



Investigation of Factors Affecting Labor Productivity in Manufacturing Industry by Structural Equation Modelling: Kocaeli Example

Vasfi Nadir TEKİN¹, Pınar YILDIZ KUMRU² & Gülşen AKMAN³

Keywords

Labor Productivity,
Job Satisfaction,
Quality of Work
Life, Life
Satisfaction,
Organizational
Commitment,
Structural Equation
Modelling.

Article History

Received

18 Mar, 2022

Accepted

12 Jun, 2022

Abstract

In this study, the relationships between job satisfaction, quality of working life, life satisfaction, organizational commitment and labor productivity of employees were tried to be determined by Structural Equation Model (SEM) in manufacturing enterprises operating in Kocaeli Region. The usability of this model in determining the variables affecting the labor productivity of employees and the factors determining these variables has been tested. According to the results, affective commitment affects the quality of work life, job satisfaction, and life satisfaction in a significant and positive way. Life satisfaction affects job satisfaction significantly and positively. Normative commitment significantly and negatively affects the quality of work life and life satisfaction. The quality of working life and job satisfaction affect labor productivity in a significant and positive way.

İmalat Sektöründe Emek Verimliliğini Etkileyen Faktörlerin Yapısal Eşitlik Modeli ile İncelenmesi: Kocaeli Örneği

Anahtar Kelimeler

Emek Verimliliği, İş
Doymu, Çalışma
Yaşamının Kalitesi,
Yaşam Doymu,
Örgütsel Bağlılık,
Yapısal Eşitlik
Modellemesi.

Makale Geçmişi

Received

18 Mart 2022

Accepted

12 Haziran 2022

Özet

Bu çalışmada Kocaeli Bölgesinde imalat sektöründe faaliyet gösteren işletmelerde çalışanların iş doymu, çalışma yaşamının kalitesi, yaşam doymu, örgütsel bağlılık ve emek verimliliği arasındaki ilişkiler Yapısal Eşitlik Modeli (YEM) ile belirlenmeye çalışılmıştır. Bu modelin çalışanların emek verimliliğini etkileyen değişkenlerin ve bu değişkenleri belirleyen faktörlerin belirlenmesinde kullanılabilirliği test edilmiştir. Elde edilen sonuçlara göre, duygusal bağlılık çalışma yaşamının kalitesini, iş doymunu, yaşam doymunu anlamlı ve pozitif bir şekilde etkilemektedir. Yaşam doymu, iş doymunu anlamlı ve pozitif olarak etkilemektedir. Normatif bağlılık, çalışma yaşamının kalitesini, yaşam doymunu anlamlı ve negatif bir şekilde etkilemektedir. Çalışma yaşamının kalitesi ve iş doymu, emek verimliliğini anlamlı ve pozitif bir şekilde etkilemektedir.

¹ ORCID: 0000-0003-1174-4040, Dr., Dijla University College, Jaleel-fadhil@yahoo.com

² ORCID: 0000-0002-8905-1909, Dr., Dijla University College, Jaleel-fadhil@yahoo.com

³ Corresponding Author. ORCID: 0000-0002-5696-2423, Dr., Dijla University College, Jaleel-fadhil@yahoo.com

1. Introduction

Efficiency is determined by labor, capital, raw materials, energy and technology factors. The most important of these is labor productivity. Even if a system is at the highest technological level, it is human beings who make it work and control it. For this reason, while designing a system, the necessary value and importance should be given to the people who make the effort.

When the performance of the change in labor productivity among 24 OECD countries in the 2005-2014 period is compared, it is observed that Turkey is not in a bright spot. Turkey ranks 17th among 24 countries in productivity change. This line creates an undesirable level according to the potential of our country (Balkan & Suiçmez, 2017). Labor productivity in Turkey is one quarter of the labor productivity of the USA and Germany. The reason for this is the differences in the economic development and technological levels, education levels, business processes, management quality and working conditions of these countries (Kenar, 2016). There is a productivity gap in Turkey. Current growth is not based on productivity and technological development. As a result, sufficient jobs and employment cannot be provided, income cannot be created, the imbalance in income distribution cannot be eliminated, and there is a great loss of welfare. There are constant negativities in economy and social life (Suiçmez, 2016).

The fact that labor productivity in Turkey is very low when compared to developed countries necessitates research on this subject. With this study, many benefits will be provided by determining the factors affecting labor productivity. Businesses that learn these factors will be able to make healthier labor productivity plans, increase their profits and contribute to the country's economy.

Among the factors of production (labor, capital, raw materials, energy, etc.) used by an enterprise to achieve its goals and objectives, labor is the most important. For this reason, it is necessary to maximize labor productivity in the enterprise. Labor productivity is associated with job satisfaction, quality of working life, life satisfaction, and organizational commitment. The positive effect of many factors in the workplace on these basic variables causes labor productivity to increase, otherwise it will decrease. Therefore, with this study, it is aimed to reveal the relationship between the commitment of human resources, which are among the factors of production, to their organizations, the quality of working life, job satisfaction, life satisfaction and labor productivity factors and to develop solution proposals. For this purpose, within the scope of this study, first of all, literature research was conducted, then labor productivity and the basic concepts affecting it were explained and hypotheses were developed that reveal the relationships between these concepts. In the method part, the sample of the research and the scales used are given. In the next section, the findings are explained and the findings are discussed in the conclusion and recommendations section.

2. Literature Review

Numerous studies have been conducted in the literature on job satisfaction, organizational commitment, quality of work life, life satisfaction and labor productivity.

Pandey & Khare (2012) examined the effect of job satisfaction on employee engagement on employees in the service and manufacturing sectors in Gwalior, India, and found that job satisfaction and organizational commitment had a significant impact on employee engagement in both the manufacturing sector and the service sector. Topcu et al. (2014), in his research to determine the factors affecting labor productivity in textile enterprises, determined that the factors affecting affective commitment have a positive effect on job satisfaction. Chang et al. (2010) conducted a study on the effect of Total Quality Management (TQM) on employee satisfaction and affective commitment and determined that employee satisfaction and commitment are critical for the survival and success of a service-oriented organization.

Chinomona & Mofokeng (2014) conducted a research in Vandebijlpark in North Africa to determine the effect of workplace conditions on employee satisfaction, employee satisfaction on employee engagement, and workplace conditions on employee engagement on low-level employees. According to the results obtained by applying the SEM technique, it has been revealed that workplace conditions positively affect job satisfaction, job satisfaction affects employee engagement, and workplace conditions positively affect employee engagement. Nurullah (2010) conducted a research to determine the direction of job satisfaction and career satisfaction of adults in the Canadian province of Alberta and the factors affecting job satisfaction. In the research, it was concluded that self-esteem, valuable job characteristics, happiness and income factors affect job satisfaction positively. Iqbal (2010), in order to determine the relationship between demographic factors (age, tenure, education level) and organizational commitment, according to the results obtained from the workers working in knitwear businesses in Lahore and Faisalabad, India, the relationship between affective commitment and age and education level. The relationship between affective commitment is negative, while the relationship between length of service and affective commitment is positive. Organizational commitment of managers and supervisors is higher than that of workers.

Waqas et al. (2014), to determine the level of job satisfaction and the effects of job satisfaction on organizational commitment, there is a strong relationship between job satisfaction and organizational commitment. The most important factors affecting job satisfaction are reward and recognition, work environment, empowerment. The effect of participation in decisions on job satisfaction is not significant. Hong & Hamid (2013) conducted a research on non-management employees in a business operating in Seremban, Malaysia, and they concluded that working conditions, payment and wages, and promotion criteria significantly affect the level of job satisfaction. Besides, business justice does not have any direct effect on the job satisfaction of the employees. Sheikhy & Rezaei (2014), using the SEM technique, conducted a study to determine the factors that increase labor productivity on the employees of Aghajari Oil and Gas Plant in Iran. According to the results of the research, management factors, socio-psychological factors, cultural factors, environmental factors, individual factors affect the workforce productivity of the employees at a significant level. Tarigan & Ariani (2015), using SEM technique, to examine the relationship between job satisfaction,

organizational commitment and turnover intention, in a study conducted in manufacturing companies in the cities of Yogyakarta and Surakarta in Indonesia, when employees are satisfied and committed to their jobs, they do not tend to leave their jobs and they do not have a tendency to leave their job. They stated that there is a relationship between organizational commitment and satisfaction with the intention to leave.

