory as complementary approaches in predicting the relationship of leadership and turnover among managers. *Organizational Behavior and Human Performance*, 10(2), 184-200.
- Dansereau, F., Graen, G., & Haga, W. (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.
- Demirtaş, Z., Ersözülü A. (2010). Liselerde görev yapan öğretmenlerin iş doyumları düzeyleri [Levels in high school teachers' job satisfaction]. *Education Sciences*, 5(1), 199-209.
- Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review*, 11, 618-634.
- Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, 38(6), 1715-1759.
- Durmuş, B., Yurtkoru, E. S. Çinko, M. (2011). *Sosyal bilimlerde SPSS'le veri analizi* [SPSS Data Analysis in Social Sciences]. İstanbul: Beta Yayıncılık.
- Fisher, C. D. (2003). Why do lay people believe that satisfaction and performance are correlated? Possible sources of a commonsense theory. *Journal of Organizational Behavior*, 24, 753-777.
- Fix, B., & Sias, P. M. (2006). Person-centered communication, leader-member exchange, and employee job satisfaction. *Communication Research Reports*, 23(1), 35-44.
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82(6), 827-844.
- Graen, G. B., & 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, 219-247.
- Guimarães, L. B., de M., Pessa, S. L. R., & Biguelini, C. (2012). Analysis of the workload imposed on the workers of the imprint and cutting/Welding sectors of a flexible packaging manufacturer. *Work*, 41, 1647-1655.
- Houston, D., Meyer, L. H., & Paewai, S. (2006). Academic staff workloads and job satisfaction: Expectations and values in academe. *Journal of Higher Education Policy and Management*, 28(1), 17-30.
- Jeongsub, L. (2013). The relationships of online journalists' emotional responses to competitors with job satisfaction, workload, and perception of the quality of the news website. *Asian Journal of Communication*, 23(2), 209-224.
- Jordan, P. J., & Troth, A. (2011). Emotional intelligence and leader member exchange, the relationship with employee turnover intentions and job satisfaction. *Leadership & Organization Development Journal*, 32(3), 260-280.
- Kalaycı, Ş. (2006). *SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri* [SPSS applied multivariate statistical techniques]. Ankara: Asil Yayın Dağıtım.
- Karakuş, H. (2011). Hemşirelerin İş Tatmin Düzeyleri: Sivas İli Örneği [Nurses' job satisfaction levels: Example of Sivas Province]. *Dicle Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 3(6), 46-57.
- Kawada, T., Ueda, H., Hayashi, M., Sakamoto, A., Uchida, K., Shirato, T., & Etoh, R. (2010). Relationship among workload, health complaints, and depressive state of workers as revealed using a questionnaire survey. *Work*, 37, 333-339.
- Keser, A. (2006). Çağrı Merkezi Çalışanlarında İş Yükü Düzeyi İle İş Doyumu İlişkisinin Araştırılması [Investigation of relationship between workload of call center employee and job satisfaction level] *Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11(1), 100-119.



- Lacey, S. R., Teasley, S. L., & Cox, K. S. (2009). Differences between pediatric registered nurses' perception of organizational support, intent to stay, workload, and overall satisfaction, and years employed as a nurse in magnet and non-magnet pediatric hospitals. *Nurs Admin Q*, 33(1), 6-13.
- Lapierre, L. M., & Hackett, R. D. (2007). Trait conscientiousness, leader-member exchange, job satisfaction and organizational citizenship behavior: a test of an integrative model. *Journal of Occupational and Organizational Psychology*, 80, 539-554.
- Lea, V. M., Corlett, S. A., & Rodgers, R. M. (2012). Workload and its impact on community pharmacists' job satisfaction and stress: A review of the literature. *International Journal of Pharmacy Practice*, 20, 259-271.
- Liden, R. C., & Graen, G. (1980). Generalizability of the vertical dyad linkage model of leadership. *Academy of Management Journal*, 23(3), 451-465.