Nazeer et al. (2014) conducted a study on the faculty members of three universities in Islamabad and Rawalpindi, Pakistan, including the components of job performance, job satisfaction and internal service quality. . Yücel (2012) sent a questionnaire to 250 people in manufacturing enterprises in Turkey to determine the relationships between employees' job satisfaction, organizational commitment, and turnover intention, and found that job satisfaction was one of the antecedents of organizational commitment and turnover intention, and a high level of organizational commitment and low turnover intention. They have seen that it provides the intention to leave a job. Nekouei et al. (2014), in his research to determine the effect of the quality of working life on job satisfaction of employees in the Iranian public sector, it was revealed that the quality of working life significantly affects job satisfaction, and managerial variables are more determinant on job satisfaction. Wang et al. (2012) conducted a research by creating a SEM model to determine the effect of job satisfaction and organizational commitment on organizational performance, and it was determined that job satisfaction and organizational commitment had a positive effect on organizational performance. Perera et al (2014) conducted a research on the relationship between job satisfaction and labor productivity of employees in different sectors and concluded that job satisfaction has a positive effect on labor productivity. They found that employees who are highly satisfied with their jobs do their jobs optimally than those who are less satisfied.

Rostami (2014), in a study to determine the relationship between job satisfaction and personality traits, and labor productivity, determined that there is a significant relationship between these variables. Based on the research results, organizations should coordinate the personality traits of their employees and meet their needs in order to increase their productivity. Sehgal (2012), in a study to determine the effect of the working environment on the performance of the employee, determined that the internal and external working environment of the workplace is effective in increasing the productivity of the workers. Accordingly, a working environment suitable for the wishes of the employees of the organization should be created and they should be proud of their work. Rizal & Idrus (2014) investigated the effect of compensation on motivation and organizational commitment and the effect of organizational commitment on employee performance in a study on employees in the Indonesian Kendari Local Revenue Administration. According to the results obtained, compensation, salary and incentives play an important role in increasing the motivation of the employees. Motivation plays an important role in improving employee performance. Organizational commitment improves employee performance. The direct impact of compensation on employee performance is positive but not significant. There is an

important relationship between motivation and employee performance through organizational commitment.

Radja et al. (2013) conducted a study on employees at the Spatial Planning and Building Licensing management office in Makassar, Indonesia, to determine the impact of the quality of working life and organizational commitment of public service providers on job satisfaction and job performance. According to the results obtained, organizational commitment has a significant and positive effect on job satisfaction. Job satisfaction has a significant and positive effect on the performance of public service providers. Purnama (2013), according to the results of the study in which they investigated the effects of organizational culture, job satisfaction, organizational commitment, organizational citizenship behavior on organizational performance, organizational citizenship behavior can improve organizational performance by playing an important role on organizational members. Organizational culture plays an important role on job satisfaction, organizational commitment and organizational citizenship. Organizational commitment and organizational citizenship behavior have a positive effect on employees in small and medium-sized shoe factories, and the performance of these businesses is increasing. Organizational culture has a significant impact on organizational performance in the long run. Tahere et al (2012), using the SEM technique, conducted a study on 50 nurses at Chaem University in Mashhad, Iran to determine the effect of work experience, job satisfaction, motivation on organizational commitment variable. They concluded that job satisfaction affects employees' organizational commitment.

Parvar et al. (2013) conducted a study to determine the effect of quality of work life on organizational commitment on workers in a business by using the SEM technique. According to the results obtained, the quality of work life of the employees is effective on their organizational commitment. A safe and healthy environment, legitimacy and social interest have an impact on employees' organizational commitment. According to the results of a study conducted by Leite et al. (2014) on 10,052 people working in the Brazilian Military Police to determine whether the relationship between job satisfaction and organizational commitment is directly or through an intermediary, job satisfaction is the precursor of organizational commitment and interpersonal relations are determinant in job satisfaction. Job satisfaction with rewards does not provide organizational commitment.

3. Conceptual Framework

3.1. Labor Productivity

Labor productivity, one of the productivity types, is a widely used measure that increases production performance. Since the labor factor is more open to short-term changes than other production factors, labor productivity is a type of productivity that is studied more. Especially in developing countries, due to the shortage of capital, labor becomes the most important tool to minimize this in the short run. Education, reducing wage inequality, management and organizational effectiveness, rewarding success, ensuring job security and other social policies

can be listed as factors that lead to an increase in labor productivity (Albayrak & Ağazade, 2017)

Labor productivity is the ratio of the value of production in an enterprise to the labor expended. In order to get the optimum output from the available resources, the factors that affect the labor productivity the most should be determined and the production plans and programs should be made accordingly.

Factors affecting labor productivity can be listed as follows: lack of materials, delay in materials, unclear instructions, financial difficulties of the employer, lack of employees, lack of control methods, equipment and regulation change, schedule uncertainty, inadequate management, wasted time, incompetence, delay in supervision, equipment-equipment inadequacy, insufficient education, health and safety factors, working time factor, accidents, organizational factor etc. (Attar, 2012).

Manufacturing industry has higher labor productivity compared to agriculture and service sectors. Therefore, when employment in the manufacturing industry increases, average labor productivity also increases. However, in addition to this effect of the manufacturing industry in the economic development process, only the manufacturing industry has a key role in the development of new technologies and their spread to other sectors (Balkan & Suiçmez, 2017). The increase in labor productivity depends on the increase in the share of the industry sector among all sectors (Taymaz & Suiçmez, 2005).

3.2. Job Satisfaction

Job satisfaction is a person's total feelings and attitudes about their job. Job satisfaction is the affective state of a person resulting from his evaluation of his job and work experiences. These feelings can be positive, negative or neither positive nor negative (Perara et al. 2014). Job satisfaction is the judgment that employees reach as a result of evaluations of their job satisfaction, which consists of affective and cognitive components (Edwards, 2008). Job satisfaction is the level of job satisfaction that improves the skills and opportunities of employees (Moiser & Galais, (2007) Job satisfaction is the positive state of the employee resulting from work and work experiences (Chinomona, 2014) Job satisfaction is the satisfaction and satisfaction of employees while doing their job. is the affective state of not being (Purnama, 2013).

3.3. Organizational Commitment

Organizational commitment is the desire of the employee to stay in the organization. This desire increases the labor productivity of the employee. Organizational commitment is a very important variable that is effective on labor. Employees in different disciplines define organizational commitment from their own perspectives. Organizational commitment is defined as a measure of employee involvement in the organization. Organizational commitment is also a good indicator of the employee's desire to stay or leave the job (Noe et al., 1997; Purnama, 2013). Organizational commitment is a psychological state. It determines the relations between the organization and the employee. It has the effect of making a decision to continue membership in the organization (Pandey, 2012). Organizational commitment can be

examined in three dimensions. Affective commitment, compulsory commitment and normative commitment (Meyer & Allen, 1991; Ceylan, 2005).

Affective commitment is the desire of employees to stay in the organization. Employees who have an affective commitment to their organizations are determined for the success of their organizations and believe that staying in their organization is the best option. Accordingly, he not only plans to stay in the organization; does not search for another organization, does not become sensitive to job offers of other organizations. He is happy to be a member of the organization. It strives for the interests of its organizations. For this reason, affective commitment is a type of commitment desired by businesses (Pandey, 2012).

Compulsory commitment (Continuance commitment) is the commitment that arises from the fact that employees see it as compulsory to stay in the job because they perceive that the cost they will bear will be high if they become unemployed. Mandatory commitment depends on two factors. The first factor is the large investment employees make in them, the second factor is the scarcity of other options. The time and energy that employees invest in their jobs may not be easily transferred to other organizations. In a research on the reasons for employees to leave their jobs, the identified reasons are high wages, status, freedom in creativity, and opportunity for promotion (Pandey, 2012).

Normative commitment is a component of commitment that employees feel for moral reasons such as loyalty, duty, and responsibility. According to studies conducted in Turkey, the variables that affect normative commitment the most are loyalty norms, family influence, collectivist organizational culture, and being recruited by request of a partner (Göksel & Aydın, 2012).

3.4. Life Satisfaction

Life satisfaction is the state of meeting a person's wishes, needs and expectations throughout his life, not at a certain moment. Life satisfaction, as a whole, can be defined as a state of well-being (Martikainen, 2008). The life satisfaction model can be used as a meaningful indicator that people who are highly consistent with social realism are healthy (Jung et al., 2010). Life satisfaction includes people's lives and all aspects of their lives. It does not include the satisfaction of people about a certain situation or a certain process, but the satisfaction of all their lives in general (Avşaroğlu et al., 2005). Life satisfaction is also expressed as a subjective and clear assessment of one's happiness and well-being. (Yiğit et al., 2011). Being happy in daily life, feeling good psychologically and physically, being socially and economically secure are the factors affecting life satisfaction (Demirel, 2014: 4926).

3.5. Working Life Quality

The working life quality, the physical and psychological characteristics of the workplace, and the suitable environment for employees to do their jobs. Different researchers emphasize different aspects of the concept of quality of work life. For example, some researchers focus on the idea that the work environment enhances work performance, while others are concerned with maintaining physical and

psychological well-being. Others consider it as a concept that reduces the quality of working life, work life and alienation in the society and ensures the development of workers (Erdem & Kaya, 2013).

3.6. Theoretical Model of the Research and Formation of Hypotheses

According to Tarigan & Ariani (2015), organizational commitment directly affects job satisfaction. Accordingly, those with organizational commitment do not think of leaving the job. Uyguç & Çımrın (2004) showed that affective commitment is positively related to job satisfaction and normative commitment is positively related to commitment and job satisfaction. In the study conducted by Top (2012), a significant and positive relationship was found between organizational commitment and job satisfaction, but no significant relationship was found between normative commitment and job satisfaction. The following hypotheses have been developed according to research on the effect of affective commitment on job satisfaction.

H1a. There is a significant and positive relationship between affective commitment and job satisfaction.

H1b. There is a significant and positive relationship between continuance commitment and job satisfaction.

H1c. There is a significant and positive relationship between normative commitment and job satisfaction.

Türkay (2015), in his research on the dimensions of the working life quality of travel agency employees, found very few factors that determine job satisfaction, commitment to the business and the job field. These are factors such as providing the highest contribution to the business, thinking that the job is a chance for oneself, thinking that the job is interesting, thinking that the job is important for the company (it can also be called affective commitment), as well as purely financial expectations such as being satisfied with the salary, and the fairness of the managers, the efficiency of the processes. are the practical factors that determine the working environment, such as Demirbilek & Türkan (2008), in their study on the quality of working life, revealed that employee motivation and employee empowerment increase job satisfaction, the level of commitment to the business and, accordingly, the quality of working life. With the improvement of the working environment, less absenteeism, more organizational commitment and ultimately higher job performance emerge (Akar & Üstüner, 2017). The following hypotheses have been developed based on research on the effect of affective commitment, continuance commitment and compulsive commitment on the quality of work life:

H2a. Affective commitment significantly and positively affects the quality of work life.

H2b. Continuance commitment significantly and positively affects the quality of work life.

H2c. Normative commitment significantly and positively affects the quality of work life.

According to the results of the study conducted by Özdevecioğlu & Aktaş (2007) to determine the effects of commitment types on life satisfaction through work-family conflict, professional commitment, organizational commitment and career commitment affect life satisfaction in a significant and positive way. It has been determined that there is a "significant, positive, directly proportional and moderate relationship" at the level of significance between teachers' life satisfaction and organizational happiness levels (Öztürk, 2020). The following hypotheses have been developed regarding the effect of organizational commitment on life satisfaction:

H3a. Affective commitment significantly and positively affects life satisfaction.

H3b. Continuance commitment significantly and positively affects life satisfaction.

H3c. Normative commitment significantly and positively affects my life satisfaction.

Many theories about job satisfaction and labor productivity have been created and these theories have been used in many researches. According to the "Behavioral Decision Theory", one of these theories, employees with job satisfaction are more productive and take more part in organizational activities (Chinomana, 2014). Rostami (2014), in a study to determine the effect of job satisfaction on labor productivity, determined that the productivity of employees with job satisfaction increased. According to the results of the research that includes the components of job performance, job satisfaction and internal service quality on the faculty members of three universities in Islamabad and Rawalpindi, Pakistan, it has been determined that there is a significant and positive relationship between job satisfaction and job performance (Nazeer et al., 2014). Based on these studies, the following hypothesis was developed:

H4: Job satisfaction affects labor productivity in a significant and positive way.

In accordance with the "Quality of Work Life Theory", if an organization has an understanding of safety, justice, pride, family democracy, ownership, autonomy, responsibility, flexibility, this understanding has a positive impact on employees. Employees are motivated, own the organization and are satisfied with their jobs (Radja et al., 2013). Chinomona (2014) revealed that workplace conditions affect job satisfaction and job satisfaction affects employee engagement. Sheikly & Rezaei (2014) determined that environmental factors significantly affect the labor productivity of employees. Parvar et al. (2013), a safe and healthy environment has a positive effect on employees' organizational commitment. Topcu et al. (2014), in his study carried out in textile enterprises, determined that "physical conditions" and "economic conditions" affect productivity by integrating with each other. Sehgal (2012) determined that the internal and external working environment of the workplace is effective in increasing the performance of the employee. Based on the studies conducted to determine the relationship between the quality of working life, labor productivity and job satisfaction, the following hypotheses have been developed:

H5a: The quality of working life significantly and positively affects labor productivity.

H5b: The quality of work life affects job satisfaction in a significant and positive way.

According to Li and Wang (2012), it is not possible to consider the concept of life satisfaction independently of work life. Because at the beginning of the factors that affect life satisfaction, work life, which has a very important place in the general life of the individual, comes first. In this context, it is a well-established opinion that there is an interaction between job satisfaction and life satisfaction. According to Çevik & Korkmaz (2014), job satisfaction increases life satisfaction. Being unmarried, working in the public sector, satisfaction with income, health and household income are variables that increase both job and life satisfaction. Along with these, it is possible to say that as age increases, life satisfaction decreases and job satisfaction increases. There are some consequences for the individual to have self-confidence, quality of life and a positive perspective towards life, to live more calmly, and even to enjoy life due to his job satisfaction. These results increase motivation, and an increase in performance occurs depending on motivation. The increase in performance provides productivity, which explains the relationship between the terms job satisfaction, life satisfaction and employee performance (Öktem & Öztoprak, 2020). Many studies have been conducted to determine whether job satisfaction affects life satisfaction or job satisfaction. The hypotheses determined based on past research to determine the effect of life satisfaction and job satisfaction on labor productivity are as follows:

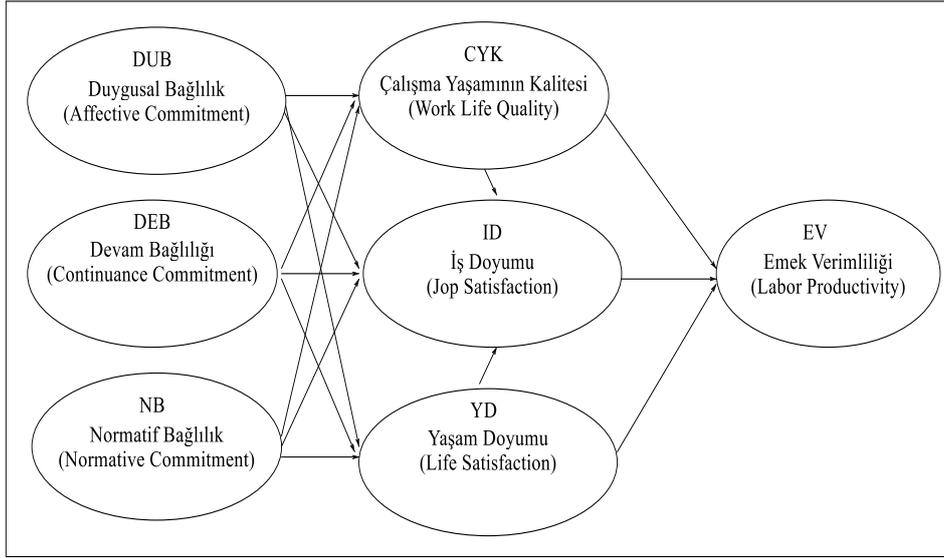
H6a: Life satisfaction affects labor productivity in a significant and positive way.

H6b: Life satisfaction has a significant and positive effect on job satisfaction.

More about this source textSource text required for additional translation information

Based on the hypotheses defined above, the theoretical model of the study was created as shown in Figure 1. Among the variables in the theoretical model, multidimensional organizational commitment [affective commitment (EC), continuance commitment (DEB), normative commitment (NC)] are external variables that are affected by the variables excluded from the model. Job satisfaction (ID), quality of work life (QL), life satisfaction (OS) and labor productivity (LP) are endogenous variables (Figure 1).

Figure 1. Theoretical Model of the Study



According to the theoretical model, multidimensional organizational commitment [affective commitment (EC), continuance commitment (DEB), normative commitment (NC)] affects job satisfaction (ID), quality of work life (STA), and life satisfaction (OS). Quality of work life (QL) affects job satisfaction (ID) and labor productivity (LP), life satisfaction (OS), job satisfaction (ID) and labor productivity (LP). Job satisfaction (ID) affects labor productivity (LP).

4. Method

In this study, which was carried out to determine the effect of the factors affecting Labor Efficiency, firstly, information about the sample and the scales used in data collection was given, and then the analyzes made about the established model were given. In this context, after the confirmatory factor analysis was performed to test the measurement model, the correlation between the variables and the goodness-of-fit indexes were examined for the validity of the measurement model. Then, the structural equation model was used to evaluate the structural model created to examine the relationships between the variables. Linear Structural RELations (LISREL) package program was used for Confirmatory factor analysis (DFA) and Structural equation model (SEM) analyses.