- Lim, J., (2013). The Relationships of online journalists' emotional responses to competitors with job satisfaction, workload, and perception of the quality of the news website. *Asian Journal of Communication*, 23(2), 209-224.
- Liu, S. B., Lin, X. S., & Hu, W. (2013). How followers' unethical behavior is triggered by leader-member exchange: The mediating effect of job satisfaction. *Social Behavior and Personality*, 41(3), 357-366.
- Locke, E. (1976). The nature and causes of job satisfaction. In Dunnette, M. D. (Ed.), *Handbook of industrial and organizational psychology*. Chicago: Rand McNally.
- Malik, M. E., Danish, R. Q., & Ghafoor, M. (2009). Relationship between age, perceptions of organizational politics and job satisfaction. *Journal of Behavioural Sciences*, 19(1-2), 23-40.
- Mardanov, I., Heischmidt, K., & Henson, A. (2008). Leader-member exchange and job satisfaction bond and predicted employee turnover. *Journal of Leadership & Organizational Studies*, 15(2), 159-175.
- Mousa, A. D., (1990). *Performance and satisfaction ratings by nurses, supervisors, and patient in jordanian government and private hospital*. Dissertation, Western Michigan University.
- Onuoha, Uchenna C., & Segun-Martins, I. O. (2013). Predicting job satisfaction of married female employees: The role of age and emotional intelligence. *Gender & Behaviour*, 11(2), 5745-5751.
- Robert, L. C. (1998). Multidimensionality of leader-member exchange: An empirical assessment though scale development. *Journal of Management*, 24, 42-72.
- Safari, S., Akbari, J., Kazemi, M., Mououdi, M. A., & Mahaki, B. (2013). Personnel's health surveillance at work: Effect of age, body mass index, and shift work on mental workload and work ability index. *Journal of Environmental and Public Health*, 2013, Article ID 289498.
- Schyns, B., & Croon, M. A. (2006). A model of task demands, social structure, and leader-member exchange and their relationship to job satisfaction. *International Journal of Human Resource Management*, 17(4), 602-615.
- Shirom, A., Nirel, N., & Vinokur, A. D. (2010). Work hours and caseload as predictors of physician burnout: the mediating effects by perceived workload and by autonomy. *Applied Psychology: An International Review*, 59(4), 539-565.
- Sone, M., Mizunuma, K., Nakajima, Y., Yasunaga, H., & Ohtomo, K. (2013). Job satisfaction, income, workload, workplace, and demographics of japanese radiologists in the 2008 survey. *Japan Journal Radiology*, 31, 364-370.
- Stuart, E. H., Jarvis, A., & Daniel, K. (2008). A ward without Walls? District Nurses' perceptions of their workload management priorities and job satisfaction. *Journal of Clinical Nursing*, 17, 3012-3020.
- Subramanyam, M., Muralidhara, P., & Pooja M, (2013). Mental workload and cognitive fatigue: A study. *The IUP Journal of Management Research*, 12(2), 29-39.
- Vitório, D. M., Masculo, F. S., & Melo, O. B. C. M., (2012). Analysis of mental workload of electrical power plant operators of control and operation centers. *Work*, 41, 2831-283.
- Volmer, J., Niessen, C., Spurk, D., Linz, A., & Abele, A. E. (2011). Reciprocal Relationship between Leader-Member Exchange and Job Satisfaction: A Cross-Lagged Analysis. *Applied Psychology: An International Review*, 60(4), 522-545.
- Wech, B. A. (2002). Trust Context: Effect on Organizational Citizenship Behavior, Supervisory Fairness, and Job Satisfaction beyond the Influence of Leader-Member Exchange. *Business Society*, 41(3), 353-360.
- Zeytinoglu, I. U., Denton, M., Davies, S., Bauman, A., Blythe, J., & Boss, L. (2007). Deteriorated external work environment, heavy workload and nurses' job satisfaction and turnover intention. *Canadian Public Policy*, 33, 32-47.