4.1. Research Sample

The main population of the research consists of 12 manufacturing enterprises operating in the private sector in Kocaeli, Turkey. The sample of the study was determined by the convenience sampling method as a total of 1000 people working in 12 manufacturing enterprises. 325 people filled the questionnaire. The survey response rate is 31%. 15 questionnaires were not included in the analysis because they were filled incompletely. Statistical analyzes were carried out on 310 questionnaires. The introductory frequency and percentage distributions for the general structure of the manufacturing sector employees who participated in the research and constituted the sample group are shown in Table 1. In the distribution by marital status, the married-unmarried distribution is close to each

other; married people are 8% more than singles. According to the age distribution, 20-30 years old in the first place and 31-40 years old in the second place shows that the majority is the young population. In the distribution by income level, 78% of those who receive 1000-4000 TL indicate that the majority of the employees have low income. In the distribution by education level, the fact that 52% of the employees had High School and 29% had an Associate Degree indicates that it is at a good level compared to the country in general. The fact that 62% of the employees work for 1-3 years and 17% of those who work between 4 and 8 years in the distribution of employees according to the year they worked indicates that the number of senior workers in the workplaces is very low.

Table 1. Distribution of Survey Participants by Demographic Characteristics

		Frequency	%
Marital Status	Married	167	%54
	Single	143	%16
	Total	310	100
Age	20-30	124	%40
	31-40	110	%35
	41-50	57	%19
	51 ve çok	19	%6
	Total	310	100
Montly earning	3000 TL and less	127	%41
	3001-6000 TL	118	%37
	6001-10000 TL	36	%12
	10001-15000 TL	14	%5
	15001-20000 TL	9	%3
	20000 TL and more	6	%2
Total	310	100	
Education level	High school	160	%52
	Pre-BSc	89	%29
	BSc	53	%17
	MSc	4	%1
	PhD	4	%1
	Total	310	100
Working duration	Less than 1 year	66	%21
	1-3 years	128	%41
	3-8 years	53	%17
	8-12 years	45	%15
	12-20 years	14	%5
	More than 20 years	4	%1
	Total	310	100

4.2. Conceptual Model and Scales

First of all, a detailed literature review was carried out to determine the scales that would support the theoretical model, and the scales whose validity and reliability were tested were determined. In this context, a survey form was developed to determine the factors affecting the labor productivity of employees in manufacturing enterprises by scanning the literature. In the first part of the questionnaire, questions about general information about the employees

participating in the survey study, and in the second part, the scales related to the dependent and independent variables that constitute the theoretical model of the study. Afterwards, by interviewing a certain number of respondents from the sample, inappropriate questions were removed, new questions were added, and the questionnaire was finalized to be evaluated with a 7-point Likert scale. The resources and the number of questions used while creating the scales in the survey are shown in Table 2.

Table 2. Scales Used in the Study

Scale	Rep.	Reference	Number of items
Labor productivity	LB	Kien (2012)	5
Life Satisfaction	LS	Beuningen & Jange (2011)	6
Affective commitment	AC	Allen & Meyer, 1990, Çınar (2015)	5
Nornative Commitment	NC	Allen & Meyer, 1990; Çınar (2015)	3
Continuance Commitment	CC	Allen & Meyer, 1990; Çınar (2015)	3
Job Satisfaction	JS	Steger, Dik & Shim (2012)	6
Working Life Quality	WLQ	Aydın, Çelik & Uğurluoğlu (2011)	7

5. Findings and Discussion

5.1. Evaluation of the Measurement Model

Confirmatory factor analysis (CFA) is called the measurement model, and the results of CFA give the idea that each observed variable is a good representation of the latent variable to which it belongs. In addition, CFA demonstrates the validity of the measurement model as a whole through goodness-of-fit statistics. It is important to use CFA before searching for the relationship between implicit variables, to keep the estimated values provided for the measurement model constant in the structural model to be tested and to be acceptable to substitute this measurement model (Kline, 2005). The theoretical model created by the relationships between the research variables EC, CC, NC, WLQ, LS, JS, LP was analyzed in two stages. In the first stage, the measurement model was tested. At this stage, whether the unobserved variables were supported by the observed variables was tested with confirmatory factor analysis (CFA). After the adjustments in the model were made, it was seen that there was no problem in the model obtained. Table 3 shows the results of the DFA analysis. At least 3 items were determined for each variable in the analysis. The standard values of these items are in the range of 0.5-1.00. R2 values are greater than 0.25, error variances are positive, and t-values are greater than 1.96 at the 0.05 significance level (Şimşek, 2007). Confirmatory factor analysis values are in the desired range.

Table 3. Confirmatory Factor Analysis Results

Variables	Items	Standard Value	R ² Value	Error Variance	T values
Life satisfaction (LS)	LS1	0.66	0.434	0.57	8.88
	LS2	0.71	0.497	0.50	9.70
	LS3	0.84	0.711	0.29	12.43
	LS4	0.66	0.436	0.56	8.90
	LS6	0.59	0.346	0.65	7.70
Continuance Commitment (CC)	CC1	0.91	0.830	0.17	13.12
	CC2	0.75	0.569	0.43	10.36
	CC3	0.53	0.286	0.71	6.87
Normative Commitment (NC)	NC1	0.56	0.313	0.69	7.18
	NC2	0.70	0.483	0.52	9.36
	NC3	0.87	0.752	0.25	12.37
Affective Commitment (AC)	AC1	0.81	0.658	0.34	12.15
	AC2	0.80	0.633	0.37	11.80
	AC3	0.66	0.432	0.57	9.08
	AC4	0.71	0.502	0.50	10.02
	AC5	0.67	0.445	0.55	9.26
Job satisfaction (JS)	JS2	0.69	0.480	0.52	9.48
	JS3	0.72	0.515	0.48	9.96
	JS4	0.70	0.486	0.51	9.61
	JS5	0.71	0.505	0.50	10.25
	JS6	0.66	0.435	0.57	8.94
	JS7	0.66	0.435	0.57	8.94
Working life quality (WLQ)	WLQ1	0.59	0.348	0.65	8.22
	WLQ2	0.74	0.549	0.45	10.67
	WLQ3	0.85	0.726	0.27	13.12
	WLQ4	0.85	0.729	0.27	13.16
	WLQ5	0.66	0.442	0.56	9.21
	WLQ6	0.64	0.414	0.59	8.82
	WLQ7	0.50	0.251	0.75	6.52
Labor productivity (LP)	LP1	0.67	0.445	0.56	9.21
	LP2	0.83	0.691	0.31	12.52
	LP3	0.90	0.808	0.19	14.12
	LP4	0.64	0.409	0.59	8.74
	LP5	0.64	0.409	0.59	8.74

Significance level is 0,05

For a model to be accepted, the correlation coefficients obtained at the end of the confirmatory factor analysis should be high but not exceed 0.85 (Cokluk, 2010). The correlation analysis created as a result of confirmatory factor analysis is shown in Table 4. When Table 4 is examined, it is seen that the correlation coefficients are not excessively small and not excessively high. The smallest coefficient is 0.259, the largest coefficient is 0.835.

Table 4. Correlation Values Between Variables

	JS	WLQ	LS	AC	LP	CC	NC
JS	1						
WLQ	0.601	1					
LS	0.699	0.572	1				
AC	0.835	0.632	0.593	1			
LP	0.605	0.703	0.39	0.664	1		
CC	0.474	0.273	0.259	0.565	0.473	1	
NC	0.535	0.291	0.294	0.727	0.495	0.639	1

Corelation is significant at 0,05 level (Two tailed)

The most important condition for testing a structural model is validation of the DFA model. No structural model can produce better results than a measurement model. According to the CFA analysis results, this model is an acceptable model since it produced sufficient goodness-of-fit values. Goodness-of-fit values of the measurement model are shown in Table 5. When Table 5 is examined, it was determined that $\chi^2/(df)$ in line with the calculated measurement model-data fit values, showed an excellent fit in terms of CFI, and an acceptable level of fit in terms of RMSEA, NFI, SRMR and GFI (Byrne, 2013; Schermelleh-Engel, et al., 2003). The ID, LS, WLQ, AC, CC, NC, LP structures were confirmed. These constructs, consisting of a total of 32 items, are supported by goodness-of-fit values and are ready to be tested with SEM.

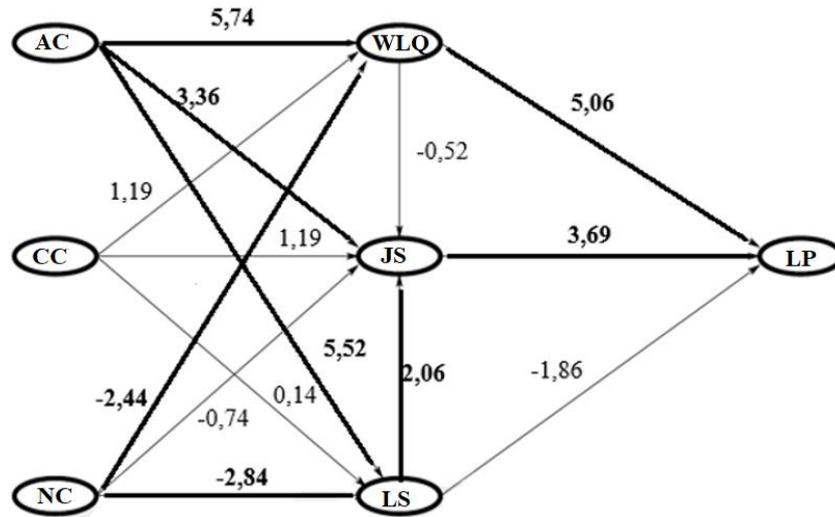
Table 5. Fit values of confirmatory factor analysis (Jöreskog, 2016).

Goodness fit indexes	Values after modification	PerfAct Fit	Acceptable Fit
χ^2/df	795.81/440=1.808	1-2	3-5
RMSEA	0.071	$0 < RMSEA < 0.05$	$0.05 < RMSEA < 0.10$
NFI	0.918	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$
CFI	0.961	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
SRMR	0.0782	$0.00 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$
GFI	0.925	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$

5.2. Analysis of the Structural Model

In the second stage, the structural model was tested with structural equation modeling (SEM) to show the cause-effect relationships between the variables. Structural equation modeling was used in order to determine the relations between the labor productivity of the employees and the related factors in the manufacturing enterprises operating in Kocaeli province. calculation results are shown in Figure 2. Paths are shown with t-values. Dark-colored paths are paths with statistically significant t-values ($p < 0.05$).

Figure 2. SEM Graph of the Theoretical Model



Statistically significant paths; AC→WLQ, AC→ID, AC→LS, JS→LS, WLQ→LP, JS→LP paths. The meaningless paths are CC→WLQ, CC→JS, CC→LS, NC→JS, LS→LP, WLQ→JS pathways from CC and NC to WLQ, JS, LS. The hypotheses corresponding to the meaningful paths were accepted, while the others were rejected.

Table 6 shows the relationships between the variables in the path analysis and the results of the hypotheses. Accordingly, CC does not affect WLQ, JS and LS. Since $t < 1.96$ on these paths, the relationships between these variables are not statistically significant. Hypotheses H1b, H2b and H3b are rejected. Since the β coefficient between normative commitment and job satisfaction is equal to -0.12 and t-value $(-0.74 < 1.96)$, there is no relationship between the two variables and H1c is rejected. Since normative commitment is formed by the employee's sense of moral responsibility, this does not ensure that the employee is happy with his job. The quality of working life does not affect job satisfaction. Since the t value corresponding to this relationship is less than 1.96, H5b is rejected. Since the β coefficient between life satisfaction and labor productivity is -0.19 and $t = -1.86$ is smaller than 1.96, there is no relationship between the two variables and H6a is rejected. Since life satisfaction occurs as a result of meeting the wishes and needs of the employee, in this case it does not have a positive effect on labor productivity.

Table 6. Relationships between variables in path analysis of the theoretical model

Hypotheses	Path	Standard Values (β)	t-values	p	Results
H2b	CC→WLQ	0.01	0.13	p>0.05	Rejected
H1b	CC→JS	0.11	1.19	p>0.05	Rejected
H3b	CC→LS	-0.02	-0.14	p>0.05	Rejected
H1c	NC→JS	-0.02	-0.74	p>0.05	Rejected
H6a	LS→LP	-0.19	-1.86	p>0.05	Rejected
H5b	WLQ→JS	-0.05	-0.52	p>0.05	Rejected
H2a	AC→WLQ	0.90	5.85	P<0.05	Accepted
H1a	AC→JS	0.69	7.08	P<0.05	Accepted
H3a	AC→LS	0.90	5.60	P<0.05	Accepted
H5a	WLQ→LP	0.54	4.75	P<0.05	Accepted
H6b	LS→JS	0.28	3.20	P<0.05	Accepted
H4	JS→LP	0.29	3.08	P<0.05	Accepted
H3c	NC→LS	-0.48	-2.84	p>0.05	Rejected
H2c	NC→WLQ	-0.37	-2.44	p>0.05	Rejected

SEM Equations of Theoretical Model

1. $WLQ=0.846*AC-0.297*NC$, Errorvar.=0.437, $R^2=0.502$
2. $JS=0.254*LS+0.633*AC$, Errorvar.=0.193, $R^2=0.773$
3. $LP=0.575*WLQ+0.314*JS$, Errorvar.0.437, $R^2=0.561$
4. $LS=0.898*AC-0.419*NC$, Errorvar.=0.561, $R^2=0.439$

There is a statistically significant positive relationship between quality of work life and affective commitment ($\beta=0.90$ and $t=5.85>1.96$, $p<0.05$) and H2a is accepted. There is a statistically significant and negative relationship between normative commitment and the work life quality ($\beta=-0.37$ and $t=-2.44<1.96$, $p>0,05$), but the H2c hypothesis suggests a positive relationship. Therefore, H2c is rejected. 50,2 % variance of WLQ is explained by AC-NC ($R^2=0.502$).

There is a statistically significant positive relationship between affective commitment and job satisfaction ($\beta=0.69$ and $7.08>1.96$) and H1a is accepted. There is a statistically significant positive relationship between job satisfaction and life satisfaction ($\beta=0.28$ and $3.20>1.96$) and H6a is accepted. 77.3 % variance of JS is explained by LS-AC ($R^2=0.773$).

There is a statistically significant positive relationship between Quality of Working Life and labor ($\beta=0.54$ and $4.75>1.96$, $p<0.05$) and the H5a hypothesis is accepted. 56.1 % variance of LP is explained by WLQ-ID ($R^2=0.561$).

It is statistically significant and positive between affective commitment and life satisfaction. ($\beta=0.90$ and $5.60>1.96$). Affective commitment affects life satisfaction and hypothesis H3a is accepted. There is a statistically significant negative relationship between normative commitment and life satisfaction ($\beta=-0.48$ and $|-2.84|>1.96$). The H3c hypothesis suggests a positive relationship and the H3c hypothesis is rejected. %43.9 variance of LS is explained by AC-NC ($R^2=0.439$).

Goodness of fit values calculated for the theoretical model are shown in Table 7. Looking at Table 6, it was determined that the goodness-of-fit values of the structural equation modeling created within the scope of the research, $\chi^2/ (df)$ and

CFI values, showed an excellent fit, and RMSEA, NFI, SRMR and GFI values were found to be acceptable (Schermelleh-Engel et al., 2003).

Table 7. Fit Values of SEM Analysis

Goodness-fit index	Values After Correction	Perfect Fit	Acceptable Fit
Ki-Kare/SD	835.12/423=2.0	1-2	3-5
RMSEA	0.078	$0 < \text{RMSEA} < 0,05$	$0,05 < \text{RMSEA} < 0,10$
NFI	0.915	$0,95 \leq \text{NFI} \leq 1,00$	$0,90 \leq \text{NFI} \leq 0,95$
CFI	0.961	$0,95 \leq \text{CFI} \leq 1,00$	$0,90 \leq \text{CFI} \leq 0,95$
SRMR	0.0766	$0,00 \leq \text{SRMR} \leq 0,05$	$0,05 \leq \text{SRMR} \leq 0,10$
GFI	0.934	$0,95 \leq \text{GFI} \leq 1,00$	$0,90 \leq \text{GFI} \leq 0,95$

6. Results and Discussion

This research was carried out in order to find the direction of the relations between labor productivity and labor productivity variables and to determine the factors affecting these variables. In the literature review of the background of the research, it was seen that there are studies on job satisfaction, quality of working life, life satisfaction, organizational commitment and labor productivity. The difference of this research from them is that all of the mentioned variables focus on labor productivity. The variables that were most emphasized in the previous studies on the subject, the factors affecting these variables, the hypotheses and the test results of the hypotheses were examined and a questionnaire with thirty-six questions was prepared, consisting of scales suitable for labor productivity and a total of seven variables related to it. The data collected by applying the questionnaire form to the workers in the manufacturing sector were analyzed with the structural equation modeling method. The theoretical model consisting of seven variables, whose construct validity was confirmed by confirmatory factor analysis, was subjected to SEM analysis.

In the analysis of the theoretical model, the findings related to the relationships between the variables were compared with the research findings in the literature, and the following results were obtained.

According to the results of this research, only affective commitment, one of the dimensions of organizational commitment, positively affects job satisfaction. The fact that employees with affective commitment see themselves as a part of the organization enables them to strive for the interests of the workplace, to be satisfied with their work, and to have positive feelings about their work. This result fully coincides with the research results of Uyguç and Çımrın (2004). According to this research, only the affective commitment dimension of organizational commitment affects job satisfaction.

According to the results of the research, there is no relationship between continuance commitment, one of the dimensions of organizational commitment, and the quality of working life. The continuance commitment of employees who have no other job options and are worried about being unemployed has no effect on the quality of their working life. Normative commitment significantly and negatively affects the quality of work life. The fact that this commitment of employees with normative commitment stems from moral responsibility and

obligation has a significant negative effect on the quality of working life. Affective commitment, on the other hand, affects the quality of work life significantly and positively. Employees with affective commitment see themselves as a part of the organization and strive for the interests of their workplaces. This leads to the development of the physical and psychological characteristics of the workplace. Similar results were obtained in previous studies on the effect of organizational commitment on the quality of working life. According to the results of a research conducted by Türkay (2015), being satisfied with the wage, job satisfaction, and thinking that the job is interesting have a positive effect on the quality of working life. According to Demirbilek & Türkan (2008), employee empowerment and motivation of employees strengthen the organizational commitment of employees and accordingly, the quality of working life increases.

Another result is that continuance commitment has no positive or negative effect on life satisfaction. Since the source of continuance commitment is the absence of a job option or the fear of being unemployed, it cannot be expected that there will be any relationship between meeting the wishes, needs and expectations of the employee and the life satisfaction. Normative commitment significantly and negatively affects life satisfaction. The fact that this commitment of employees with normative commitment stems from moral responsibility and necessity causes them to be unhappy, and accordingly, it causes a decrease in life satisfaction, which is formed by meeting life-long demands and needs. Affective commitment significantly and positively affects life satisfaction. Affective commitment makes the employee want to do business with a strong commitment, arouses the desire to work for the interests of the organization and makes him feel that he is a part of the organization. Since a significant part of the wishes, needs and expectations of the employee in such a position are met in the workplace, their life satisfaction increases. This result coincides with the result of Özdevecioğlu's (2003) research. However, in his research, as in many studies, the analysis of organizational commitment without sub-dimensions, it is not understood which of these dimensions exactly affects life satisfaction.

The quality of working life positively affects labor productivity. The fact that the physical and psychological characteristics of the workplace provide a suitable environment for the employees to do their jobs positively affects the labor productivity. The result obtained in the part of this research on the effect of the quality of working life on labor productivity is in line with the results of previous studies. According to a study by Sehgal (2012), the internal and external working environment of the workplace has a positive effect on the labor productivity of the employees. According to the research results of Parvar, Allameh & Ansari (2013), a safe and healthy environment has a positive effect on the organizational commitment of the employees. According to a study by Sheikly and Rezaei (2014), environmental factors significantly affect the labor productivity of employees. According to the results obtained by Topçu, Saraçlı & Gazioğlu (2014), physical conditions and economic conditions affect productivity by integrating with each other.

Another result is that employees' total feelings and attitudes about their jobs are positive, providing job satisfaction and job satisfaction positively affects labor

productivity. This result is in line with the research results obtained by Dessler (2014), Rostami (2014), and Nazeer & Zahid (2014). According to the results of Dessler (2014), job satisfaction positively affects labor productivity. Employees with high job satisfaction do their jobs better than those with less satisfaction. Rostami (2014) determined that the productivity of employees with job satisfaction increased. Nazeer & Zahid (2014) concluded that there is a significant and positive relationship between job satisfaction and job performance.

According to another result, life satisfaction does not directly affect labor productivity, but positively affects it through job satisfaction. In other words, life satisfaction affects the job satisfaction of employees positively, and job satisfaction affects labor productivity. In the theoretical model, the quality of working life affects labor productivity, life satisfaction affects job satisfaction, and job satisfaction affects labor productivity significantly and positively.

One of the most important results of this research is that the affective commitment of employees has a great direct and indirect effect on labor productivity. While affective commitment positively affects the quality of work life, job satisfaction and life satisfaction, these variables also affect labor productivity positively.

Employees with life satisfaction have good personal relationships and are satisfied with their lifelong experiences, as all their wishes, needs and expectations are met in the long term. Therefore, life satisfaction affects organizational commitment dimensions (affective commitment, continuance commitment, normative commitment) significantly and negatively. As the life satisfaction of the employees increases, their desire to stay in the company decreases. Although they have fears of being unemployed and stay in the workplace for moral reasons, their overall organizational commitment is declining. Here, the duty of the management is to evaluate whether their workplaces can meet the living standards of these people after learning about the living standards of the job applicants. If the results of these evaluations are positive, these people should be hired. Otherwise, these people will never feel organizational commitment and their productivity will be low.

For labor productivity, it should be ensured that the work pace in the workplace is normal, that the resting areas and resting times are sufficient, and that the noise is not harmful to human health. As in previous studies, as it is understood from all the analyzes made, there is both a reciprocal and one-way positive and negative relationship between the variables related to labor productivity according to the research models.

In the theoretical model, affective commitment positively affects the quality of work life, job satisfaction and life satisfaction. Life satisfaction, job satisfaction, job satisfaction and quality of working life positively affect labor productivity. Normative commitment negatively affects the quality of work life and life satisfaction.

In these relations between the variables, the fact that the quality of working life, job satisfaction directly affect labor productivity, and affective commitment positively affect labor productivity through other variables show that these variables are very important in increasing labor productivity. It turns out that the

theoretical model used in this research can be used in future studies on labor productivity.

The limitations of the research can be summarized as follows; The sample population does not include managers and supervisors in the workplace, but only workers. The sample population includes only the workers working in the manufacturing sector in the Kocaeli region.

References

- Akar, H. & Üstüner, M. (2017). İş Yaşam Kalitesi Ölçeğinin Türkçe Uyarlaması: Geçerlik ve Güvenirlik Çalışması. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 18 (2), 159-176. doi:10.17679/inuefd.302675
- Albayrak, N.C. & Ağazade , S. (2017). Emek Verimliliği ve İhracat İlişkisi: Türk İmalat Sanayi Örneği. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 53, 11-25. <https://dergipark.org.tr/en/pub/dpusbe/issue/30731/332256>
- Allen N. J. & Meyer J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization, *Journal of Occupational Psychology*, 63 (1), 1-18, doi:10.1111/j.2044-8325.1990.tb00506.x.
- Attar, A. A., Gupta, A. K. & Desai, D. B. (2012). A study of Various Factors Affecting Labor Productivity and Methods to Improve It. *Journal of Mechanical and Civil Engineering, (IOSR-JMCE)*, 1(3), 11-14. [https://www.iosrjournals.org/iosr-jmce/papers/sicete\(civil\)-volume1/3.pdf](https://www.iosrjournals.org/iosr-jmce/papers/sicete(civil)-volume1/3.pdf)
- Avşaroğlu, S.D., Engin, M. & Kahraman, A. (2005). Teknik Öğretmenlerde Yaşam Doyumu İş Doyumu ve Mesleki Tükenmişlik Düzeylerinin İncelenmesi. *S.Ü. Sosyal Bilimler Enstitüsü Dergisi*, 14, 115-129. <http://dersgisosyalbil.selcuk.edu.tr/susbed/article/view/635>
- Aydın, B. (2010). *Motivasyonu Etkileyen Faktörlerin Yapısal Eşitlik Modeli ile Belirlenmesi: Bir Tekstil İşletmesi Örneği*, Yüksek Lisans Tezi, Eskişehir Osmangazi Üniversitesi Fen Bilimleri Enstitüsü, Endüstri Mühendisliği Anabilim Dalı, Eskişehir, 256479.
- Aydın, İ., Çelik, Y. & Uğurluoğlu Ö. (2011). Quality of Work Life Scale for Healthcare Personel: Development, Validity and Reliability. *Toplum ve Sosyal Hizmet*, 2011, 22(2), <https://www.acarindex.com/dosyalar/makale/acarindex-1423931238.pdf>
- Balkan, D. & Suiçmez, H. (2017). Türkiye ve Dünyada İşgücü Verimliliğinin Karşılaştırmalı Analizi. *Verimlilik Dergisi*, (1), 93-113, <https://dergipark.org.tr/tr/pub/verimlilik/issue/28662/306327>.
- Beuningen J. V. & Jange T. D., *The Personel Wellbeing Index, Constructed Validity for the Netherlands*, Central Bureau voor de Statistick, Den Haag, Heerlen, 2011.

- Çevik, N.K. & Korkmaz, O. (2004). Türkiye’de Yaşam Doyumu ve İş Doyumu Arasındaki İlişkinin Değişkenli Sıralı Probit Model Analizi. *Niğde Üniversitesi İİBF Dergisi*, 7(1), 126-145, <https://dergipark.org.tr/tr/pub/niguiibfd/issue/19754/211460>
- Ceylan, A. (2005). İş Motivasyonunun Çalışan Bağlılığı ve İşten Ayrılma Eğilimi Üzerindeki Etkileri. *Doğuş Üniversitesi Dergisi*, 6(1), 52-66, <http://journal.dogus.edu.tr/index.php/duj/article/viewFile/141/157>
- Chang, C.C., Chiu, C.M. & Chen, C.A. (2010). The Effect of TQM practices on employee satisfaction and loyalty in goverment, *Total Quality Management*, 21(12), 1299-1314, [doi:10.1080/14783363.2010.530796](https://doi.org/10.1080/14783363.2010.530796)
- Chinomona, E. (2014). The Influence of Workplace Condition and Employee Satisfaction on Employee Commitment: A Behavioural Decision Making Perspective, *Mediterranean Journal of Social Sciences MCSEER Publishing*, 5(27),1015-1024, [doi:10.5901/mjss.2014.v5n27p1015](https://doi.org/10.5901/mjss.2014.v5n27p1015)
- Chinomona, E. & Mofokeng, T. (2014). The Influence of Workplace Condition and Employee Satisfaction on Employee Commitment: A Behavioural Decision Making Perspective. *Mediterranean Journal of Social Sciences*, 5 (27), 1015-1023, <http://www.richtmann.org/journal/index.php/mjss/article/view/5174>
- Çınar, C. (2015). *Kadınların Kariyer Engelleri İle Örgütsel Bağlılıkları Arasındaki İlişkinin İncelenmesi: Bankacılık Sektörü Üzerine Bir Araştırma*. Yayımlanmamış Yüksek Lisans Tezi, Atatürk Üniversitesi, Sosyal Bilimler Enstitüsü, Erzurum.
- Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2010). *Sosyal Bilimler İçin Çok Değişkenli İstatistik SPSS ve LISREL uygulamaları*, Pegem Akademi, Ankara, 201-203.
- Demir, M. (2010). İşgörenlerin Çalışma Yaşamı Kalitesi Algılamalarının İşte Kalma Niyeti ve İşe Devamsızlık ile İlişkisi. *Ege Akademik Bakış*, 11(3), 453-464, <https://www.proquest.com/docview/880882455?pq-origsite=gscholar&fromopenview=true>
- Demirbilek, S. & Türkan, Ö.U. (2008). Çalışma Yaşamının Kalitesinin Artırılmasında Personel Güçlendirmenin Rolü. *İş-Güç Endüstri İlişkileri ve İnsan Kaynakları Dergisi*, 10 (1), 47-64.
- Demirel, H. (2014). An investigation of the Relationship between Job and Life Satisfaction among Teachers. *Procedia -Social and Behavioral Sciences*, 116, 4925 –4931, [doi:10.1016/j.sbspro.2014.01.1051](https://doi.org/10.1016/j.sbspro.2014.01.1051)
- Dessler, A.E. (2014). A determination of the cloud feedback from climate variation over the past decade. *Science*, 330 (6010), 1523-1527, [doi: 10.1126/science.1192546](https://doi.org/10.1126/science.1192546)
- Edwards, B.D., Bell, S.T., Arthur, W. & Decuir, A.D. (2008). Relationships Between Facets Job Satisfaction, task, and contextual performance. *Applied*

Psychology, An International Reviv, 57(3), 441-465, doi:10.1111/j.1464-0597.2008.00328.x

- Erdem, B. & Kaya, İ. (2013). Çalışma Yaşamı Kalitesini Etkileyen Faktörlerin İşgörenler Tarafından Algılanması: Otel Çalışanları Üzerinde Bir Araştırma. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 35, 135-150, <https://dergipark.org.tr/tr/pub/dpusbe/issue/4777/65821>
- Göksel, A. & Aydınhan, B. (2012). Lider-Üye Etkileşimi Düzeyinin Örgütsel Bağlılık Üzerine Etkisi: Görgül Bir Araştırma. *Süleyman Demirel University, The Journal of Faculty of Economics and Administrative Sciences*, 17(2), 251, 2012, <https://dergipark.org.tr/tr/pub/sduibfd/issue/20821/222854>
- Hong, L.C., Hamid, N.I. & Salleh, N.M. (2013). A Study on the Factors Affecting Job Satisfaction amongst Employees of a Factory in Seremban, Malaysia, *Business Management Dynamics*, 3(1), 26-40, https://bmdynamics.com/issue_pdf/bmd110365-%2026-40.pdf
- Iqbal, A. (2010). An Empirical Assessment of Demographic Factors, Organizational Ranks and Organizational Commitment. *International Journal of Business and Management*, 5(3), 16-27, doi:10.5539/ijbm.v5n3p16
- Jöreskog, K.G. (2016). 50 Years of SEM in 50 Minutes?, Norwegian Business Scholl and Uppsala University, 11Ekim 2019 tarihinde Norwegian Business Scholl and Uppsala University: <http://modeling.uconn.edu/speaker/karl-joreskog/50-years-ofsem-in-50-minutes/> adresinden alındı
- Jung, M., Muntane,r C. & Choi, M. (2010). Factors Related to Perceived Life Satisfaction Among the Elderly in South Korea. *Journal of Preventive Medicine and Public Health* July, 43(4), 292-300, doi: 10.3961/jpmph.2010.43.4.292
- Kenar, N. (2016). Büyüme, İstihdam, Verimlilik, MESS Eğitim Vakfı, MEV, 18 Kasım 2019 tarihinde MESS Eğitim Vakfı: <http://www.messegitim.com.tr/ti/580/0/BUYUME,-ISTIHDAM-VE-VERIMLILIK> adresinden alındı
- Kien, B. T. (2012). *Factors affecting the fluctuation of labour productivity in the construction projects*. (Master Thesis, University of Economics), Ho Chi Minh City, Vietnam.
- Kline, R.B. (2005). *Principles and Practice of Structural Equation Modeling*. 2nd Edition, The Guilford Press, New York.
- Leite, N.R.P., Rodrigues, A.C.A. & Albuquerque, L.G. (2014). Organizational Commitment and Job Satisfaction: What Are the Potential Relationships? *BAR, Braz. Adm. Rev.* 11 (4), 476-495, doi:10.1590/1807-7692bar2014276
- Li, C.L. & Wang, C.Y. (2012). The Factors Affecting Life Satisfaction: Recreation Benefits and Quality of Life Perspectives. *Sports & Exercise*, 14 (4), 407-418, DOI:10.5297/ser.1404.001
- Martikainen, L. (2008). The Many Faces of Life Satisfaction Finnish Young Adults. *Journal of Happiness Studies*, 10(6), 721-737, doi:10.1007/s10902-008-9117-2

- Meyer, J.P. & Allen N.J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, **1**, 61 – 89, doi:10.1016/1053-4822(91)90011-Z
- Moiser, K. & Galais, N. (2007). Self-Monitoring and Jop Performance: The moderating Role of Tenure. *International Journal of Selection and Assesment*, **15**(1), 83-93, doi:10.1111/j.1468-2389.2007.00370.x
- Nazeer, S., Zahid, M.M. & Azeem, M.F. (2014). Internal Service Quality and Job Performance: Does Job Satisfaction Mediate? *Journal of Human Resources Management and Labor Studies*, **2**(1), 41-65, http://jhrmls.com/journals/jhrmls/Vol_2_No_1_March_2014/3.pdf
- Nekouei, M.H., Othman, M.B. & Jariah, B.M. (2014). Quality of Work Life and Jop Satisfaction among employee in government organizations in IRAN, *Journal of Basicand Applied Scientific Research*, **4**(1), 217-229, doi:10.1016/j.ienj.2012.10.002
- Noe, R.A., Hollenbeck, J.R., Gerhart, B. & Wright, P.M. (1997). *Human Resource Management: Gaining a Competitive Advantage*, 2nd Edition, McGraw-Hill, Chicago, 238-242.
- Nurullah, A. S. (2010). Predictors of Job Satisfaction among Emerging Adults in Alberta. *Journal of Business and Management*, **5**(3), 3-15, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1551698.
- Öktem, Ş. & Öztoprak, M. (2020). İş Doyumu, Yaşam Doyumu ve İşgören Performansı Arasındaki İlişki: Ankara'daki 4 ve 5 Yıldızlı Oteller Üzerinde Bir İnceleme. *İşletme Akademisi Dergisi*, **1**(2), 162–176, doi:10.26677/TR1010.2020.438
- Özdevecioğlu, M. (2003). İş Tatmini ve Yaşam Tatmini Arasındaki İlişkinin Belirlenmesine Yönelik Bir Araştırma, *11.Ulusal Yönetim ve Organizasyon Kongresi*, Afyon, 22-24 Mayıs 2003, 695-710.
- Özdevecioğlu, M. & Aktaş, A. (2007). Kariyer bağlılığı, Mesleki Bağlılık ve Örgütsel Bağlılığın Yaşam Tatmini Üzerindeki Etkisi: İş-Aile Çatışmasının Rolü. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, **28**, 1-20, <https://dergipark.org.tr/tr/download/article-file/66479>
- Öztürk, B. (2020), Ortaokullarda Görev Yapan Öğretmenlerin Yaşam Doyumları ile Örgütsel Mutlulukları Arasındaki İlişki, Pamukkale Üniversitesi Eğitim Yönetimi Bilim Dalı Tezsiz Yüksek Lisans Projesi. <http://acikerisim.pau.edu.tr/xmlui/bitstream/handle/11499/35123/Bertan%20%c3%96ZT%c3%9cRK%20Proje%20%c3%87al%c4%b1%c5%9fmas%c4%b1.pdf?sequence=1&isAllowed=y> adresinden alındı.
- Pandey, C. & Khare, J. (2012). Impact of Job Satisfaction and Organizational Commitment on Employee Loyalty. *International Journal of Social Science ve Interdisciplinary Research*, **1**(8), 26-41, <http://approvedthesis.com/hrm/4.pdf>

- Parvar, M.R.F., Allameh, S.M. & Ansari, R. (2013). Effect of Quality of Work Life on Organizational Commitment by SEM (Case Study: OICO Company). *International Journal of Academic Research in Business and Social Sciences*, **3**(1), 135-144, doi:10.6007/IJARBS/v3-i10/285
- Perera, G.D.N., Khatibi, A. & Navaratna, N. (2014). Jop Satisfaction and Jop Performance Among Factory Employees in Apparel Sector. *Asian Journal of Management Sciences and Education*, **3**(1), 96-104, [http://www.ajmse.leena-luna.co.jp/AJMSEPDFs/Vol.3\(1\)/AJMSE2014\(3.1-10\).pdf](http://www.ajmse.leena-luna.co.jp/AJMSEPDFs/Vol.3(1)/AJMSE2014(3.1-10).pdf)
- Purnama, C., (2013). Influence Analysis of Organizational Culture Organizational Commitment Job and Satisfaction Organizational Citizenship Behavior (OCB) Toward Improved Organizational Performance. *International Journal of Business, Humanities and Technology*, **3**(5), 25-39, http://www.ijbhtnet.com/journals/Vol_3_No_5_May_2013/10.pdf
- Radja, J., Tawe, A., Rijal, S.M. & Tiro, A. (2013). Effect Quality of Work Life And Organizational Commitment Towards Work Satisfaction In Increasing Public Service Performance A Study Of License Of Founding Building Service In Makassar City. *Public Policy and Administration Research*, **3**(12), 38-45, <https://core.ac.uk/download/pdf/234669053.pdf>
- Rizal, M. & Idrus, M.S. (2014). Effect of Compensation on Motivation, Organizational Commitment and Employee Performance. *International Journal of Business and Management Invention*, **3**(2), 64-79, [https://www.ijbmi.org/papers/Vol\(3\)2/Version-1/I0321064079.pdf](https://www.ijbmi.org/papers/Vol(3)2/Version-1/I0321064079.pdf)
- Rostami, E. (2014). The Evaluation of Relationship between Job Satisfaction and Personality Traits with Productivity, *Reef Resources Assessment and Management Technical Paper*, **40**, doi:10.1037/1076-8998.7.1.84
- Sehgal, S. (2012). Relationship between Work Environment And Productivity. *International Journal of Engineering Research and Applications*, **2**(4), 1992-1995, DOI: 10.33736/jcshd.1916.2019
- Sheikhy, A. & Rezaei, S. (2014). Identifying The Factors Affecting Labor Productivity Enhancement In Aghajari Exploitation Of Oil And Gas Company, Indian. *Journal of Fundamental and Applied Life Sciences*, **4**(4), 2651-2661, <http://www.cibtech.org/sp.ed/jls/2014/04/JLS-306-S4-320-IDENTIFYING-GAS-Rezaei.pdf>
- Schermelleh-Engel, K., Moosbrugger, H. & Müller, H. (2003). Evaluating the Fit of Structural Equation Models: Tests of Significance and Descriptive Goodness-of-Fit Measures. *Methods of Psychological Research*, **8**(2), 23-74, <https://psycnet.apa.org/record/2003-08119-003>
- Sipahi, B., Yurtkoru, E.S. & Çinko, M. (2010). *Sosyal Bilimlerde SPSS'le Veri Analizi*, 3. Baskı, Beta Yayınları, İstanbul, 89.
- Şimşek, Ö.F. (2007). *Yapısal Eşitlik Modellemesine Giriş Temel İlkeler ve Lisrel Uygulamaları*, Ekinoks Yayınları, Ankara, 86-126.

- Steger, M. F., Dik, B. J. & Shim, Y. (2012). *Assessing meaning and satisfaction at work*, 2nd Ed., Oxford University Press, Oxford, UK.
- Suiçmez, H. (2016). Türkiye Ekonomisinin Verimlilik Performansı, MPM, 12 Ağustos 2019 tarihinde <http://content.csbs.utah.edu/~ehrbar/erc2002/pdf/P445.pdf> adresinden alındı.
- Tahere, N., Zahra, G.T., Fateme, D. & Asma, Y.J. (2012). Investigating the Effects of Job Experience, Satisfaction, and Motivation on Organizational Commitment Case Study: The Nurses of Ghaem Hospital in Mashhad, Ira. *Research Journal of Recent Science*, **1**(7), 59-67, <http://www.isca.in/rjrs/archive/v1/i7/9.ISCA-RJRS-2012-197%20Done.php>
- Tarigan, V. & Ariani, D.W. (2015). Empirical Study Relations Job Satisfaction, Organizational Commitment, and Turnover Intention. *Advances in Management ve Applied Economics*, **5**(2), 21-42, https://ideas.repec.org/a/spt/admaec/v5y2015i2f5_2_2.html
- Taymaz, E. & Suiçmez, H. (2005). *Türkiye'de Verimlilik Büyüme ve Kriz, Verimlilik Raporu*, MPM Yayınları, Ankara, 29.
- Top, M. (2012). Hekim ve Hemşirelerde Örgütsel Bağlılık, Örgütsel Güven ve İş Doyumu Profili. *İstanbul Üniversitesi, İşletme Fakültesi Dergisi*, **41** (2), 258-277, <https://dergipark.org.tr/tr/download/article-file/98234>
- Topçu, B., Saraçlı, S. & Gazeoğlu, C. (2014). Afyonkarahisar İlindeki Tekstil İşletmelerinde Çalışan İşçilerin Verimliliğini Etkileyen Etmenlerin Yapısal Eşitlik Modeli ile İncelenmesi. *IAAOJ, Scientific Science*, **2**(1), 12-17, <https://dergipark.org.tr/tr/pub/iaaojf/issue/32115/356053>
- Türkay, O (2015). Çalışma Yaşamının Kalitesinin İş Memnuniyeti ve Bağlılık Üzerine Etkileri: Seyahat Acenteleri Üzerine Bir Araştırma. *Yönetim ve Ekonomi*, **22** (1), 239-256, <https://dergipark.org.tr/en/download/article-file/146202>
- Uyguç, N., Arbak, Y., Duygulu, E. & Çıraklar, N. (1998). İş ve Yaşam Doyumu Arasındaki İlişkinin, Temel Varsayım Altında İncelenmesi. *D.E.Ü.İ.İ.B.F. Dergisi*, **13**(II), 193-204, <https://dergipark.org.tr/tr/pub/deuibfd/issue/22775/243107>
- Uyguç, N. & Çımrın, D. (2004). DEÜ Araştırma ve Uygulama Hastanesi Merkez Laboratuvarı Çalışanlarının Örgüte Bağlılıklarını ve İşten Ayrılma Niyetlerini Etkileyen Faktörler. *D.E.Ü.İ.İ.B.F. Dergisi*, **19**(1), 91-99, <https://dergipark.org.tr/tr/pub/deuibfd/issue/22756/242901>
- Wagas A., Basir U. & Saltar M. F. (2014). Factors Influencing Jop Satisfaction and Its Impact on Jop Loyalty, *International Journal of Learning ve Development*, **4**(2), 142-161, doi:10.5296/ijld.v4i2.6095
- Wang, G.L., Lee, Y.J. & Ho, C.C. (2012). The Effects of Job Satisfaction, Organizational Commitment and Turnover Intention on Organizational operating

performance: as Exemplified with Employees Listed Property Insurance Companies in Taiwan. *Research in Business and Management*, **1**(2), 41-53.

Yiğit, N., Dilmaç, B. & Deniz, M.E. (2011). İş ve Yaşam Doyumu: Konya Emniyet Müdürlüğü Alan Araştırması, *Polis Bilimleri Dergisi*, **13**(3), 1-18, <https://www.acarindex.com/dosyalar/makale/acarindex-1423910999.pdf>

Yücel, İ. (2012). Examining the Relationships Among Job Satisfaction, Organizational Commitment and Turnover Intention: An Empirical Study. *International Journal of Business and Management*, **7**(20), 44-58, doi:10.5539/ijbm.v7n20p44

© Copyright of Journal of Current Researches on Social Science is the property of Strategic Research Academy and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.